Endometrial cancer is a clinically heterogeneous disease, and it is becoming increasingly clear that this heterogeneity may be a function of the diversity of the underlying molecular alterations. Recent large-scale genomic studies have revealed that endometrial cancer can be divided into four distinct molecular subgroups, with well-described underlying genomic aberrations. These subgroups carry significant prognostic as well as predictive information and are therefore attractive adjuncts to current clinical practice. The road towards the integration of molecular information into the current classification is not without obstacles. However, strong collaborative studies from teams across the world are tackling these issues, and a novel endometrial cancer classification integrating clinicopathological with genomic features is at the horizon. Pathologists and caretakers of endometrial cancer patients need to engage and understand the possibilities and limitations of this new molecular approach, as the technology used to determine the molecular features of endometrial cancer are becoming widely available. During this special lecture I will discuss how molecular aberrations in endometrial cancer can be assessed and how they can be exploited to refine risk-stratification strategies used by radiation oncologists. I will discuss how this information is currently used in the PORTEC-4a trial to guide the choice of adjuvant treatment in early-stage endometrial cancer. Finally, I will address how this molecular information is becoming increasingly relevant in the setting of advanced-stage or recurrent disease. Thus, although histological typing and careful pathological staging will remain crucial to clinical management, the incorporation of molecular pathology data is inevitable and should be embraced.
AGO-OVAR 12: A RANDOMIZED PLACEBO-CONTROLLED GCIG/ENGOT-INTERGROUP PHASE III TRIAL WITH CHEMOTHERAPY +/- NINTEDANIB FOR ADVANCED OVARIAN CANCER: OVERALL SURVIVAL RESULTS


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8BGOG & University of Liége- CHU de Liége, Site Hôpital de la Citadelle, Liége, France
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Aims

AGO-OVAR12 study investigated the value of Nintedanib (N), an oral inhibitor of VEGFR, PDGFR, and FGFR in the treatment of newly diagnosed advanced ovarian cancer patients (pts). The data of final analysis of overall survival (OS) is reported here.

Method

Pts with FIGO IIB-IV ovarian cancer and upfront debulking surgery were randomly assigned (2:1) to receive six cycles of carboplatin (AUC5 or 6) and paclitaxel (175mg/m²) in addition to either 200 mg of Nintedanib (TC+N) or placebo (TC+Pl) twice daily for up to 120 weeks. Primary endpoint was investigator assessed progression-free survival (PFS) and has been reported to be significantly better previously. Here we report final OS results.

Results

1,366 patients were recruited 12/2009 – 7/2011 by 9 study groups; 911 TC+N and 455 received TC+Pl. Overall, 39% had a very high risk with FIGO III and residuals >1cm or FIGO IV while 61% had FIGO III and residuals ≤1cm or FIGO II (283 in TC-Pl, 556 in TC+N). After 605 observed deaths, OS did not show statistically significant differences (median N+TC 62.0 vs Pl+TC 62.8 months; HR 0.99; 95%CI:0.83 – 1.17; p=0.86). None of the subgroups defined by randomization strata, neither the high/low risk subgroups showed a statistically significant difference in OS between treatment groups. Adverse events leading to death occurred in 30 (3.3%) patients in TC+N and in 16 (3.6%) patients in TC+Pl.

Conclusion

Although well tolerated in combination with TC, Nintedanib combination with TC did not affect OS compared to placebo. This is the first time these data are shown.
BEST ORAL PRESENTATIONS 01

ESGO7-1305

CISPLATIN CHEMO-RADIATION VERSUS RADIATION IN FIGO STAGE III B SQUAMOUS CELL CARCINOMA OF THE UTERINE CERVIX (CRACKX TRIAL: NCT00193791)

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Aims

Although concomitant chemo-radiation is standard of care for locally advanced cervical cancer, the evidence in stage IIIB disease is not robust. We report the final results of a randomized study comparing concomitant chemo-radiation (CTRT) to definitive radiation (RT) in women with FIGO stage IIIB squamous cell cervical cancer.

Method

Women in RT arm received a combination of external radiation (50 Gy in 25 fractions over 5 weeks) and brachytherapy (low dose rate or high dose rate). Women in CTRT arm received same radiation with the addition of cisplatin (40 mg/m² per week for 5 weeks). Primary and secondary end points were disease-free survival (DFS) and overall survival (OS), respectively.

Results

Between July 2003 and September 2011, 850 women were randomized (424 to CTRT and 426 to RT). At a median follow-up of 88 (IQR=61.3 – 113.1) months, there were 222 recurrences and 213 deaths in CTRT and 252 recurrences and 243 deaths in RT arms, respectively. The 5-year DFS was significantly higher in CTRT compared to RT arm (52.3% vs. 43.8%; HR for relapse or death=0.81; 95% CI=0.68–0.98, p=0.03) as was 5-year OS (54% vs. 46%; HR for death=0.82; 95% CI= 0.68–0.98, p=0.04). After adjusting for prognostic factors, CTRT continued to be significantly superior to RT for DFS and OS. There was a higher incidence of acute hematological toxicities in CTRT arm.

Conclusion

CTRT, using weekly cisplatin, results in significantly better DFS and OS compared to RT in women with stage III B squamous cervical cancer.
Changes in neoangiogenetic profile of paired primary and recurrent high-grade serous ovarian cancer (HGSOC): a study of the “Octips” consortium.


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Aims

To investigate, in a large cohort of paired primary and recurrent HGSOC tissue samples, changes occurring in tumor vasculature from primary (pOC) to recurrent (rOC) disease and its implications in patients' treatment response and survival.

Method

222 pOC and rOC intra-patient paired tissue samples derived from 111 HGSOC, which were treated between 1985 and 2013 through PDS plus platinum-based chemotherapy, were assessed with immunohistochemistry for the expression of angiogenesis biomarkers (CD31, to evaluate microvessel density, and VEGF). Expression profiles were compared between pOCs and rOCs and were correlated with patients' clinicopathological and survival data.

Results

75.7%(84/111) and 19.8%(22/111) pOCs were CD31high and VEGFhigh, respectively. CD31high and VEGFhigh samples were detected in 51.4%(57/111) and 20.7%(23/111) rOCs. CD31high/VEGFhigh co-expression was found in 18.9%(21/111) and 8.1%(9/111) of pOCs and rOCs, respectively. CD31 and VEGF levels were significantly associated in pOCs (p=0.013).

Pairwise analysis showed no significant change in CD31 (p=0.935) and VEGF (p=0.086) levels from pOCs to rOCs.

No significant association between CD31 or VEGF levels and patients' clinicopathologic characteristics was observed. Nevertheless, CD31high, VEGFhigh and CD31high/VEGFhigh expression were significantly associated with better OS (p=0.019, p=0.034, p=0.020, respectively).

On multivariate analysis, VEGFhigh and CD31high/VEGFhigh expression were independent prognostic factor for OS (HR:0.343,95%CI:0.158-0.746;p=0.007 and HR:0.295,95%CI:0.130-0.672;p=0.004, respectively).

Analysis on 52 pts with known somatic BRCA status highlighted that BRCA mutations did not influence CD31 and VEGF expression.

Conclusion

The neoangiogenetic profile of HGSOC, as assessed by CD31/VEGF immunohistochemistry, did not undergo significant changes between pOC and rOC. Furthermore, higher VEGF and CD31/VEGF levels independently improve HGSOC patients' OS.
PRE-SURGICAL METFORMIN IN UTERINE MALIGNANCY-RESULTS OF THE PREMIUM RANDOMISED CONTROLLED TRIAL

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Aims

Uncontrolled, non-randomised pre-surgical window studies in endometrial cancer have shown a beneficial effect of metformin on tumour growth. Such studies recruited small numbers of women and most lacked a contemporaneous control group. The aim of this study was to assess the impact of pre-surgical metformin on endometrial tumour growth using an adequately powered randomised trial design.

Method

A multicentre, double-blind, placebo-controlled trial randomised women with atypical endometrial hyperplasia or endometrioid endometrial cancer to either metformin 850mg bd or matched placebo for 1-5 weeks prior to hysterectomy. The primary outcome was change in immunohistocchemical expression of the proliferation marker Ki-67 between pre and post-treatment endometrial biopsies and was performed according to a published protocol. Secondary outcomes included the effect of metformin on phosphorylated markers of the PI3K/Akt pathway.

Results

Eighty-eight women completed treatment, of whom 45 received metformin for a mean duration of 20.5 days (SD ±7.3 days). Most had early stage disease, although 13.6% had extra-uterine disease at presentation. Overall, metformin exposure had no effect on Ki-67 expression, when analysed using an ANCOVA model (mean difference in post-treatment Ki-67 -0.57%, 95%CI -7.57% to 6.42%, p=0.87), and neither did it decrease expression of pS6 or pAkt (mean difference pS6 -15.96, p=0.15; pAkt -5.08, p=0.51).

Conclusion

A standard diabetic dose of metformin does not reduce endometrial tumour growth when tested in an adequately powered, methodologically rigorous controlled trial. High-quality trial data demonstrating clinical efficacy are required before drugs are considered for repurposing and introduction into routine oncological practice.
BEST ORAL PRESENTATIONS 02

ESGO7-1296

THERAPEUTIC HPV VACCINE-IS IT CLINICALLY USEFUL?

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Aims

GX-188E is a novel, dendritic cell targeting, DNA therapeutic vaccine encoding for HPV types 16/18- E6/E7 antigens. A previous phase I trial has been reported.

Method

72 patients were enrolled on an open-label, multicenter Phase 2 trial. Eligible patients had biopsy proven CIN3 and HPV16 and/or 18 infection confirmed by PCR. GX-188E was delivered by electroporation at weeks 0, 4, and 12. The primary endpoint was a response defined as histological regression to CIN1 or less at week 20. Safety and Immunogenicity of the vaccine were also assessed.

Results

72 patients were enrolled. 7 patients were dropped out or were found to be ineligible (data to be shown). As of March 2016, 65/72 CIN3 patients reached week 20. Of the 65 patients, 50.8% (33/65) regressed to CIN1 or less on histology at week 20. Patients with small lesion at enrollment (<50% of cervix by colposcopic inspection) were more likely to have histological regression (63.6%, 21/33) as compared to patients with lesions >50% (37.5% 12/32). The 1mg dosing group demonstrated a higher histological regression rate (59.4%, 19/32) compared to the 4 mg dosing group (42.4%, 14/33). Moreover, patients in the 1 mg group with small baseline lesions showed a regression rate of (76.9%, 10/13) and this rate increased in patients with no carcinoma in situ (85.7%, 6/7). The most common adverse events were local injection site reactions.

Conclusion

GX-188E vaccine shows promising activity and therapeutical potential for treatment of CIN3 and warrants continued investigation.
WHAT MODIFIES THE OUTCOME OF RECURRENT GRANULOSA CELL TUMORS OF THE OVARY?

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Aims

To evaluate the risk of death and the independent variables that define the prognosis of patients with recurrent granulosa cell tumor of the ovary (r-GCT).

Method

Articles for analysis were identified after a search of the PubMed database for articles published between 1997 and 2017. A database and a pooled analysis were designed compiling characteristics and outcomes of recurrent patients.

Results

After reviewing 204 articles, 31 were considered adequate for the research. 2386 patients diagnosed with GCT and 619 recurrent patients were included. Individual data of 146 patients was included for pooled analysis. Median follow up was 85 months. The mean disease free interval (DFI) was 68.3 months, mean post-recurrence survival 69.1 months, and mean overall survival 135.19 months. The risk of disease-related death in patients after a first relapse was 33.19%. Residual tumor at first surgery and FIGO stage were the independent variables found for predicting relapse. Multivariate analysis in the pooled population identified as independent variables modifying post-recurrence survival a DFI>60 months, secondary cytoreduction after first relapse and age <55yo.

Conclusion

Despite their indolent behaviour, r-GCT show a risk of death exceeding 30%. Age <55, DFI >60 months and surgical resection predicted a longer survival. This review compiles the largest series of r-GCT ever published.
LION – Lymphadenectomy in Ovarian Neoplasms. A Prospective Randomized AGO Study Group Led Gynecologic Cancer Intergroup Trial.

Aims

There is no level-1 evidence on the role of systematic pelvic and para-aortic lymphadenectomy (LNE) in patients with advanced ovarian cancer (AOC) with macroscopic complete resection and clinically negative lymph nodes (LN) and surgical management is very heterogeneous.

Method

Patients with newly diagnosed AOC FIGO IIB-IV with macroscopic intraperitoneal complete resection and pre- and intra-operatively clinical negative LN were randomized intra-operatively to LNE vs no-LNE. The primary endpoint was overall survival.

Results

647 patients were randomized between 12/08 and 1/12 to LNE (n=323) or no-LNE (n=324). The median number of removed LN was 57 (pelvic 35 and para-aortic 22). Microscopic LF metastases were diagnosed in 56% of the pts in the LNE arm. Median OS was 69 and 66 months in the no-LNE and LNE arm respectively (HR 1.06, 95%CI 0.83-1.34, p=0.65) and the median PFS was 26 months in both arms (HR 1.11, 95%CI 0.92-1.34 p=0.30). In the LNE arm a 64 minutes increased surgical duration (352 vs 288 min), higher blood loss (median 650 vs 500 ml), and a higher transfusion rate (67% vs 59%) were reported. Serious post-operative complications occurred more frequently in the LNE arm (e.g. rate of re-laparotomies 12.1% vs 5.9% [p=0.006], hospital re-admittance rate 8.0% vs 3.1% [p=0.006] and deaths within 60 days after surgery 3.1 vs 0.9% [p=0.049]).

Conclusion

Systematic pelvic and para-aortic LNE in patients with AOC with both intra-abdominal complete resection and clinically negative LN neither improve overall nor progression-free survival, therefore it should be omitted to reduce post-operative morbidity and mortality.
LATE BREAKING ORAL SESSION

ESG07-1518

ARIEL3: PHASE 3, RANDOMISED, DOUBLE-BLIND STUDY OF RUCAPARIB VS PLACEBO FOLLOWING RESPONSE TO PLATINUM-BASED CHEMOTHERAPY FOR RECURRENT OVARIAN CARCINOMA (OC)


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14Clovis Oncology- Inc., Clinical Science, Boulder, USA
15Clovis Oncology- Inc., Biostatistics, Boulder, USA
16Clovis Oncology- Inc., Cancer Genomics, Boulder, USA
17Foundation Medicine- Inc., Biomarker Development and Analysis, Cambridge, USA
18The University of Texas MD Anderson Cancer Center, Department of Gynecologic Oncology and Reproductive Medicine, Houston, USA

Aims

ARIEL3 (NCT01968213) evaluated rucaparib vs placebo as maintenance treatment in patients with recurrent platinum-sensitive OC.

Method

Eligibility: ≥2 prior platinum-based therapies, platinum-sensitive OC (progressive disease [PD] ≥6 months after penultimate platinum), complete (RECIST v1.1) or partial response (RECIST v1.1 or GCIG CA-125 criteria) to most recent platinum, and CA-125 less than the upper limit of normal. Patients were randomised 2:1 to oral rucaparib 600 mg BID or placebo. Investigator-assessed progression-free survival (PFS) (primary endpoint) was assessed in a step-down procedure for 3 nested groups: (1) BRCA mutant (germline or somatic BRCA mutation); (2) homologous recombination deficient (BRCA mutant or BRCA wild type/loss of heterozygosity [LOH] high); and (3) intent-to-treat (ITT) population. PFS was also assessed by blinded independent central review (key secondary endpoint) and in subgroups of the ITT population (exploratory endpoint).

Results

ARIEL3 enrolled 564 patients (375, rucaparib; 189, placebo). PFS data are summarised in the Figure. The most common grade ≥3 treatment-emergent adverse events (TEAEs) were anaemia (18.8%, rucaparib; 0.5%, placebo) and alanine/aspartate aminotransferase increase (10.5%, 0%). As of 15 Apr 2017, 13.4% (rucaparib) and 1.6% (placebo) of patients discontinued due to TEAEs (excluding PD);
1.6% and 1.1% of patients died due to AEs (including PD).

### Conclusion

Rucaparib significantly improved PFS vs placebo in all primary analysis groups, including the ITT patient population.
LATE BREAKING ORAL SESSION

ESGO7-1447

Hyperthermic intraperitoneal chemotherapy (HIPEC) for ovarian cancer

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Aims

Cytoreductive surgery and systemic therapy are essential for newly diagnosed ovarian cancer. We conducted a multicenter, open-label phase 3 trial to study whether the addition of intraperitoneal chemotherapy under hyperthermic conditions (HIPEC) to interval cytoreductive surgery would improve outcome among patients receiving neo-adjuvant chemotherapy for stage I-II epithelial ovarian cancer.

Method

We randomly assigned patients who showed at least stable disease after three cycles of carboplatin (area under the curve 6) and paclitaxel (175 mg/m²) to receive interval cytoreductive surgery with or without HIPEC using cisplatin (100 mg/m²). Randomization was performed peri-operatively and eligible patients had a complete or optimal cytoreduction. Three additional cycles of carboplatin/paclitaxel were given post-operatively. The primary endpoint was recurrence-free survival. Overall survival, toxicity, and quality-of-life were key secondary endpoints.

Results

A total of 245 patients were randomly assigned to one of the two treatment strategies. In an intention-to-treat analysis, interval cytoreductive surgery with HIPEC was associated with longer recurrence-free survival than interval cytoreductive surgery alone (14.2 vs. 10.7 months, respectively; hazard ratio [HR], 0.66; 95% confidence interval [CI], 0.50 to 0.87; P=0.003). At the time of analysis, 44% of patients were alive, with a significant improvement in overall survival favouring HIPEC (45.7 vs. 33.9 months; HR, 0.67; 95% CI, 0.48 to 0.94, P=0.02). The number of patients with grade 3-4 adverse events was similar in both treatment arms (27% vs 25%, p=0.76).

Conclusion

Adding HIPEC to interval cytoreductive surgery is well tolerated and improves recurrence free and overall survival in patients with stage III epithelial ovarian cancer.
LATE BREAKING ORAL SESSION

ESGO7-1494

CLINICALLY SIGNIFICANT LONG-TERM MAINTENANCE TREATMENT WITH OLAPARIB IN PATIENTS WITH PLATINUM-SENSITIVE RELAPSED SEROUS OVARIAN CANCER (PSR SOC)


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3Dana-Farber Cancer Institute, Gynecologic Oncology, Boston- MA, USA
4Orenburg Regional Clinical Oncological Dispensary, State Institute of Healthcare, Orenburg, Russia
5Hospital Tenon, Service d'oncologie médicale, Paris, France
6Royal Melbourne Hospital, Medical Oncology, Parkville, Australia
7Tel Aviv Sourasky Medicaly Center and Tel Aviv University, Department of Oncology and Sackler School of Medicine, Tel Aviv, Israel
8AstraZeneca, Oncology Global Medicines Development, Macclesfield, United Kingdom
9University College London, Department of Oncology- UCL Cancer Institute, London, United Kingdom

Aims

Olaparib (Lynparza), an oral PARP inhibitor, significantly improved progression-free survival versus placebo in patients with PSR SOC in a randomized, double-blind, Phase II study (Study 19, NCT00753545), with the greatest benefit in patients with BRCA1/2 mutations (BRCAm). Interim overall survival (OS) analysis also suggested an advantage for olaparib-treated patients (database cut-off: 30 September 2015). We report the final analysis of long-term olaparib benefit in patients enrolled in Study 19.

Method

Patients who had received ≥2 prior regimens of platinum-based chemotherapy and were in response received olaparib (400 mg bid; capsules) or placebo until disease progression. Retrospective germline or tumour testing resulted in a known BRCAm status for 254/265 patients (96%).

Results

At final database cut-off (9 May 2016), median OS follow-up was 78.0 months. A long-term treatment benefit was shown; see Table for the final hazard ratios (HRs) for OS versus placebo (unadjusted for crossover: 13% full-analysis set [FAS] placebo patients; 23% BRCAm subgroup placebo patients). Details of BRCA wild-type (BRCAwt) patients on treatment for ≥6 years will be presented. No new safety signals or changes in the olaparib tolerability profile were seen.

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<thead>
<tr>
<th>N</th>
<th>Olaparib</th>
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<tr>
<td>Patients on treatment at final database cut-off, n (%)</td>
<td>14 (12.3) 7 (6.5) 1 (1.6) 7 (12.3)</td>
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<td>Patients on treatment for ≥6 years, n (%)</td>
<td>15 (11.0) 8 (10.8) 1 (1.6) 7 (12.3)</td>
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<td>OS events, n (%)</td>
<td>98 (72.1) 49 (68.2) 50 (80.8) 45 (75.9) 57 (83.4)</td>
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<td>Median OS, months</td>
<td>29.8 34.9 30.2 24.5 26.6</td>
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<tr>
<td>HR (95% CI)</td>
<td>0.73 (0.55-0.95) 0.82 (0.62-1.09) 0.84 (0.57-1.25)</td>
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<td>Nominal P-value</td>
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</table>

Conclusion

Conclusions: This final analysis showed that olaparib provides clinically significant, long-term treatment benefit in patients with PSR SOC. A durable benefit was seen in ≥10% of BRCAm and BRCAwt patients, who continued to receive and benefit from olaparib for ≥6 years – unprecedented in the relapsed ovarian cancer setting. Olaparib was well tolerated in this population and the analysis suggested an olaparib benefit on OS in BRCAm patients.
QUALITY OF LIFE WITH WEEKLY, DOSE-DENSE VERSUS STANDARD CHEMOTHERAPY FOR OVARIAN CANCER IN THE ICON8 STUDY

Aims

To explore the impact of dose-dense chemotherapy on quality of life (QoL) in women with newly-diagnosed ovarian cancer.

Method

ICON8 is a randomised phase III trial of standard vs. weekly dose-dense chemotherapy in newly-diagnosed ovarian cancer. Patients were randomised 1:1:1 either to (1) 3-weekly carboplatin AUC5/6 paclitaxel 175mg/m², (2) 3-weekly carboplatin AUC5/6 & weekly paclitaxel 80mg/m² or (3) weekly carboplatin AUC2 & weekly paclitaxel 80mg/m². Primary analysis of progression-free survival showed no significant difference between groups. All participated in the QoL substudy and completed EORTC-QLQ-C30 and OV28 questionnaires at enrolment, before each chemotherapy cycle, 6-weekly to 9 months, then 3 monthly to 2 years. Primary QoL endpoint was global QoL at 9 months, secondary endpoints included specific function and symptom scores. Statistical significance was assessed by analysis of covariance adjusted for baseline score.

Results

17,515 QoL questionnaires were completed by 1,540 participants. There was no significant difference in global QoL (p=0.08), fatigue (p=0.42), emotional function (p=0.21) or social function (p=0.83) at 9 months between randomised groups. Significant difference was observed in peripheral neuropathy (p<0.001), with higher mean scores at 9 months in both weekly arms (27.4, 34.2, 31.3 in arms 1,2,3 respectively). Exploratory analysis indicated that this difference continued to 18 months from randomisation.

Conclusion

Self-reported 9-month global QoL, fatigue, emotional and social functioning did not differ significantly between treatment arms. However, long-term peripheral neuropathy was significantly worse in both weekly treatment groups. These findings do not support weekly, dose-dense paclitaxel within the upfront treatment of high risk ovarian cancer.
LATE BREAKING ORAL SESSION

ESGO7-1433

Randomized phase II trial of carboplatin-paclitaxel compared to carboplatin-paclitaxel-trastuzumab in advanced or recurrent uterine serous carcinomas that overexpress Her2/Neu (NCT01367002)


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Aims

Uterine serous carcinoma is a rare, aggressive variant of endometrial cancer. Trastuzumab is a humanized monoclonal antibody that targets Her2/neu, a receptor overexpressed in 30% of uterine serous carcinoma. This multi-center, randomized phase II trial compared carboplatin/paclitaxel with and without trastuzumab in patients with advanced or recurrent uterine serous carcinoma who overexpress Her2/neu.

Method

Eligible patients had primary stage III-IV or recurrent, HER2/neu-positive disease. Participants were randomized to receive carboplatin/paclitaxel (control arm) for 6 cycles with or without intravenous trastuzumab (experimental arm) until progression or unacceptable toxicity. The primary endpoint was progression-free survival. Survival differences between treatment arms were assessed for significance via 1-sided log-rank tests.

Results

From August 2011 to March 2017, 61 patients were randomized. Forty progression-free survival related events occurred among 58 evaluable subjects. Among all patients, median progression-free survival was 8.0 months (control) versus 13.3 months (experimental; p=0.014, HR 0.50 with 90% CI 0.29–0.85). Similarly, median progression-free survival was 10.9 (control) versus 17.9 (experimental) months among 41 stage III-IV patients undergoing primary treatment (p=0.028, HR 0.45, 90% CI 0.22–0.91) and 6.0 (control) versus 9.2 months (experimental), respectively, among 17 patients with recurrent disease (p=0.0029, HR 0.14, 90% CI 0.04–0.53)(Figure). Toxicity was not different between treatment arms, and no unexpected safety signals emerged.

Conclusion
Addition of trastuzumab to carboplatin-paclitaxel was well-tolerated and increased progression-free survival. This regimen may come to represent the new standard of care for women with advanced or recurrent uterine serous carcinoma who overexpress Her2/neu.
Oncological management and pregnancy outcomes in women diagnosed with cancer during pregnancy: a 20-year international cohort study of 1170 patients

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Aims

The effect of the increased awareness of the potential to treat cancer during pregnancy is currently unknown. Therefore we aimed to analyse the oncological management and the obstetrical and neonatal outcomes of patients treated in the last 20 years by members of the International Network on Cancer, Infertility and Pregnancy (INCIP).

Method

Oncologic, obstetric and neonatal outcome data of consecutive patients diagnosed with primary invasive cancer during pregnancy between 1996 and 2016 were collected from the INCIP database. These data were evaluated with descriptive and multivariable analysis for the most common obstetrical and neonatal complications (preterm pre-labour rupture of membranes (PPROM) and/or contractions, small-for-gestational-age (SGA), and neonatal intensive care unit (NICU) admission).

Results

1170 patients were included from 37 centres in 16 countries, including 955 patients with a singleton pregnancy resulting in live births. Every five years, 10% more patients were treated during pregnancy (95% CI 5 to 15), there were 4% more live births (95% CI 1 to 6), and there were 9% less iatrogenic preterm deliveries (95% CI 2 to 16). The odds ratio of chemotherapy exposure was 2.02 (95% CI 1.19 to 3.40) for PPROM and/or contractions and 1.83 (95% CI 1.21 to 2.78) for SGA. For SGA, mainly platinum-based and alkylating chemotherapy appeared to increase the incidence.

Conclusion

We observed an increased tendency to treat cancer during pregnancy, which can lead to more obstetrical and neonatal complications. We recommend the referral of pregnant cancer patients who need chemotherapeutic treatment to centres with obstetrical high care units.
The role of secondary cytoreductive surgery in platinum-sensitive recurrent ovarian cancer (PSROC) has not been defined by level-1 evidence.

Method

Pts with PSROC and 1st relapse if they presented with a positive AGO-score which selects approximately 50% of all PSROC pts. They were randomized to 2nd-line chemotherapy vs cytoreductive surgery followed by chemo. We report results of the predetermined interim analysis.

Results

409 pts were randomized 2010-2014. Platinum-free interval exceeded 12 mos in 75% and 76% pts in both arms. Complete resection was achieved in 72.5% of operated pts; 87% and 88% received a platinum-containing 2nd-line therapy. 60/180-d mortality rates were 0 and 0.5% in the surgery and 0.5 and 2.5% in the no-surgery arm. Re-laparatomies were performed in 7pts (3.5%). With the exception of myelosuppression no further significant differences were observed with respect to grade 3+ adverse events.

Median PFS was 14 mos without and 19.6 mos with surgery (HR: 0.66, 95%CI 0.52-0.83, p<0.001). Median time to start of first subsequent therapy (TFST) was 21 vs 13.9 mos in favor of the surgery arm (HR 0.61, 95%CI 0.48-0.77, p=p<0.001). Analysis of primary endpoint OS is hampered by unexpected good OS and therefore kept blinded due to immaturity.

Conclusion

Surgery in PSROC pts selected by a positive AGO-Score resulted in increase of PFS and TFST with very acceptable treatment burden. Until final OS data will definitively define the role of secondary cytoreductive surgery it should at least be considered as valuable option in pts with a positive AGO-Score.
PATTERNS OF LYMPH NODE METASTASES IN APPARENT STAGE I LOW-GRADE EPITHELIAL OVARIAN CANCER: A MULTICENTER STUDY.


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Aims

To determine oncological outcomes and incidence of lymph node (LN) metastases in women who underwent systematic pelvic and para-aortic lymphadenectomy for surgical staging of apparent stage I low-grade epithelial ovarian cancer (LGEOC).

Method

A retrospective study was performed at nine institutions across Europe and USA. Patients who underwent surgical staging for presumed stage I LGEOC between 2000 and 2016 were included. A minimum number of ≥10 pelvic and ≥10 para-aortic LN was required. Patients with preoperative radiologic or clinical evidence of extraovarian or LN-disease, and those with non-epithelial histology, were excluded.

Results

The overall incidence of LN metastases was 4.3% in the 163 evaluated patients. The incidence of LN involvement in serous, endometrioid and mucinous subtypes was 10.7%, 1.5% and 0%, respectively. Upstaging due to LN involvement alone occurred in only 2.4% of the patients. Eighty-nine (54.6%) patients received adjuvant chemotherapy due to FIGO stage ≥IC disease. The five-year progression-free and overall survival was 93.2% (95%CI:89.4-97.1%) and 94.5% (95%CI:90.9-98.0%), respectively. There was no significant difference in PFS or OS between LN-negative versus LN-positive patients. However, fewer patients received adjuvant chemotherapy in the LN-negative group. Multivariate analysis did not identify any independent prognostic factor of survival.

Conclusion

The risk of LN involvement in non-serous apparent stage I LGEOC appears low with a rate of <1% in this retrospective analysis, raising questions about the value of lymphadenectomy in those patients. Larger scale prospective studies are warranted to evaluate the oncologic safety of omitting systematic LN-staging in apparent stage I non-serous LGEOC.
MUCINOUS OVARIAN CANCER (MOC) : WHAT IS THE REPRODUCIBILITY OF THE WHO CLASSIFICATION ?

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Aims

The WHO 2014 classification redefined the diagnostic classification of ovarian mucinous tumors: borderline mucinous tumor (BOM) and mucinous expansive (EA) and infiltrative (IA) adenocarcinoma.

Method

Retrospective study of 95 patients referred to the IGR for a borderline or malignant ovarian mucinous tumor from 1999 to 2016. All cases were reviewed by two gynecological pathologists (CG and MDS). Each pathologist interpreted the set of slides (from 1 to 4 HES per case) independently and was blinded to the interpretation of the other and to the clinical outcome of the patient.

Three types of pathological diagnoses were rendered: BOM, EA et IA. Grade of nuclear atypia and the presence of microinvasion were noted.

Results

Diagnosis was concordant between the 2 blinded independent pathologists for 87% of cases. Inter-observer diagnostic discordance was noted in 8 cases, mainly attributed to disagreement on IA vs EA with severe atypia (6/8). In 2 cases there was discordance on EA vs BOM.

Conclusion

The classification of mucinous tumors according to the WHO 2014 is difficult even for expert pathologists. The major difficulties are seen in separation of BOM from expansile adenocarcinoma. Also, the presence of severe atypia in an otherwise expansile type of invasion is interpreted differently between two pathologists (EA versus IA).

Nevertheless, it seems important to define more reproducible histological criteria for distinction of mucinous ovarian tumors between borderline and expansile adenocarcinomas in one hand and expansile and invasive adenocarcinomas in the other hand. This study is underway in the TMRO network organized in France.
THE ROLE OF THE PERITONEAL CANCER INDEX IN SURGERY FOR ADVANCED OVARIAN CANCER
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Aims

The Peritoneal Cancer Index (PCI) is integrated in the ESGO Ovarian Cancer Operative Report as it describes peritoneal tumor distribution and is a predictor of residual tumor (RT).

We hypothesized that the qualitative anatomical distribution, and not the sum of PCI, predicts RT.

Method

Prospective data from 213 consecutive patients with epithelial ovarian cancer FIGO IIIB-IV undergoing upfront surgery with maximal cytoreductive effort from the Kliniken Essen-Mitte were analyzed with regards to pre-, peri-, and postoperative factors.

Results

Total PCI was significantly related to CA-125 and albumin levels, ascites, FIGO stage, surgical complexity score, duration of surgery, blood loss and number of transfusions and was predictive of RT (P<0.0001).

Complete resection rates according to PCI scores were: PCI 1-5: 100%, PCI 6-10: 85%, PCI 11-15: 70%, PCI 16-20: 42%, PCI 21-25: 47%, PCI>25: 47%. With a cut-off of 15, ROC curve analysis for RT provided an AUC of 0.75 with a sensitivity of 74% and a specificity of 67%.

There was RT in 82 patients (38%). The only limiting intra-peritoneal areas were carcinosis in the liver hilus, on the small bowel or in the mesenteric root corresponding to PCI regions 2 and 9-12 respectively (N=68 (83%).)

Seven patients had only extra-abdominal, visceral or retroperitoneal metastases not evaluable with PCI.

Conclusion

The anatomical locations and not the sum of PCI predict complete resection.

Evaluating the liver hilus and the small bowel gives adequate information of possible RT in most patients. Therefore, PCI seems of questionable clinical relevance in ovarian cancer surgery.
ORAL 01 - OVARIAN

ESGO7-0309

THE PERITONEAL CANCER INDEX (PCI): SELECTED REGIONS - AND NOT THE TOTAL PCI - ARE PREDICTIVE OF SURVIVAL IN ADVANCED OVARIAN CANCER

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Aims

The peritoneal cancer index (PCI) describes the peritoneal cancer spread in 13 peritoneal areas (0-12) and has been shown to correlate with complete resection (CR) rates in advanced epithelial ovarian cancer (AOC).

We hypothesized that only certain PCI-areas were predictors of complete resection.

In this study we critically evaluate the usefulness of the PCI as a predictor of complete resection (CR) and median overall survival (OS) (months) in AOC.

Method

Prospective preoperative, surgical and survival data from 878 consecutive cases of AOC was obtained from the Nationwide Danish Gynecological Cancer Database.

Results

CR rate was 57%. Patients with CR had significantly longer OS compared to patients without CR: 62.6 (95% CI: 53.7-71.5) vs. 23.9 (95% CI: 19.1-28.6); p<0.0001.

Patients with PCI > median (13) had poorer OS compared to patients with PCI ≤ median: 26.7 (95% CI: 23.7-28.9) vs. 56.8 (95% CI: 49.5-64.2); p<0.0001.

In COX regression, Total PCI (HR: 1.028 (95% CI: 1.017-1.039)), Tumor Rest (HR: 1.64 (95% CI: 1.29-2.08)), Performance Status (HR: 1.31 (95% CI: 1.15-1.50)), Age (HR: 1.02 (95% CI: 1.01-1.03)) and FIGO stage (HR: 1.05 (95% CI: 1.02-1.09)) were significant cofactors for survival.

In 88% of the cases, the primary limiting factor for CR was carcinosis on the small bowel/mesenterium, stomach or hepatoduodenal ligament, corresponding to areas 2 and 9-12 in PCI (PCI 2+9-12).

ROC curve AUC for the total PCI was 81%. Selecting only PCI 2+9-12, AUC increased to 83%. In COX regression, PCI 2+9-12 had a higher HR than Total PCI (HR: 1.061 (95% CI: 1.03-1.09)).

Conclusion

Liver hilus and small bowel carcinosis are stronger predictors of CR and survival than the sum of the PCI. PCI therefore seems of limited value in the peri-operative evaluation of AOC.
HORMONAL AND FERTILITY OUTCOME AFTER FERTILITY SPARING SURGERY AND CHEMOTHERAPY FOR OVARIAN NEOPLASMS: A RETROSPECTIVE STUDY

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Aims

Fertility sparing treatment (FST) for premenopausal women in ovarian neoplasms comprises surgical sparing of the gynecological apparatus and adjuvant chemotherapy (AC) according to risk factors. Little is known regarding the interaction between AC and the hormonal and fertility outcome in this population. We evaluated this cohort of patients in terms of during- and post-treatment ovarian function, conception and pregnancy outcome.

Method

A retrospective study was carried out in patients with epithelial (EOC) and non-epithelial (N-EOC) ovarian neoplasms undergoing FST with or without AC. Non parametric tests, univariate and multivariate (adjusted for age, histology, and relapse) logistic regression analyses were performed.

Results

573 patients (206 EOC, 367 N-EOC) treated in the period between 1980 and 2012 were included in this analysis, comprising of 40.3% patients treated with AC. Median follow-up was 12.3y with median age at diagnosis of 26.4y.

Overall, ovarian failure rates was 0.01%, childbearing desire was in 41.5%, with conception success rate of 84.5%.

At multivariate analysis, AC conferred higher risk of during-treatment amenorrhea [OR:18.45(95%CI5.19-65.62),p<0.0001], especially with platinum+etoposide+bleomycin schedule (p<0.0001), whereas post-treatment amenorrhea was rare and similar in both groups(p=0.69). Conception rate was lower in AC population (81.3%v.86.4%), yet not significant [OR:0.55(95%CI0.26-1.14),p=0.11]. Successful pregnancy rate was not affected by treatment (79.8%v.80.3%), [OR:0.94(0.51-1.75),p=0.85].

Conclusion

In this large cohort, AC affects during-treatment amenorrhea, with seemingly no significant impact on conception and successful pregnancy rates. Further follow up warrants more robust information regarding conception rates and non-surgical menopausal age. Pre-treatment counseling should discuss these risks in such young population.
ORAL 02 - CERVIX

ESGO7-0379

DECISIONAL VALUE OF PRETHERAPEUTIC LAPAROSCOPIC EXTRAPERITONEAL ILIO-PARAORTIC (EL-PALND) VERSUS PET-CT IN LOCALLY ADVANCED CERVICAL CARCINOMAS (LACC)

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Aims

Management of LACC (FGO stage IB2-IVA) is usually based on definitive chemoradiation therapy (CRT), tailored upon the results of pretherapeutric imaging (MRI, CTscan and/or PET-CTscan). As accuracy of imaging is low especially in case of low-volume metastases. EL-PALND has been suggested to better define the indication and upper limit of CRT fields. To clarify the indications of this procedure, we prospectively compared the results of systematic pretherapeutic ilio-infraenal EL-PALND to PET-CT in LACC patients with no contra-indication for surgery, nor evidence of distant metastasis.

Method

From 2005 to 2015, all consecutive LACC patients, with normal morphological imaging (MRI and/or CTscan), were submitted to hybrid PET-CTscan, systematically followed by an ilio-infraenal EL-PALND. All PET-CT results were reviewed, then compared to those of pathological node dissections. This study was approved by our local IRB.

Results

207 informed LACC patients entered the protocol. 162 had a totally extra-uterine negative PET CT, 30 had external iliac only additional hot spots, 12 had common iliac/paraaortic and 2 distant hot spots. With a mean of 21 PA nodes, pathological involvement was found in 10/162 (6.1%), 12/40 (40%), 9/13 (70%) and 2/2 (100%) patients respectively. All except 7 had less than 5mm metastases. Overall morbidity of EL-PALND (all ≤ Clavien 3a) interested 54 (30%) patients with 50% lymphocysts, but none delayed CRT more than 2 weeks.

Conclusion

Given the significant rate of occult nodal involvement at PET-CTscan, EL-PALND seems an interesting option to tailor CRT fields, especially in case of negative PET-CT beyond the level of external iliac vessels.
Aims

Although cervical intraepithelial neoplasia grade 2 (CIN 2) is often considered the histological cut-off to proceed to conisation, a substantial proportion of CIN 2 lesions regress spontaneously, particularly in young women. We aimed to estimate the rates of regression, persistence, progression and compliance with follow-up in women with CIN 2 managed with active surveillance.

Method

Medline, Embase and CINAHL were searched from 1.1.1973 to 20.8.2016 for studies reporting on outcomes of histologically-confirmed CIN 2 in non-pregnant women, managed with active surveillance for at least three months. Data extraction and risk of bias assessments were performed independently and in duplicate. Pooled proportions for each outcome were calculated with random-effects model and inter-study heterogeneity was assessed using I² statistics.

Results

We identified 36 studies (seven control arms of randomised controlled trials, 16 prospective and 13 retrospective cohort studies) that reported on the outcomes of 3093 women. At 24 months, the regression rate was 50% (95% confidence interval (CI) 43%-67%; I² 77%), the persistence rate 32% (95%CI 23%-42%; I² 82%), while the progression rate 18% (95%CI 11%-27%; I² 90%). In a subgroup analysis of 4 studies that included 1039 women under the age of 30, the rates were 60% (95%CI 57%-63%; I² 0%), 23% (95%CI 20%-26%; I² 97%) and 11% (95%CI 5%-19%; I² 67%), respectively.

Conclusion

The majority of CIN 2 lesions regress spontaneously, particularly in young women. Close active surveillance is justified for selected young women with CIN 2 that are likely to adhere to monitoring.
ORAL 02 - CERVIX

ESGO7-0415

CERVICAL CANCER RELAPSE RATES IN PATIENTS WITH PARA-AORTIC NEGITIVE PET SCANS: A FIVE-YEAR ANALYSIS IN AN IRISH GYNAEONCOLOGY CENTRE

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Aims

To review the rates of cervical cancer relapse in our patients with no gross metastatic spread to the para-aortic nodes (PA nodes) at initial diagnosis as defined on positron emission tomography (PET).

Method

Data contained in our gynaeoncology cancer registry was combined with hospital records. All cervical cancers over a period August 2011-July 2016 were selected for analysis. Data was collected on patients staged ≥1B2 to 4A. Patients were excluded if no PET scan was performed and diagnosis of metastasis was based on PET report.

Results

Of 105 patients, 97 had a reported PET scan. Seventy-eight percent of cases were squamous pathology. At diagnosis, 71% (n=69/97) of patients were PA node-negative. Relapse rates were higher in PA node negative patients than PA node positive 20% (n=14/69) vrs 14% (n=4/28). Of PA node-negative patients, 41% (n=28/69) had pelvic nodes positive on PET scan at diagnosis, of these 39% (n=11/28) received para-aortic radiation, 25% of patients (n=7/28) relapsed, the majority 71% (n=5/7) failing systemically. Of those negative for pelvic and PA-node disease 17% (n=7/41) relapsed, 86% (n=6/7) systemically, none received extended field radiation.

Conclusion

Although PET imaging is the standard for assessment of gross metastatic disease, overall 20% of PA node-negative patients experienced a subsequent relapse. Outcome was worse in relapsed patients who had no pelvic or PA disease at diagnosis. This review shows the importance of micro-metastasis in cervical cancer not yet identifiable by PET imaging.
IMPACT OF ADJUVANT HYSTERECTOMY ON PROGNOSIS IN PATIENTS WITH LOCALLY ADVANCED CERVICAL CANCER TREATED WITH DEFINITIVE CONCURRENT CHEMORADIOThERAPY: A META-ANALYSIS

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Aims

We investigated the effect of adjuvant hysterectomy (AH) on prognosis in locally advanced cervical cancer (LACC) patients treated with concurrent chemoradiotherapy, through meta-analysis.

Method

EMBASE and MEDLINE databases and the Cochrane Library were searched for published studies comparing LACC patients who received AH after chemoradiotherapy with those who did not, through April 2016. Endpoints were mortality and recurrence rates. For pooled estimates of the effect of AH on mortality/recurrence, random- or fixed-effects meta-analytical models were used.

Results

Two randomized trials and six observational studies (AH following chemoradiotherapy, 630 patients; chemoradiotherapy, 585 patients) met our search criteria. Fixed-effects model-based meta-analysis indicated no significant difference in mortality between the groups [odds ratio (OR) = 1.01, 95% confidence interval (CI): 0.58-1.78, \( P = 0.97 \)] with low cross-study heterogeneity (\( P = 0.73 \) and \( I^2 = 0 \)). This pattern was observed in subgroup analysis for study design, radiation type, response after chemoradiotherapy, and hysterectomy type. The pooled OR for AH and recurrence was 0.59 (95% CI: 0.44-0.79, \( P < 0.05 \)) with low cross-study heterogeneity (\( P = 0.289 \) and \( I^2 = 17.8 \)), favoring the AH group. However, this pattern was not observed in the subgroup analysis for the randomized trials. There was no evidence of publication bias.

Conclusion

In this meta-analysis, AH following chemoradiotherapy did not improve survival in patients with LACC, although it seemed to reduce the risk of recurrence. Concerning the significant morbidity of AH after chemoradiotherapy, routine use of AH should be avoided.
ORAL 02 - CERVIX

ESGO7-0942

ONCOLOGICAL AND OBSTETRIC OUTCOME OF ABDOMINAL RADICAL TRACHELECTOMY (ART): AN UPDATED SERIES OF CERVICAL CANCER FROM A 13-YEAR EXPERIENCE

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Aims

To update the oncological and obstetric outcome of our study on ART for young patients with cervical cancer.

Method

We conducted a retrospective review of a prospectively maintained database of patients undergoing ART for cervical cancer at our institution from 04/2004 to 12/2016.

Results

Three hundred and forty-eight cases were planned for ART. Among 310 patients who successfully underwent ART, 47 had IA1 disease (with positive margin or LVSI), 27 had IA2 and 236 IB1 (123 had tumor≥2cm). Histology included 46 with adenocarcinoma, 256 squamous and 8 adenosquamous carcinoma. With a median follow-up of 48 months, 10 patients recurred and 3 died. For patients with tumors≥2 cm, 6 recurred and 3 died. The 5-year RFS and OS were 96.7% and 99%, respectively. Tumor size≥2 cm and adenosquamous carcinoma impact RFS significantly on univariate analysis. On multivariate analysis, however, only adenosquamous carcinoma retained independent predictive value. Among 103 patients who attempted to get pregnant, 21 succeeded with 23 pregnancies. Assisted reproductive technology was utilized more often recently with a success rate of approximate 60%.

Conclusion

Recurrent cases accumulated as the follow-up getting longer. However, with recurrent rate of 3.3% and 5-year OS of 99%, ART still seems to be a reasonable option for selected patients with larger tumor. Adenosquamous carcinoma may have intrinsic risk for recurrence. The unsatisfactory obstetric outcome was largely attributed by the proportion of patients who did not attempt to conceive. Assisted reproduction technology was utilized to improve obstetric outcomes.
ORAL 02 - CERVIX

ESGO7-1067

OUTCOMES OF ROBOTIC RADICAL HYSTERECTOMY FOR CERVICAL CANCER IN COMPARISON TO OPEN AND LAPAROSCOPIC CASES: A POPULATION BASED STUDY IN THE UNITED STATES

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Aims

For early stage cervical cancer treated with radical hysterectomy, the robotic platform may improve visualization, ergonomics and finite dissections within the parametria. We report nationwide outcomes of robotic radical hysterectomy as compared to laparoscopic and open procedures.

Method

Using the National Inpatient Sample between 2008-2013, we performed a retrospective cohort study of all women with cervical cancer undergoing radical hysterectomy. We compared baseline characteristics, length of stay, intraoperative, postoperative and mortality outcomes between robotic, laparoscopic and open procedures. We used t-test for continuous variables, chi-square for categorical and confidence intervals using SAS.

Results

Among 33,213 women with cervical cancer, 2,999 underwent radical hysterectomy; 18.2% robotic, 6.8% laparoscopic and 74.9% open. Over time, there was a significant decline in open procedures with an increase in robotic surgeries and stable trend in laparoscopic cases. There was no difference in baseline characteristics (age, BMI, race, smoking status and comorbidities) between robotic and open cases. There was no difference in intra-operative complications. There were less cumulative post-operative complications (6.95% vs 16.4%, p<0.01), in particular less wound infections (0.37% vs 1.91%, p=0.019) and ileus (2.74 vs 9.21, p<0.01). The length of stay was significantly reduced in the robotic group (mean 1.95 days vs 4.33 open, p<0.01). There were no deaths in either group. The cost was $53,928.47 for robotic, compared to $45,620.89 for open (A1 7,983.52, p<0.01).

Conclusion

Robotic radical hysterectomy is increasingly being adopted by experienced gynecologic oncologists and leads to diminished length of stay and less post-operative morbidity at the expense of increased cost.
HOW TO IMPROVE SENTINEL LYMPH NODE MAPPING WITH INDOCYANINE GREEN (ICG) IN ENDOMETRIAL CANCER?

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Aims

To determine the validity of sentinel lymph node (SLN) biopsy with ICG in endometrial cancer and to evaluate the factors associated with poor mapping or false negative.

Method

We reviewed all patients who underwent primary surgery for endometrial carcinoma with SLN mapping using ICG followed by pelvic lymphadenectomy, from February 2014 to December 2015. SLNs were ultrastaged on final pathology. Patients’ demographics, surgical approach, FIGO stage, cervical involvement, lymphovascular space invasion, histologic type and grade were prospectively collected. Detection rate, sensitivity and negative predictive value (NPV) were calculated and univariate analysis was performed to evaluate factors associated with failed bilateral detection of SLNs.

Results

A total of 119 patients were included in the study. The overall and bilateral detection rate were 93% (111/119) and 74% (89/119). Sensitivity and NPV were 100% in patients with bilateral detection; 95% and 99% respectively in cases with at least unilateral detection. Advanced FIGO stage (III or IV) was the only factor related to failed bilateral detection (p=0.01). In 14 hemi-pelvis, the specimen labelled as SLN did not contain nodal tissue on final pathology (only lymphatic channels), which represented 37% of the “failed detection” cases. One false negative occurred in a patient with ipsilateral suspicious enlarged lymph nodes.

Conclusion

ICG is an excellent tracer for SLN mapping in endometrial cancer. Advanced FIGO stage was correlated to failed bilateral detection (p=0.01). Care should be taken to ensure that SLN specimen actually contains nodal tissue and not swollen lymphatic channels; suspicious lymph nodes should be removed regardless of the mapping.
REFINEMENT OF HIGH-RISK ENDOMETRIAL-CANCER (HR-EC) CLASSIFICATION USING DNA DAMAGE RESPONSE (DDR) BIOMARKERS: A TRANSPORTEC INITIATIVE

Aims

The TransPORTEC consortium previously classified HR-EC into 4 molecular subtypes POLE, MSI, P53 mutated (P53m+) and no specific molecular profile (NSMP). We evaluated whether DDR biomarkers could further refine this HR-EC classification, in particular the poor prognosis NSMP and P53m+ subsets.

Method

DDR biomarkers including proteins involved in DNA damage (g-H2AX), homologous recombination (RAD51), positive or negative regulators of error-prone NHEJ (DNA-PK or FANCD2, respectively), and PARP were evaluated in 116 HR-EC by IHC using an H-score. CD8 and PD1 expression by IHC and mutation analyses were previously performed. Disease free survival (DFS) was calculated using Kaplan-Meier and Log-rank test.

Results

None of the DDR biomarkers alone were prognostic. However markers were informative within molecular subsets. Among the NSMP subset, gH2AX+ was significantly predictive of poor DFS (HR=2.56; p=0.026), and among P53m, a DNA-PK+/FANCD2- profile (favouring error-prone NHEJ) predicted worst DFS (HR=4.95; p=0.009) resulting in 5 distinct HR-EC prognostic subgroups (DFS from best to worst: "POLE/MSI" > "NSMP with no DNA damage" > "P53m+/NHEJ-" > "NSMP with high DNA damage" > "P53m+/NHEJ+"); p=0.0002. Actionable targets were also different among subsets. The P53m+/NHEJ- subgroup had significantly higher infiltration of PD1+ immune cells (p=0.003), segregating with POLE and MSI. The NSMP/gH2AX- had frequent PI3K pathway mutations and ER positivity. While the P53m+/NHEJ+ with the worst prognosis had high DNA damage and PARP expression providing a rationale for PARP inhibition.

Conclusion

The integration of DDR biomarkers further refined the TransPORTEC prognostic classification of HR-EC into 5 distinct subgroups and identified molecular subtype-specific therapeutic strategies.
IMPACT OF CONSERVATIVE MANAGEMENTS IN YOUNG WOMEN WITH GRADE 2 OR 3 ENDOMETRIAL ADENOCARCINOMA CONFINED TO ENDOMETRIUM

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Aims

To evaluate the impact of ovarian and/or uterine preservation in young patients with grade 2 or 3 endometrial adenocarcinoma confined to endometrium.

Method

A population-based analysis was conducted. The SEER'17 Database was used to identify women younger than 45 years of age with grade 2 or 3 endometrial adenocarcinoma confined to endometrium from 1983 to 2012. A cohort of 1106 women was included: 849 underwent hysterectomy with bilateral adnexectomy, 96 underwent hysterectomy with ovarian preservation and 49 underwent uterine preservation. The demographics and survival rates according to the type of treatment administered were compared.

Results

The five-year overall survival probabilities were 94.8% (95%CI [92.8-96.2]), 93.8% (95%CI [85.8-97.4]), and 78.2% (95%CI [62.1-88.1]) for patients who underwent hysterectomy with bilateral adnexectomy, ovarian preservation and uterine preservation, respectively (p<0.001).

The five-year cancer-related survival probabilities were 99.3% (95%CI [98.6-99.9]), 98.9% (95%CI [96.9-99.9]), and 86.2% (95%CI [75.7-98.2]) for patients who underwent hysterectomy with bilateral adnexectomy, ovarian preservation and uterine preservation, respectively (p<0.001).

Patients who received uterine conservation had lower disease-specific (aHR=15.8 95%CI [5.5-45.2]) and overall survival probabilities (aHR=6.6 95%CI [3.3-13.4]) than did patients who underwent hysterectomy with or without oophorectomy. Ovarian conservation was not associated with decreased disease-specific (aHR=1.45 95%CI [0.31-6.71]) or overall survival (aHR=0.58 95% IC [0.17-1.90]).

Conclusion

Ovarian preservation has no impact on survival probability in patients with grade 2 or 3 endometrial cancer confined to endometrium. On the contrary, physicians and patients should be aware of the worse prognosis associated with uterine preservation.
ORAL 03 - ENDOMETRIAL

ESGO7-0545

ULTRASOUND CHARACTERISTICS OF ENDOMETRIAL CANCER AS DEFINED BY THE INTERNATIONAL ENDOMETRIAL TUMOR ANALYSIS (IETA) CONSENSUS NOMENCLATURE- A PROSPECTIVE MULTICENTER STUDY


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Aims

To describe the sonographic features of endometrial cancer in relation to stage, grade, and histotype using the IETA terminology.

Method

Prospective multicenter study on 1714 women with endometrial cancer undergoing a standardized transvaginal grayscale and Doppler ultrasound examination by an experienced ultrasound examiner using a high-end ultrasound system. Clinical and sonographic data were entered into a web-based protocol. Sonographic characteristics according to IETA were compared with outcome of hysterectomy, i.e. tumor stage, grade, and histotype.

Results

After excluding 176 women (no or delayed hysterectomy, final diagnosis other than endometrial cancer, or incomplete data), 1538 women were included in our statistical analysis. Mean age was 65 years (SD, 10.5), and mean BMI 30 (SD 7.1), 1378 (89.7%) women were postmenopausal, and 1296 (84.2%) reported abnormal vaginal bleeding. Grayscale and color Doppler features changed with increasing grade and stage. High-risk tumors (stage 1A, grade 3 or non-endometrioid or > stage 1B) were less likely to have regular endometrial myometrial border (difference of -23%, 95% CI -27 to -18%), whilst they were larger (mean endometrial thickness; difference of +22%, 95% CI +18 to +27%), than low-risk tumors.

Conclusion

Grayscale and color Doppler ultrasound features of endometrial tumors vary by grade and stage. This knowledge may improve preoperative ultrasound discrimination between low and high-risk cancer.
Aims

Pelvic floor functioning is a major concern for women requiring a hysterectomy for endometrial cancer and for benign conditions. This study reports the effect of hysterectomy on pelvic floor symptoms performed using an open abdominal (TAH) or total laparoscopic approach (TLH).

Method

381 women who participated in the Laparoscopic Approach to Cancer of the Endometrium (LACE) trial and required surgery for stage 1 endometrial cancer, were asked to complete the Pelvic Floor Distress Inventory (PFDI-20) before surgery, 6-months post-surgery, and yearly thereafter until 54 months follow-up. The mean change in scores in the TAH and TLH groups were compared using student t-test.

Results

At baseline, women were on average 63 years (SD 10 years), and 88% were overweight or obese. The mean PFDI-20 score was 13.5 (13.8) at baseline, indicating a low level of pelvic floor concerns among the women. Six months after surgery, women in both treatment groups reported better pelvic floor quality of life compared to baseline. Women who received a TAH reported a score of 11.01 (12.71), and women who received TLH 8.95 (11.77). The mean change in PFDI-20 score from baseline to 6-months post-surgery was not significantly different between TAH and TLH groups (0.06 (95% CI -3.18, 3.31); p=0.97).

Conclusion

Prevalence of pelvic floor symptoms in this trial was comparatively low. Surgical treatment of stage 1 endometrial cancer led to improvements in pelvic floor quality of life six months after surgery regardless of whether the surgery was performed via TAH or TLH.
FRENCH MULTICENTRIC RANDOMIZED TRIAL EVALUATING SEVERE PERIOPERATIVE MORBIDITY AFTER ROBOT ASSISTED VERSUS CONVENTIONAL LAPAROSCOPY IN GYNECOLOGIC ONCOLOGY: RESULTS OF ROBOGYN TRIAL.


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14 oscar lambret cancer center, anesthesiology, lille, France
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Aims

In gynecologic oncology, mini-invasive surgery by laparoscopy decreases incidence of severe morbidity compared to open surgery. The robotic-assisted laparoscopy (RL) was approved by FDA in gynecology in 2005. ROBOGYN (NCT01247779) is the first multicentric randomized trial comparing severe perioperative morbidity after RL versus conventional laparoscopy (CL).

Method

Patients with a gynecologic cancer eligible for mini-invasive surgery were recruited in 13 French centers between December-2010 and December-2015. Severe perioperative morbidity was defined as Oslo grade>=Ii for per-operative complications, Clavien-Dindo grade>=II in the first 30 days, or NCI-CTCAE-4.03 grade>=3 up to 6 months after surgery, evaluated on the per-protocol dataset. Overall 374 evaluable patients were required to detect 10%-decrease of severe morbidity (15%-versus-5%) with a 90%-power (two-sided alpha=5%). Balanced randomization was stratified by center.

Results

383 patients with uterine (54%), cervical (43%) and ovarian cancer (3%) were recruited. Median age=58, BMI=25.9, WHO-0 in 83%. Per-protocol analysis includes 369 patients: 176 underwent RL, 193 CL. 208 and 92 patients had total and radical hysterectomy, respectively. A pelvic and/or iliac lymphadenectomy was performed in 186 patients, para-aortic lymphadenectomy in 71. Ten patients in each arm had a laparoconversion (p=0.83). RL was associated with a significantly longer operating time (median, 205 vs 162min, p<0.001), and higher blood loss (estimated volume, median, 100 vs 50ml, p=0.006).

Severe perioperative morbidity was reported in 48/176 for RL (27%) and 40/192 for CL (21%) (p=0.15, 1 missing data).

Conclusion

We did not observe any reduction of severe perioperative morbidity with robot-assisted laparoscopy compared to conventional laparoscopy in patients with gynecologic cancer.
PERIOPERATIVE POSITIONING MANAGEMENT IN GYNECOLOGIC CANCER SURGERY: A NATIONAL NOGGO-AGO INTERGROUP SURVEY


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8Charité-Universitätsmedizin Berlin, Department of Gynecology, Berlin, Germany
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Aims

Approximately 4% of all medical complications are perioperative positioning injuries. Aims of the survey were the analysis of perioperative positioning management in gynaecologic-oncological surgery, the process- and structure-reliability and the implementation of current guidelines into daily clinical practice.

Method

We sent an anonymous multiple-choice questionnaire to all gynecological departments in Germany. Sixty questions were divided into five different parts: 1) descriptive information about the department, 2) focus on the pre- and 3) postoperative management, 4) on the quality management, and 5) information regarding the positioning management in the operation room based on two fictional case examples in gynecologic oncology procedures.

Results

184 of 633 departments participated in the survey (June-September 2016). 48.8% of all participating departments declared complications related to intraoperative positioning, independent from department size. Knowledge of the current guideline on positioning did not impact the incidence of complications. Positioning of the patient was mentioned in the team-time-out procedure in 66.1% of the participating departments. No difference was found between high-volume and low-volume gynecologic oncologic operative departments with regard to the use of supportive tools such as anti-thrombotic leg pumps. 92.7% included information of positioning injuries into the written informed consent. Knowledge of the guideline or a previous legal dispute did not influence the willingness to inform about possible positioning-related complications.

Conclusion

The awareness of perioperative positioning management in gynecologic cancer surgery is high throughout all departments in Germany. Almost half of all 184 participating departments report positioning-related complications in the previous 12 months, stressing the importance of this often underrated topic.
Aims

The primary aim of the survey was to investigate the expectations of European patients about maintenance therapy.

Method

A 24-item questionnaire was provided to ovarian cancer patients via internet or paper-version in 9 European countries (Austria, Belgium, France, Germany, Italy, Romania, Slovenia, Finland and Turkey). Data was captured about demographics, tumor stage and therapy after first line and/or recurrent disease and particularly about preferences of administration and expectations concerning a maintenance therapy.

Results

2101 questionnaires were evaluated. 96% of the patients had a surgery and 93% received a chemotherapy. 38% of respondents had recurrent disease. 45% patients had already heard of and 29% received maintenance therapy. 85% of the patients heard about maintenance therapy from the doctor and 10% from other patients, 9% read about it on the internet. The four most disturbing side effects of maintenance therapy were polyneuropathy (37%), nausea (36%), loss of hair (34%) and vomiting (34%). The main objective of maintenance treatment was to increase the chances of cure (73%), followed by an improvement in the quality of life (47%) and the delay of tumor growth (37%). Many patients are willing to take a maintenance therapy until tumor progression (38%). 39% would prefer an oral administration. When we performed cross country sub-analysis we observed no significant differences of expectations to a maintenance therapy.

Conclusion

There is an urgent need for more information regarding side effects and treatment goals of maintenance therapy to avoid misunderstandings by patients. This information may increase patient’s compliance for maintenance therapy in ovarian cancer.
ADVERSE EVENTS AFTER HYPERThERMIC INTRAPERITONEAL CHEMOTHERAPY (HIPEC) FOR STAGE III OVARIAN CANCER: PHASE III OVHIPEC STUDY

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13The Netherlands Cancer Institute - Antoni van Leeuwenhoek Hospital, Department of Surgical Oncology, Amsterdam, The Netherlands
14Aarhus University Hospital, Department of Surgery, Aarhus, Denmark
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Aims

In the OVHIPEC study (NCT00426257), the addition of HIPEC to interval cytoreductive surgery (CRS) significantly improved recurrence-free (HR 0.68, 95% CI 0.51-0.89) and overall survival (HR 0.67, 95% CI 0.48-0.94) in patients with stage III ovarian cancer. We analysed adverse events (AEs) in OVHIPEC, the first randomized study that evaluated HIPEC in primary ovarian cancer.

Method

We randomly assigned patients who showed at least stable disease after 3 cycles of carboplatin (area under the curve 6) and paclitaxel (175 mg/m²) to receive interval CRS with (n=122) or without (n=123) HIPEC using cisplatin (100 mg/m²). Patients in both arms received 3 additional cycles of carboplatin/paclitaxel post-operatively. We describe AEs graded by CTCAE v4.0 occurring up to first follow-up, defined as 6 weeks after the end of treatment.

Results

Over 95% of patients in both arms experienced at least one AE of any grade. The number of patients with grade 3-5 AEs was 30 (24%) without HIPEC and 34 (28%) with HIPEC (p=0.71). The most common grade 3-5 AEs after HIPEC were pulmonary events, infections, abdominal pain, and ileus, all occurring in less than 10% of patients (table). Three patients died within 6 weeks after the end of treatment, 1 was treatment related (CRS only arm) and 2 were due to rapid disease progression (1 in HIPEC arm and 1 in CRS only arm).
Table. Adverse events up to 6 weeks after the end of treatment

<table>
<thead>
<tr>
<th></th>
<th>CRS only (N = 123)</th>
<th>CRs + HIPEC (N = 122)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 3–5</td>
<td>Number of events (%)</td>
<td>Grade 3–5</td>
</tr>
<tr>
<td>Pulmonary event¹</td>
<td>2 (2)</td>
<td>9 (7)</td>
</tr>
<tr>
<td>Infection²</td>
<td>5 (4)</td>
<td>8 (7)</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>7 (6)</td>
<td>6 (5)</td>
</tr>
<tr>
<td>Ileus</td>
<td>4 (3)</td>
<td>5 (5)</td>
</tr>
<tr>
<td>Nausea or vomiting</td>
<td>12 (2)</td>
<td>4 (3)</td>
</tr>
<tr>
<td>Pain</td>
<td>2 (2)</td>
<td>4 (8)</td>
</tr>
<tr>
<td>Thromboembolic event³</td>
<td>2 (2)</td>
<td>4 (3)</td>
</tr>
<tr>
<td>Electrolyte disturbance⁴</td>
<td>1 (1)</td>
<td>4 (3)</td>
</tr>
<tr>
<td>Anastomosis related event⁵</td>
<td>3 (2)</td>
<td>3 (2)</td>
</tr>
<tr>
<td>Cardiac event</td>
<td>2 (2)</td>
<td>2 (2)</td>
</tr>
<tr>
<td>Fatigue</td>
<td>0</td>
<td>2 (2)</td>
</tr>
<tr>
<td>Urinary tract</td>
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</tr>
<tr>
<td>Anaemia</td>
<td>6 (5)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Haemorrhage, surgery related</td>
<td>2 (2)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Sepsis</td>
<td>2 (2)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Neuropathy</td>
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<td>1 (1)</td>
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<tr>
<td>Hypotension</td>
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<td>1 (1)</td>
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<tr>
<td>Febrile neutropenia</td>
<td>0</td>
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</tr>
<tr>
<td>High amylase</td>
<td>0</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Intra-abdominal collection</td>
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<tr>
<td>Neutropenia</td>
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<tr>
<td>Intestinal perforation</td>
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</tr>
<tr>
<td>Skin</td>
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<td>Constipation</td>
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</tr>
<tr>
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<td>0</td>
</tr>
<tr>
<td>Serosal bowel injury</td>
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¹ Pulmonary events include dyspnoea, hypoxia, pleural effusion, respiratory distress and tracheotomy.
² Infection events include pneumonia and other infections.
³ Thromboembolic event include venous thrombosis, pulmonary embolism and transient ischemic event.
⁴ Electrolyte disturbances include hyponatremia and hypokalemia.
⁵ Anastomosis related events include anastomosis leakage and anastomosis fistulas.

Conclusion

The addition of HIPEC to interval CRS does not increase adverse events and improves recurrence free- and overall survival in patients with stage III ovarian cancer.
IDENTIFICATION OF HIGHLY DIFFERENTIALLY EXPRESSED GENES IN PRIMARY OVARIAN CANCER AND RELATED DISTANT METASTASIS USING RNA SEQUENCING

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Aims

High grade serous ovarian cancer is the most common subtype of epithelial ovarian cancers (EOC) with poor prognosis. In most cases EOC is widely disseminated at the time of diagnosis. Our aim was to determine whether gene expression in distant metastasis of high grade serous EOC differ from that of primary tumors to gain better understanding of disease process.

Method

We analyzed the gene expression profile of ten primary high grade serous EOC tumors and related omental metastasis using RNA sequencing. The functions of differentially regulated genes were studied using Ingenuity Pathway Analysis and by comparing our results to TCGA data.

Results

We identified 100 differentially regulated genes between primary tumors and metastasis, majority of which were downregulated in the omental samples. Gene ontology analysis revealed that cellular functions related to embryonic development were increased within the metastasis. Many of the embryonic developmental genes were also highly expressed in TCGA ovarian cancer samples compared to any other cancer type. Interestingly, 17 of our 100 most differentially regulated genes were also found significantly altered in TCGA primary tumors that had led to metastasis formation. For survival analysis TCGA data was divided to poor and high survival according to our 100 differentially regulated genes. Our analysis identified 12 candidate genes that were significantly associated with poor survival that will be subject of future studies.

Conclusion

The gene expression of primary tumors and metastasis of high grade serous EOC exhibited significant differences. Many of the identified genes have functions in embryonic development.
ORAL 04 - OVARIAN II

ESGO7-0471

INTERVAL BETWEEN CYTOREDUCTIVE SURGERY AND ADJUVANT CHEMOTHERAPY IS ASSOCIATED WITH OVERALL SURVIVAL IN PATIENTS WITH ADVANCED OVARIAN CANCER

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Aims

Optimal treatment for advanced epithelial ovarian cancer consists of cytoreductive surgery and (neo)adjuvant platinum based chemotherapy. The aim of this study was to evaluate whether the time to adjuvant chemotherapy (TTC) was associated with overall survival (OS).

Method

We selected all patients diagnosed with epithelial ovarian cancer (FIGO IIb-IV) between 2008 and 2015 from the Netherlands Cancer Registry. Logistic regression was used to identify factors associated with a longer TTC and multivariable Cox regression to evaluate the independent effect of treatment interval on OS. Patients receiving primary debulking surgery (PDS) and patients receiving interval debulking surgery (IDS) were analysed separately.

Results

4,143 patients were included, 1,693 underwent PDS and 2,450 IDS. Median TTC was 29 (interquartile range (IQR) 23-37) days. Perioperative complications (p<0.001), prolonged hospitalisation (p<0.001), and extended surgery (p<0.001) were independently associated with a longer TTC for both PDS and IDS. Patients who exceeded the 75% quartile of the TTC interval experienced worse survival when undergoing PDS (>37 days compared to 23-37 days; hazard rate (HR) 1.20, 95%CI 1.01-1.43) or IDS (HR 1.27(1.10-1.46)).

Conclusion

Our study provides evidence that delayed initiation of adjuvant chemotherapy is an independent prognostic factor for worse overall survival after both PDS and IDS, also when adjusting for residual disease and perioperative complications. Consequently we advise to start adjuvant chemotherapy within five to six weeks after debulking surgery.
PALB2 MUTATIONS IN HIGH-RISK WOMEN WITH OVARIAN OR BREAST CANCER

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Aims

In the current study, we examined the frequency of PALB2 mutations in women with breast or ovarian cancer who met criteria for genetic testing for BRCA1 and BRCA2 and tested negative.

Method

DNA samples from women with ovarian or breast cancer, who met criteria for provincial BRCA1 and BRCA2 genetic testing and tested negative between the years of 2007 and 2014 were included in this study. All 13 coding exons of PALB2 plus 20 base pairs from the exon boundaries were amplified using Wafergen SmartChip technology. The amplified DNA were paired-end sequenced at 2x250 cycles using an Illumina MiSeq sequencer.

Results

2,225 women with breast cancer and 429 women with ovarian cancer were tested for PALB2 mutations. No PALB2 mutations were found in women with ovarian cancer. Seventeen deleterious PALB2 mutations were detected in women with breast cancer (0.8%). The frequency of PALB2 mutations was significantly higher in women with bilateral breast cancer (2.4%) compared to women with unilateral breast cancer (0.6%) (p=0.01). There was no significant difference in age at diagnosis between those with and without a PALB2 mutation (50.9 years vs 53.8 years; p=0.34).

Conclusion

Genetic testing for PALB2 should be considered for high-risk women with breast cancer, especially those who present with bilateral breast cancer. However, PALB2 does not appear to contribute to ovarian cancer which has implications for counselling women who are identified with a PALB2 mutation.
ORAL 05 - VAGINAL AND VULVAR CANCER

ESGO7-0962

PROGNOSTIC VALUE OF LYMPH NODE RATIO AND NUMBER OF POSITIVE INGUINAL NODES IN PATIENTS WITH VULVAR CANCER

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Aims

To estimate the prognostic significance of lymph node ratio and number of positive nodes in vulvar cancer patients.

Method

This international multicenter retrospective study included patients diagnosed with vulvar cancer treated with inguinal lymphadenectomy. Lymph node ratio (LNR) is the number of metastatic lymph nodes (LN) to the number of removed LN. Patients were stratified into risk groups according to LNR. LNR was correlated with clinical-pathological parameters. Survival analyses were performed.

Results

This analysis included 745 patients. In total, 292 (39.2%) patients had positive inguinal LN. The mean (SD) number of resected and positive LN was 14.1 (7.6) and 3.0 (2.9), respectively. High LNR was associated with larger tumor size and higher tumor grade. Patients with LNRs 0% (N0), >0<20%, and >20% had 5-year overall survival (OS) rates of 90.9%, 70.7%, and 61.8%, respectively (P<.001 - Figure). LNR was associated with both local and distant recurrence-free survival (P<.001). Patients with 0, 1, 2, 3 or more than 3 positive lymph nodes had 5-year OS rates of 90.9%, 70.8%, 67.8%, 70.8% and 63.4% respectively (P<.001). In multivariate analysis, LNR (P=.01) and FIGO stage (P<.001), were associated with OS, whereas the number of positive nodes (P=.8), age (P=.2), and tumor grade (P=.7), were not. In high-risk patients, adjuvant radiotherapy was associated with improved survival.

Conclusion

LNR provides useful prognostic information in vulvar cancer patients with inguinal LN resection in vulvar cancer. LNR allows for more accurate prognostic stratification of patients than number of positive nodes. LNR seems useful to select appropriate candidates for adjuvant radiation.
PROGNOSTIC FACTORS FOR LOCAL RECURRENT OF SQUAMOUS CELL CARCINOMA OF THE VULVA: A SYSTEMATIC REVIEW

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Aims

In patients treated for early-stage vulvar squamous cell carcinoma (VSCC) local recurrence is reported in up to 40%. Both clinicopathologic as well as cell biologic factors might be prognostic for local recurrence and knowledge on these factors may help to identify high risk patients and/or to develop strategies to prevent local recurrences. This systematic review aims to evaluate current knowledge on the incidence of local recurrences in VSCC related to clinicopathologic and cellbiologic variables.

Method

Relevant studies were identified by an extensive online search in March 2017. Studies reporting prognostic factors specific for local recurrences of VSCC were included. Two review authors independently performed data selection, extraction and assessment of study quality. The risk difference was calculated for each prognostic factor described by two or more studies.

Results

Twenty-two studies were included and reported mainly pathologic factors. There were differences in study quality and reported factors. Due to differences in study design, homogeneity could not be assumed. The prognostic relevance for local recurrence of VSCC of all analyzed variables remains unequivocal, including pathologic tumor free margin distance less than 8 mm, presence of lichen sclerosus, groin lymph node metastases and a variety of different tumor characteristics. Our review indicates an estimated annual local recurrence rate of 4%.

Conclusion

Current quality of data on prognostic factors for local recurrences in VSCC patients does not allow evidence-based medicine. Further research on prognostic factors, applying state of the art methodology are needed to identify high-risk patients and to develop alternative treatment strategies.
Aims

To ascertain if changing practice guidelines have resulted in a change in treatments and survival in vulvar cancer in Ireland.

Method

Data was collected from the National Cancer Registry of Ireland from 1994 to 2014.

Results

A total of 816 vulvar cancer patients were identified with an average of 54 cancers diagnosed per year (range 21-58). The median age at diagnosis was 72 (range 20-85). The standardised incidence rate increased during the study, 1.08 to 2.29 during the period (figure 1). Seventy-two percent (n=591) were squamous cell carcinoma and 80% were stage 1-2 at diagnosis. The rate of surgery within 1 year of diagnosis fell from 89% to 71%, while radiotherapy rates increased from 17% to 31% during the period. Rates of smoking increased from 6% to 57%. Five year survival rates rose from 40% to 66% during the study period (figure 1).

Conclusion

This population-based study demonstrates that the incidence of vulvar cancer in Ireland is increasing, particularly in socially deprived women who smoke. The use of primary radiotherapy has significantly increased over the last two decades with increasing survival rates seen.
Esgo7-0687

Vulvar carcinoma in Norway: a 50-year perspective on trends in incidence, treatment and survival

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Aims

To explore trends in vulvar squamous cell carcinoma (SCC) incidence, age and stage at diagnosis, treatment and survival in Norway from 1961 to 2010.

Method

From 1961 to 2010, 2233 cases of vulvar SCC were extracted from the Cancer Registry of Norway. Data on age at diagnosis, tumor morphology, stage of the disease and treatment were analyzed. Age-standardized incidence rates, adjusted to the Norwegian standard population, were computed. Relative survival was calculated as a ratio of the observed survival in the study population over the expected survival in the background population. Multivariate Cox model was fitted to estimate hazard ratios.

Results

The overall incidence of vulvar SCC increased more than 2.5 fold (from 1.70 to 4.66 per 100 000 women/year; P<0.01) (Figure 1). Age-specific incidence rates increased among women aged ≤ 60 years (by 150% in age group 0-39 years, 175% in age group 40-49 years and 68% in age group 50-59 years). From 1971-2010, the percentage of patients receiving surgery as only treatment decreased from 81% to 61%, whereas the use of radiation and combination therapy (surgery and radiation) increased from 3% to 11% and 6% to 20%, respectively. 5-year relative survival increased significantly among women ≤ 80 years (from 72% to 83% among women aged ≤60 years and from 60% to 65% among women aged 61-80 years).

Conclusion

The incidence of vulvar SCC has increased since the sixties, particularly among women younger than 60 years. Despite less radical treatment, survival has improved.
EXPERIENCE IN INTRODUCING SENTINEL LYMPH NODE BIOPSY IN EARLY-STAGE VULVA CANCER: A SINGLE INSTITUTION BASED PROSPECTIVE STUDY

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Aims

Primary vulva cancer (VC) is diagnosed in approximately 100 patients every year in Denmark. To improve treatment quality VC was centralized to two university centers in 2011. The current study evaluates the long-term recurrence and survival rates in early-stage VC patients after sentinel node (SN) procedure was introduced.

Method

All VC patients were prospectively registered in the Danish Gynecologic Cancer Database in the period January 2011 to July 2016. Patients with clinically stage IB (T1 < 4 cm) who had SN procedure performed were included. Inguinofemoral lymph node dissection was performed if the SN’s were not detected or in case of SN metastases.

Results

The SN procedure was performed in 164 VC patients with tumor < 4 cm and no clinical suspicious groin nodes or distant metastases. 58 patients were excluded due to stage IA or III disease. 106 patients had negative SN. Among these one patient (0.9%) experienced an isolated groin recurrence, seven (6.6%) a localized vulva recurrence and three (2.8%) distant metastases. The 5-year overall and disease-specific survival for SN negative patients were 82% and 95%, respectively. The median disease free survival in SN negative patients with recurrent disease was 19 months (CI 11.8-28.2).

Conclusion

This is to our knowledge the largest prospective single center study presenting results of SN procedure in SN negative VC patients. The study confirms the safety of SN introduction as part of the standard of care in early stage VC with low isolated groin recurrence rate and a good overall and disease-specific survival.
INCIDENCE OF SHORT AND LONG-TERM POSTOPERATIVE MORBIDITY RELATED TO LYMPH NODE DISSECTION FOR VULVAR CANCER

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Aims

The aim of this study was to determine the incidence of short, and long term postoperative complications, following lymphadenectomy for vulvar cancer. Specifically, the problems of groin wound dehiscence, cellulitis, lymphocyst formation, and lymphoedema were reviewed.

Method

Design: A retrospective, observational, single institution study.

All patients treated for invasive cancer of the vulva, at a tertiary hospital in Sydney, Australia, between the years 1987 to 2015, were included in the study. A retrospective analysis of the hospital medical records, including clinical charts, operative reports and pathology reports were reviewed as part of a larger study.

Results

From 1987 to 2015, 479 women were treated for vulvar cancer, with 410 eligible for inclusion in the study. Mean age was 66.7 years (range 20-95 years). Postoperatively, 6.4% of women developed cellulitis, and 10.8% experienced groin wound breakdown. Lymphocysts occurred in 42.6% (152/357) of dissected groins, following inguinal-femoral lymphadenectomy, and in 23.4% (11/47) of groins following resection of bulky positive nodes only. 43% (107/248) of women who had either unilateral or bilateral groin node dissection subsequently developed lymphoedema, compared to 11 of 47 (23.4%) women who underwent groin node debulking. Of the women who developed lymphoedema 37% developed it within 3 months of surgery.

Conclusion

Results indicate relatively low rates of groin wound breakdown and cellulitis, but high rates of lymphocyst formation and lymphoedema. More detailed analysis of the data is required to develop strategies to further reduce these complications.
STATHMIN, A PREDICTIVE BIOMARKER FOR TAXANE RESPONSE IN BREAST CANCER?

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Aims

There are no clinically applicable predictive biomarkers for taxane response in (breast) cancer. Stathmin, a critical modulator of microtubule dynamics, has been suggested in preclinical and retrospective studies. We aimed to investigate if stathmin (STMN) or phosphostathmin (pSTMN) expression are linked to response to paclitaxel in a large breast cancer series, and if such treatment response effects are mirrored in differences in survival.

Method

We used data from an open label multicentre study with long follow-up including 223 patients. Patients were stratified to either paclitaxel (n=114) or epirubicin (n=109) neoadjuvant monotherapy prior to surgery/radiation. STMN and pSTMN levels were determined by immunohistochemistry and mRNA expression levels. Response was graded by the UICC system. Immunohistochemistry data for hormone receptors (oestrogen and progesterone) were available. An independent dataset (GSE21997) with mRNA microarray data (STMN005563) was used for validation.

Results

High STMN/pSTMN expression was associated with improved response to paclitaxel (p=0.04; p=0.006), but not epirubicin treatment. Subgroup analysis showed this effect was more pronounced in hormone receptor positive patients (p=0.008 and p=0.005). However, high STMN expression was associated with worse recurrence free and disease specific survival in paclitaxel (p=0.04; p=0.03) but not epirubicin treated patients (p=0.40; p=0.73). The independent dataset confirmed a lower residual cancer burden in patients with high vs. normal stathmin levels after paclitaxel but not doxorubicin treatment (p=0.01; p=1.00).

Conclusion

High STMN/pSTMN levels are associated with improved response to paclitaxel but not epirubicin treatment. This effect is enhanced in hormone receptor positive patients. However, high stathmin levels are associated with worse survival.
ORAL 06 - PREVENTION, DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0079

MRI-BASED PREDICTIVE FACTORS OF AXILLARY LYMPH NODE METASTASES IN BREAST CANCER

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Aims

To determine the accuracy of MRI in detecting axillary lymph nodes (ALNs) metastases preoperatively and to define predictive characteristics of ALN involvement in patients with invasive breast cancer.

Method

Breast MR (3 Tesla) examinations of 169 patients with invasive breast cancer were reviewed at Hôtel-Dieu de France Hospital. Morphological parameters in addition to apparent diffusion coefficient (ADC) value were compared with pathological nodal status.

Results

The sensitivity and specificity of MRI in detecting ALN involvement were 87.5% and 55.6% respectively. The negative and positive predictive value of MRI was 81.64% and 66.34% respectively. The mean size of metastatic ALN was larger than that of negative ALN (13.9 mm vs. 10.9 mm, p = 0.000). ALNs larger than 12 mm were associated with higher risk of metastases (p = 0.000). The asymmetry of size between ipsilateral and contralateral ALNs was more significant in positive ALNs on pathology (p= 0.008 vs. 0.043). In a univariate analysis, the round shape of ALN, loss of fatty hilum, irregular contours and hypo-intensity/heterogeneous intensity on T2-weighted sequence were significantly predictive of lymph node metastasis (p = 0.000 for the four characteristics). In a multivariate analysis, only the round shape of lymph node and the hypo-intensity/heterogeneous intensity on T2-weighted sequence were significantly associated with lymph node metastasis (p=0.01 and p=0.018 respectively). The ADC value of ALN did not aid the differentiation between benign and metastatic lymph nodes (p= 0.862).

Conclusion

Conventional MRI using the ALN shape and the signal intensity in T2-weighted sequences can evaluate the axilla with high sensitivity.
ORAL 06 - PREVENTION, DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0099

PATTERNS OF CARE AND THE SURVIVAL OF ELDERLY PATIENTS WITH HIGH-RISK ENDOMETRIAL CANCER: A CASE-CONTROL STUDY FROM THE FRANCOGYN GROUP

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Aims

BACKGROUND: The standard of care of endometrial cancer involves complex procedures such as pelvic and para-aortic lymphadenectomy and omentectomy, particularly for high-risk endometrial cancer. Few data are available about these complex surgical procedures and adjuvant therapy in elderly women. We aim to examine treatment and survival of elderly women diagnosed with high-risk endometrial cancer.

Method

STUDY DESIGN: We performed a case-control study of women diagnosed between 2001 and 2012 with high-risk endometrial cancers. Women older than 70 years (n=198) were compared with patients <70 years (n=198) after matching on high-risk for recurrence and LVSI status.

Results

RESULTS: Elderly patients had lymphadenectomies less frequently compared with younger patients (76% vs 96%, p<0.001) and no adjuvant treatment more frequently (17% vs 8%, p=0.005) due to less chemotherapy being administered (23% vs 46%, p<0.001). The 3-year DFS, CSS and OS of patients ≥70 years was 52% (43-61), 81% (74-88) and 61% (53-70), respectively. These were significantly lower than the 3-year DFS, CSS, and OS of younger patients, which was 75% (68-82) (p<0.001), 92% (87-96) (p<0.008) and 75% (69-82) (p=0.018), respectively. Cox proportional hazard models found that elderly women had 57% increased risk of recurrence (hazard ratio 1.57, 95% CI 1.04-2.39) compared with younger patients.

Conclusion

CONCLUSION: Although we found an independently significant lower DFS in elderly patients with high-risk endometrial cancer when compared with young patients, elderly women are less likely to be treated with lymphadenectomy and chemotherapy. Specific guidelines for management of elderly patients with high-risk endometrial cancer are required to improve their prognosis.
ORAL 06 - PREVENTION, DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0057

POTENTIAL CLINICAL IMPACT OF THE INTRODUCTION OF THE NONAVALENT HUMAN PAPILLOMAVIRUS VACCINATION: AN ANALYSIS OF 13,665 PATIENTS OVER A 18-YEAR STUDY PERIOD

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Aims

To test the theoretical utility of the incorporation of quadrivalent and nonavalent vaccination against HPV into a clinical setting.

Method

Data of consecutive patients undergoing sampling for HPV DNA testing from 1998 to 2015 were retrospectively searched in order to identify changes in HPV prevalence during three study periods (T1, 1998-2003; T2, 2004-2009; and T3, 2010-2015).

Results

We enrolled 13,665 patients: 1361, 5130, 7174 patients, in T1, T2 and T3, respectively. Potentially, the quadrivalent vaccine protected against HPV infection in 71.5%, 46.5% and 26.5% of patients tested in T1, T2 and T3, respectively (p-for-trend<.001). While, the nonavalent vaccine protected against HPV infection in 92.5%, 72.3% and 58.1% of patients tested in T1, T2 and T3, respectively (p-for-trend<.001). The proportion of patients with genital dysplasia grade2+, not related to HPV types covered by quadrivalent vaccine (13% in T1, 21% in T2 and 34% in T3) and nonavalent vaccine (3% in T1, 12% in T2 and 19% in T3) increased over the time (p-for-trend<.001). For all study period the nonavalent vaccine was superior that quadrivalent vaccine in protect against HPV infection (p<.001). The figure displays the prevalence of dysplasia related to HPV 16-18 and to high-risk HPV infection other than 16-18.

Conclusion

Nonavalent vaccine would improve protection against HPV infections and HPV-related genital dysplasia2+. Moreover, we can speculate that cross protection of nonavalent vaccine will be related to a highest coverage against other HPV types.
IMPLEMENTATION OF AN ENHANCED RECOVERY AFTER SURGERY (ERAS) PROGRAM: THE MD ANDERSON CANCER CENTER EXPERIENCE

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Aims

To evaluate perioperative outcomes of patients undergoing exploratory laparotomy for gynecologic indications in an Enhance Recovery after Surgery (ERAS) program and compare to those receiving traditional perioperative care (pre-ERAS)

Method

All consecutive patients managed under an ERAS program undergoing exploratory laparotomy between 11/3/2014 and 10/26/2016 were compared to historical controls (May to October, 2014). Interventions included, allowing oral intake of fluids up to 2 hours before induction of anesthesia; perioperative euvolemia as well as opioid-sparing analgesia; and ambulation and regular diet on the day of surgery. Wilcoxon rank-sum and Fisher’s exact tests were used

Results

A total of 518 enhanced recovery patients were compared with 74 patients in the control group (pre-ERAS). ERAS resulted in a 1-day reduction in hospital stay (median LOS pre-ERAS: 4 days [range, 2-27] vs. ERAS: 3 days [range, 1-43], p<0.01) with stable readmission rates (pre-ERAS: 14.1% vs. ERAS: 12.9%, p=0.85). ERAS resulted in a 73.6% reduction in median postoperative morphine equivalents during the first 3 days after surgery with no significant difference in mean pain scores between the pre- and post ERAS cohorts. No differences were observed in postoperative complications between pre-ERAS and ERAS groups respectively (29.6% vs. 25.7%, p=0.47; GU: 21.1% vs. 18.3%, p=0.63; Hematologic: 16.9% vs. 11.8%, p=0.25). Overall compliance with all components of the ERAS protocol was 70% (range, 40-85%)

Conclusion

Implementation of an ERAS program was associated with reduced LOS with stable readmission and perioperative complication rates and reduced overall opioid consumption. Further study is warranted to determine impact on progression free survival
LONG TERM RESULTS FROM RT3VIN: A MULTI-CENTRE, RANDOMISED, PHASE II TRIAL OF CIDOFOVIR OR IMIQUIMOD TREATMENT FOR VULVAL INTRAEPITHELIAL NEOPLASIA 3

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Aims

Vulval intraepithelial neoplasia (VIN) is a chronic condition, which, if untreated, may become cancerous. Currently standard treatment for VIN is surgery, but this does not guarantee a cure and can cause significant physical and psychological problems. The RT3 VIN trial demonstrated that topical treatment with cidofovir and imiquimod are effective in 46% of patients with acceptable levels of adverse events. This study reports the long-term (24 month) follow up of these patients.

Method

Participants with complete response were followed up for a further 24 months. Events were either “new lesion” (any new lesion either biopsied or not biopsied) or “new VIN” (biopsied lesions with histologically proven VIN). All statistical analyses were pre-planned and conducted using Stata SE 14.

Results

Median length of follow up was 18.4 months. At 18 months, 50% on imiquimod (95% CI: 33.6%-64.5%) and 69% of patients on cidofovir (95% CI: 51.2-82.0) remained lesion free. At 18 months, 71.6% on imiquimod (95% CI: 52.0-84.3) and 94% of patient on cidofovir (95% CI: 78.2-98.5) remained VIN free. There were no grade 4+ adverse events reported and the number of grade 2+ events was similar between treatment arms (imiquimod: 24/42 (57%) vs. cidofovir: 27/41 (66%), χ²=0.665, p=0.415).

Conclusion

Long-term data indicates that response is maintained for longer following treatment with cidofovir compared to imiquimod with no difference in the rates of adverse events between the two drugs. Overall, the levels of adverse events and the absence of grade 4 events, indicates acceptable safety of use of these drugs in this setting.
THE ANALGESIC EFFICACY OF FORCED COUGHING DURING CERVICAL PUNCH BIOPSY: A PROSPECTIVE RANDOMIZED CONTROLLED STUDY

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Aims

To assess the efficacy of forced coughing as a pain-reducing technique during cervical punch biopsy compared to a control group.

Method

The study is a prospective randomized-control trial. The study group comprised 90 women who underwent cervical punch biopsies during investigation of abnormal Pap smear test results. The women were randomly assigned to “cough” and control groups. Pain was measured on a 10-cm visual analogue scale (VAS) during different stages of the procedure, and compared to assess the effect of forced coughing on pain level during biopsy.

Results

VAS pain score during biopsies was significantly lower in the “cough” group. The median pain level in the “cough” group was 1.5, compared to 4 in the control group. Eighty percent of the women in the “cough” group reported a pain level of 2 or less compared to 40% of the women in the “control” group (P = 0.0002). In the second biopsy, 69% of the women reported VAS ≤ 2 in the cough group compared to 28% of the patients in the control group. Forced coughing was shown both to reduce anxiety regarding the prospect of future cervical procedures and to decrease patients’ desire for future pain management. This was true for 32% of the women in the “control” group compared to 12% of the women in the “cough” group (P=0.05).

Conclusion

Forced coughing provides significant pain relief during cervical punch biopsy and reduces the patients’ fear and desire for pain medications in future procedures.
ORAL 07 - DIAGNOSTICS AND PREVENTION

ESGO7-0220

SENSITIVITY OF NON-INVASIVE PRENATAL FOR CANCER DETECTION AND TREATMENT MONITORING IN PREGNANT WOMEN

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Aims

We recently developed a massive parallel sequencing-based analysis pipeline for non-invasive prenatal testing (NIPT), allowing genome-wide detection of foetal and maternal chromosomal imbalances. On cell-free DNA samples of 20,000 asymptomatic pregnant women we incidentally identified 7 genomic imbalance (GI) profiles reminiscent of cancer-related copy number variations. Six women were subsequently diagnosed with cancer. We now aim to explore the sensitivity of routine NIPT testing for cancer detection and treatment monitoring in pregnant women, potentially contributing to enhanced prognosis.

Method

Pregnant women (≤ 40 years) diagnosed with breast, ovarian, cervical or haematological cancer (the 4 most prevalent cancer types encountered during pregnancy) are recruited in UZ Leuven or via the International Network on Cancer, Infertility and Pregnancy. A plasma sample is taken for GI-profiling. In case of an aberrant GI-profile, consecutive samples are taken to assess treatment response.

Results

Of the 23 pregnant cancer cases included, cell-free plasma DNA of 9 cases showed chromosomal abnormalities (either segmental or genome-wide). Sensitivity of cancer detection was highest for haematological (67%) and breast cancers (40%). No GIs were detected in cell-free DNA of the ovarian (n=1) and cervical (n=4) cancer cases. For the true positive cases, GI-profiling of tumor biopsy DNA showed comparable genomic imbalances as seen in cell-free plasma DNA. Furthermore, GI-profiling of cell-free DNA was able to follow treatment response.

Conclusion

Primary results indicate that GI-profiling of circulating cell-free DNA is able to detect cancer in a proportion of cancer cases. Further recruitment is ongoing and supplementary analyses are planned to understand false negative results.
**Aims**

The aim of this study was to determine the risk of HPV-related carcinomas and premalignancies in women diagnosed with cervical intraepithelial neoplasia grade 3 (CIN3). Knowledge on this risk is important to consider HPV vaccination and/or increased attention on other HPV-related carcinomas and premalignancies when CIN3 is identified.

**Method**

Women diagnosed with a CIN3 between 1990 and 2010 were identified from the Dutch nationwide registry of histopathology and cytopathology (PALGA) and matched with a control group without CIN3. Subsequently, all hrHPV associated high-grade lesions and carcinomas in the ano-genital region and oropharynx between 1990 and 2015 were extracted. Incidence rate ratios (IRR) were estimated for carcinomas and premalignancies of the vulva, vagina, anus and oropharynx.

**Results**

178,036 women were identified; 89,018 with a previous diagnosis of CIN3, and 89,018 matched controls without a history of CIN3. Women with a history of CIN3 showed increased risk of HPV-related carcinomas and premalignancies with IRRs of: 3.85 (95%CI of 2.32-6.37) for anal cancer, 6.68 (95%CI 3.64-12.25) for AIN3, 4.97 (95%CI 3.26-7.57) for vulvar cancer, 13.66 (95%CI 9.69-19.25) for VIN3, 86.08 (95%CI 11.98-618.08) for vaginal cancer, 25.65 (95%CI 10.50-62.69) for VAIN3, and 5.51 (95%CI 1.22-24.84) for oropharyngeal cancer. This risk remained significantly increased, even after long-term follow-up, up to 20 years.

**Conclusion**

This population-based study shows a long-lasting increased risk for HPV-related carcinomas and premalignancies of the ano-genital and oropharyngeal region after a CIN3 diagnosis. Studies investigating methods to prevent this increased risk in this group of patients, like intensified screening or vaccination, are warranted.
Aims

Early menopause leads to an increased cardiovascular risk. Cardiovascular risk assessment based on traditional risk factors often underestimates the actual risk in middle-aged women. Measures of atherosclerosis such as carotid intima-media thickness (CIMT) and pulse wave velocity (PWV) could help to predict future cardiovascular events in this group. BRCA1/2 mutation carriers are generally exposed to an earlier menopause due to risk-reducing salpingo-oophorectomy (RRSO) around the age of 40 to reduce their elevated ovarian cancer risk. Until now, cardiovascular risk in BRCA1/2 mutation carriers after RRSO is not yet studied. The aim was to investigate if time since RRSO in BRCA1/2 mutation carriers is related to advanced signs of subclinical atherosclerosis measured by CIMT and PWV.

Method

We performed a cohort study in 165 BRCA1/2 mutation carriers (aged 40 to 63 years) who underwent RRSO at age ≤ 45 years and at least five years previously. Main study endpoints were CIMT and PWV, and traditional cardiovascular risk factors were collected by questionnaires and single cardiovascular screening visit.

Results

The mean CIMT was 0.69 mm (SD 0.087), and the PWV was 6.40 m/s (SD 1.42). After adjustment for systolic blood pressure, insulin resistance, total cholesterol and body mass index, no association was found between age-adjusted CIMT and time since RRSO. Age-adjusted PWV and time since RRSO were also not associated, after adjusting for systolic blood pressure, total cholesterol and waist hip ratio.

Conclusion

Time since RRSO is not related to CIMT and PWV in BRCA1/2 mutation carriers. However, a longer follow-up period is needed.
ORAL 07 - DIAGNOSTICS AND PREVENTION

ESGO7-0820

LONG-TERM EFFICACY AND IMMUNOGENICITY OF THE 9-VALENT HUMAN PAPILLOMAVIRUS VACCINE: FINAL ANALYSES OF A DOUBLE-BLIND, RANDOMIZED CLINICAL STUDY

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Aims

The 9-valent human papillomavirus (9vHPV) vaccine targets the four HPV types (HPV6/11/16/18) covered by the quadrivalent HPV (qHPV) vaccine, with the addition of the five oncogenic types most commonly associated with cervical cancer after HPV16/18 (HPV31/33/45/52/58). Analyses of 9vHPV vaccine efficacy and immunogenicity were conducted in a clinical trial (V503-001; NCT00543543) in young women aged 16-26 years.

Method

Participants (N=14,215) were randomized to receive a three-dose series of 9vHPV or qHPV (control) vaccine. Cervical and external genital swabs for HPV-DNA testing and cervical cytological samples for Papanicolaou staining were collected regularly. Tissue samples from biopsy or cervical definitive therapy (loop electrosurgical excision procedure, conization) were tested for HPV DNA. Serum antibody responses to the nine vaccine HPV types were assessed.

Results

Prophylactic efficacy against HPV31/33/45/52/58-related outcomes was 100% (95% CI: 39.4, 100) for cervical intraepithelial neoplasia Grade 3 (CIN 3); 97.7% (93.3, 99.4) for cervical, vulvar, and vaginal disease; 96.0% (94.6, 97.1) for 6-month persistent infection; 92.9% (90.2, 95.1) for Pap test abnormalities; and 90.2% (75.0, 96.8) for cervical definitive therapy. Efficacy was high against each HPV type and in subgroups defined by age, race, and geographic region. Incidences of HPV6/11/16/18-related infection, cytological abnormalities, disease, and definitive therapy were similar in both vaccine groups. Antibodies to vaccine HPV types persisted through 5 years following vaccination.

Conclusion

The 9vHPV vaccine prevents HPV31/33/45/52/58-related infection and disease and provides similar protection against HPV6/11/16/18 as the qHPV vaccine. Vaccine efficacy was sustained for up to 6 years.
ORAL 08 - QUALITY OF LIFE

ESGO7-1044

DEVELOPMENT AND PRE-TESTING OF THE EORTC QUALITY OF LIFE QUESTIONNAIRE FOR VULVA CANCER PATIENTS – THE SIGNIFICANCE OF PATIENT INVOLVEMENT

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Aims

Objective: Patients with vulva cancer (VC) and health care professionals representing Northern, Central, and Southern Europe participated in the development of an EORTC Quality of Life (QoL) Group VC specific questionnaire. The objective of phase 3 is to pre-test the provisional questionnaire to identify and solve potential conceptual and operational problems to ensure broad cross-cultural adaptation.

Method

Methods: The provisional questionnaire underwent rigorous forward-backward translation and was then administered to VC patients representative across age, stage, treatment modality, and country. A structured interview was conducted after questionnaire completion to assess the patient’s perspective on clarity and acceptability. Response questionnaire- and debriefing interview data were collected and audited by a multinational collaborative module team. Standardized decision rules for deletion, addition, and changing of the wording were applied.

Results

Results: A well-balanced sample of 77 patients from nine European countries was included. Most items, 32/36 (89%) satisfied decision rules and showed a high compliance, >95% for 31/36 (86%) items. Three items displayed serious patient concern. Weighting the patients’ comments, final pre-testing resulted in the deletion of five items, re-phrasing of three items while five items on sexuality, 4 on urological problems and 2 on proctitis were made conditional. Preliminary explorative psychometric analyses suggested a structure of 9 multi-items scales and one single item

Conclusion

Conclusion: The EORTC QoL group has developed and pre-tested a VC specific questionnaire. Debriefing interviews supplemented the quantitative test results and appeared to add highly significant information leading to substantial and relevant changes for final field testing in phase 4.
ORAL 08 - QUALITY OF LIFE

ESGO7-0146

PREDICTION MODEL FOR 30-DAY MORBIDITY AFTER GYNECOLOGICAL MALIGNANCY SURGERY

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Aims

The potential risk of postoperative morbidity is important for gynecologic cancer patients because it leads to delays in adjunctive therapy and additional costs. We aimed to develop a preoperative nomogram to predict 30-day morbidity after gynecological cancer surgery.

Method

Between 2005 and 2015, 533 consecutive patients with elective gynecological cancer surgery in our center were reviewed. Of those patients, 373 and 160 patients were assigned to the model development or validation cohort, respectively. To investigate independent predictors of 30-day morbidity, a multivariate Cox regression model with backward stepwise elimination was utilized. A nomogram based on this Cox model was developed and externally validated. Its performance was assessed using the concordance index and a calibration curve.

Results

Ninety-seven (18.2%) patients had at least one postoperative complication within 30 days after surgery. After bootstrap resampling, the final model indicated age, operating time, and serum albumin level as statistically significant predictors of postoperative morbidity. The bootstrap-corrected concordance index of the nomogram incorporating these three predictors was 0.656 (95% CI, 0.608–0.723). In the validation cohort, the nomogram showed fair discrimination [concordance index: 0.674 (95% CI = 0.619–0.732] and good calibration (P = 0.614; Hosmer-Lemeshow test).

Conclusion

The 30-day morbidity after gynecologic cancer surgery could be predicted according to age, operation time, and serum albumin level. After further validation using an independent dataset, the constructed nomogram could be valuable for predicting operative risk in individual patients.
ORAL 08 - QUALITY OF LIFE

ESGO7-0302

ASSESSING PATIENT REPORTED QUALITY OF LIFE OUTCOMES IN VULVA CANCER PATIENTS – A SYSTEMATIC LITERATURE REVIEW
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Aims

Vulva cancer (VC) treatment causes severe morbidity that may negatively impact the patient’s Quality of Life (QoL). The aim of the present review was to evaluate available patient reported outcome measures (PROMs) to assess disease and treatment related effects in VC patients.

Method

A systematic literature search was performed to identify studies using PROMs in the assessment of disease and treatment related effects in VC patients. The systematic review was conducted in accordance with the PRISMA statement. This review comprises part of phase one in the development of a European Organisation for Research and Treatment of Cancer QoL questionnaire for VC patients.

Results

No randomized controlled trials were identified. Eleven of 2299 articles were selected including 535 women with VC. The selected studies exhibited great heterogeneity. Twenty one different instruments were used to assess QoL in VC patients. Most of the questionnaires were generic. Different issues (sexuality, lymphedema, body image, urinary and bowel function, vulva specific symptoms) were reported as potentially important but results were not systematically collected. One VC specific questionnaire was identified but did not allow assessment and reporting on scale level.

Conclusion

The present review identified several QoL domains of potential relevance for VC patients but a lack of a robust and sensitive PROM to validly assess effects of disease and treatment. Most studies relied on self-constructed non-validated questions. Our study confirms a need to develop a VC specific questionnaire that allows broad cross-cultural adaptation for use in clinical trials.
ORAL 08 - QUALITY OF LIFE

ESGO7-0345

PROSPECTIVE CLINICAL COHORT STUDY FOR EFFICACY ASSESSMENT OF TOPICAL TREATMENT WITH OLIVOLEINA ON POST-SURGICAL SCARS IN PATIENTS UNDERGOING RADIOTHERAPY FOR GYNECOLOGIC CANCERS

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Aims

Evaluate the effectiveness of the topical treatment with olivoleina on the post-surgical quality of healing in patients treated with radiotherapy for gynecologic cancers.

Method

Prospective Cohort study (case/control) (Canadian Task Force classification IIa) in 100 patients operated for gynecologic cancers. The study was carried out by Gynecological Oncologic Unit from January 2014 to July 2016. A comparative analysis of the healing response to topical treatment with olivoleina was carried out in patients who received radiotherapy, with a monitoring at 3, 6 and 12 months. The features of the scars were assessed according to the Vancouver Scale, Manchester Scale and Posas Scale.

Results

52 patients took part in the radiotherapy group, divided into: Group 1- 36 cases(69.2%) with topical treatment and 16 control-cases. Group 2- 48 patients who didn’t receive radiotherapy, divided into 30 cases (62.5%) with olivoleina topical treatment and 18 control-cases. The quality of the healing in patients treated with radiotherapy for gynecological cancers and after that, treated with olivoleina was significantly better (p<0.01). The tolerance was good –very good in 96.9% of the cases. The dermatological effects studied, were good-very good in 95.2% of the cases in relation with the wound hydration, in 73% in relation with the restoring of the skin barrier and in 76.5% in the anti-inflammatory action.

Conclusion

The topical application of olivoleina can be introduced within the therapeutic options of abnormal healing prevention in patients who have received radiotherapy.
Aims

To describe the trajectory of leg swelling and leg symptoms from before, to 24 months after, gynaecological cancer surgery, the association of leg swelling with symptoms and the severity of those symptoms.

Method

Women (n = 408) diagnosed with gynecological cancer (235 uterine, 114 ovarian, 69 cervical, vulvar, or vaginal cancer; respectively) were enrolled in the prospective longitudinal Lymphoedema Evaluation in Gynecological cancer Study (LEGS). Eligibility included: 18 years and older, treated in one of six Queensland hospitals, and diagnosed from June 1, 2008 to February 28, 2011.

Results

Data from 281 women with complete data contributed to the trajectory analyses. Up to 19% of patients reported leg swelling at baseline before surgery. The swelling trajectory of women after surgery was diverse, including 38% of women who continued to have no swelling over the next two years, 32% of women who had low and decreasing trajectory of swelling, and women who had either low (14%) or high (15%) swelling at baseline whose swelling increased further. Women who reported swelling had 4 times increased odds of reporting 12 other symptoms including pain, numbness and weakness. Women in the increasing swelling trajectories had more severe other leg symptoms.

Conclusion

This study adds to previously available leg swelling prevalence estimates by showing that distinct trajectories exist after gynaecological cancer surgery. It furthermore found that persistent or increased swelling is associated with greater odds of also having up to 12 other leg symptoms, most prominently pain, numbness or weakness.
THE NEW NORMAL; SEXUAL FUNCTION AFTER OVARIAN CANCER FOR SURVIVORS AND PARTNERS COMPARED TO NORMDATA

Aims

Because of the lack of quantitative data on sexual function after ovarian cancer, both for survivors and their partners, it is difficult to counsel patients on expected effects. We hypothesized that ovarian cancer may cause sexual problems, not only for survivors, but also for partners. The purpose of this study is to compare sexual function after ovarian cancer for survivors and partners with normdata in age-matched controls.

Method

After an average of six years after their primary treatment, patients with ovarian cancer (n=275) and their partners (n=137) conducted surveys for HR-QoL and sexual function with the EORTC-QLQ C30 and OV-28. Normdata for age-matched controls were gathered through the PROFILES-registry. Scores on the questionnaires were linearly transformed. Differences between the groups were compared and correlations were calculated.

Results

Sexual function showed a non-normal distribution. Median level of sexual function of survivors was 83 (minimum 17 – maximum 100). Hundred (36%) of 275 survivors had undisturbed sexual function. For partners, the median level of sexual function was 43 (0-100) with only 2 persons reported undisturbed function and 21 with a score of 0. Normdata showed a median sexual function for female age-matched controls 17 (0-100) and for male age-matched controls 50 (0-100). Sexual function between survivors and partners correlated strongly (Spearman’s rho .617, p<0.01).

Conclusion

An effect on sexual function for survivors of ovarian cancer is present in the majority of cases. However when compared to age-matched controls, the effect seems limited. Further exploration of sexual function in ovarian cancer survivors is warranted.
Aims

To compare oncological outcomes between conservative and radical surgery in the treatment of stage I granulosa cell tumors of the ovary (GCT).

Method

Data from 240 patients with stage I GCT were retrospectively collected among MITO centers (Multicenter Italian Trials in Ovarian cancer and gynecologic malignancies) and analyzed.

Results

Mean age was 48.95 ±15.3 in the entire cohort; 36±12.1 and 56.1 ±11 in the conservative and radical surgery cohorts, respectively (p=0.001). 19 patients were affected by juvenile GCT (7.5%), 222 (92.5%) by adult type GCT. Stage 1A, 1B and 1C were 68%, 2% and 30% respectively. No statistical difference was detected in stage distribution between the two groups. 90 patients (37.5%) underwent conservative surgery (either ovariectomy or cystectomy) while 150 (62.5%) received a radical approach. Five year disease free survival (DFS) rates in the conservative and radical surgery cohorts were 77% and 83% respectively (p=0.09).

Conclusion

In the present study conservative surgery did not affect the oncological outcome of stage I GCT patients and should therefore be considered the standard of care in patients desiring to retain their fertility.
ORAL 09 - OVARIAN AND CERVICAL CANCER

ESGO7-1363

PRETERM BIRTH AND CONIZATION PRIOR TO PREGNANCY: AN ANALYSIS OF THE NATIONAL INPATIENT QUALITY SURVEY DATA IN GERMANY; 2009-2014.

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Aims

Conization for the treatment of cervical intraepithelial lesion has been linked to an increased risk of preterm delivery. Valid data from Germany are lacking. Our study aimed to investigate the association between conization and the risk of preterm birth in subsequent pregnancies, using data from a German population database.

Method

We performed a retrospective cohort study on data from the German nationwide performance measurement program in healthcare quality. Women with history of conization prior to pregnancy were compared to a control group of women without. Only primiparas with singleton pregnancies were included for analysis. Outcome measures are gestational age at birth, birth weight, neonatal morbidity and perinatal mortality. Data were analyzed using univariate and multivariate statistical methods.

Results

The database included a total of 4.002.503 deliveries between 2009 and 2014. 1.573.200 could be included for analysis. 14.337 women had a history of conization. This group were more likely to be (self-) employed, single, older, had a lower body mass index and a lower mean birth weight of the babies than in the control group [mean (SD), 3.240g (± 603g) vs. 3.307g (±545g), p < 0.0001]. The preterm birth rate was significantly higher after conization compared to the non-exposed cohort (12.2% vs. 7.5%; Chi² <0.0001). Conization was confirmed to be a significant risk factor for preterm delivery (odds ratio, OR 1.7; 95% CI: 1.65-1.83).

Conclusion

The data of this study are in accordance with the literature. Further analysis of the data should evaluate whether preterm delivery after conization affects the perinatal morbidity and mortality.
PROVE A PHASE II RANDOMIZED MULTICENTER STUDY OF PANITUMUMAB IN PLATINUM-SENSITIVE EPITHELIAL OVARIAN CANCER PATIENTS WITH KRAS WILD-TYPE

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Aims

For ovarian cancer (OC) patients with platinum-sensitive recurrence the addition of new biologic agents to chemotherapy may improve survival. Panitumumab is a fully human monoclonal antibody specific to the epidermal growth factor receptor (EGFR). The purpose of this trial was to investigate the therapeutic efficacy of panitumumab in the combination with carboplatin-based chemotherapy in relation to the respective standard combination in patients with a KRAS wildtype with platinum-sensitive recurrent ovarian cancer (NCT01388621).

Method

Only patients with platinum-sensitive epithelial ovarian/ fallopian/ peritoneal cancer, measurable disease or elevated CA125 and with KRAS wild type and no more than 2 prior treatments were registered for this study. Therapy included Carboplatin AUC4/Gemcitabine 1000 mg/m² or Carboplatin AUC5/PLD 40 mg/m² and randomized to panitumumab 6 mg/kg day 1 and day 15, every 3 or 4 weeks. Tumor assessment was performed at baseline and at every third cycle according to CT-scan and CA-125 criteria.

Results

In this multi-institutional phase II trial 102 patients were randomized and 96 enrolled for the final analysis. Progression-free survival in the intention-to-treat population (N=96) was 9.5 vs. 10.7 months (HR 0.829, 95%CI of 8.5-11.6 months vs 8.5-13.1 months) for the experimental vs. standard arm, p=0.45. Data of overall survival are not jet evaluable. The most common treatment related grade 3+ toxicities included hematologic toxicity (54%), skin reactions (18%) and gastrointestinal events (16%).

Conclusion

Addition of panitumumab to platinum-based chemotherapy for recurrent ovarian cancer does not influence efficacy and progression-free survival in platinum sensitive patients, while no new additional toxicity aspects for panitumumab were evaluated.
EFFECTIVENESS OF NATIONAL HUMAN PAPILLOMAVIRUS VACCINATION PROGRAM FOR JAPANESE YOUNG WOMEN

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Aims

In Japan, human papillomavirus (HPV) vaccinations became public aid from 2010 and subsequently became routine for girls aged 12–16 years from April, 2013. However, after extensive news of adverse vaccine events and suspension of the governmental recommendation in June 2013, inoculation rate of HPV vaccine dramatically decreased. The present study was aimed to investigate the effectiveness of national human papillomavirus vaccination program for Japanese young women.

Method

We recruited 20-22 years old females who attended the public cervical cancer screening program from April 2014 to March 2017 in Niigata, Japan. HPV testing was performed using HCII® (Qiagen) and TM HPV kit® (MEBGEN) and questionnaire about HPV vaccination was conducted. A Chi-square test was used in this statistical analysis.

Results

HPV testing was performed to a total of 2196 registrants and 1972 women replied to questionnaire. A total of 1297 (65.8%) participants self-reported they were vaccinated, and 675 (34.2%) were unvaccinated. High risk HPV infection rate was 11.6% in vaccinated group and 15.9% in unvaccinated group, respectively. The prevalence of vaccine types 16 and 18 was significantly lower in vaccinated group (0.2%) than in unvaccinated group (1.8%; p = .0004 ). Similarly, the prevalence of HPV 31,33 and 45 which are cross-protected by HPV bivalent and quadrivalent vaccination was significantly lower in vaccinated group (0.3%) than in unvaccinated group (1.5%; p = .008 ).

Conclusion

Our study demonstrates evidence of high effectiveness of national HPV vaccination program in Japanese young women. National vaccination encouragement should resume as soon as possible.
ORAL 09 - OVARIAN AND CERVICAL CANCER

ESGO7-0333

CLINICAL ANALYSIS OF ENDOMETRIOID AND CLEAR CELL CARCINOMA OF THE OVARY WITH OR WITHOUT ENDOMETRIOSIS

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Aims

We investigated the cases of endometriosis-associated ovarian cancers (EAOC) and analyzed outcome of endometrioid carcinoma (EC) and clear cell carcinoma (CCC) with or without endometriosis.

Method

Among 678 patients, received treatments for ovarian cancer from 2004 to 2015, 126 were identified to had EC (n=70) and CCC (n=56). They divided into two groups according to the presence of endometriosis or not (n=27 and n=99, respectively).

Results

38 patients (5.6%) had EAOC; 15 (39.5%) of EC, 12 (18.4%) of CCC, 7 (18.4%) of mucinous carcinoma, 3 (7.9%) of serous carcinoma, and one (2.6%) of endometrial stromal sarcoma. The frequency of coexistence of endometriosis was 21.4% (15/70) for EC and 21.4% (12/56) for CCC. FIGO stage were not significantly different between two groups of EC and CCC with or without endometriosis. 18 at I (66.7%), 7 at II (25.9%), and 2 at III (7.4%) vs. 69 at I (69.7%), 18 at II (18.2%), 10 at III (10.1%), and 2 at IV (2.0%). There was no difference in the rate of optimal cytoreduction and response to chemotherapy. During a median follow-up of 44 months (range, 14-156), 7 cases (25.9%) in group with endometriosis had a recurrence, while 36 (36.4%) in control group (p=0.038). The 5-year disease-free survival (DFS) and overall survival (OS) of patients with endometriosis vs. without endometriosis were 75% vs. 64% (p=0.030) and 86% vs. 80% (p=0.084), respectively.

Conclusion

EC and CCC with endometriosis had the lower recurrence rate and more improved 5-year DFS. However, the coexistence of endometriosis did not affect 5-year OS.

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COMPARISON OF MRI, PET-CT, AND FROZEN BIOPSY IN THE EVALUATION OF LYMPH NODE STATUS BEFORE FERTILITY-SPRING RADICAL TRACHELECTOMY IN EARLY STAGE CERVICAL CANCER

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Aims

To compare the accuracy of magnetic resonance imaging (MRI), positron emission tomography/computed tomography(PET/CT) and frozen biopsy before fertility-sparing radical trachelectomy in early stage cervical cancer.

Method

This was a retrospective study including 73 young women with early stage cervical cancer who tried fertility-sparing laparoscopic or robotic radical trachelectomy. All patients underwent preoperative MRI and PET-CT. Comprehensive lymph node dissection was performed during surgery, and all retrieved lymph nodes were sent to frozen biopsy before proceeding radical trachelectomy. The diagnostic accuracy of MRI, PET-CT, and frozen biopsy was compared using McNemar test and logistic regression using generalized estimating equation. The final pathologic report on lymph nodes was the gold standard for diagnosis.

Results

A total number of retrieved lymph nodes was 1448, and mean some retrieved lymph nodes was 20 (range 2-61). Sixteen lymph node areas were positive in 11 patients (15.1%). There was no significant difference in sensitivity (27.27% versus 54.55%, P=0.18), specificity (80.36% versus 76.79%, P=0.41), accuracy (71.64% versus 73.13%, p=0.76) of MRI versus PET-CT. There was significant difference in sensitivity (100% vs. 27.27%, P=0.005), specificity (100% vs. 80.36%, P=0.001), accuracy (100% vs. 71.64%, P<0.001) of frozen biopsy versus MRI. There was significant difference in sensitivity (100% vs. 54.55%, P=0.025), specificity (100% vs. 76.79%, P<0.001), accuracy (100% vs. 73.13%, P<0.001) of frozen biopsy versus PET-CT.

Conclusion

Frozen biopsy of all retrieved lymph nodes during surgery is still the best way to evaluate lymph node status before fertility-sparing radical trachelectomy.
Aims

Several studies have identified L1CAM as a strong prognostic marker in endometrial cancer. To further underline the clinical usefulness of this biomarker, we here investigated L1CAM as a predictive marker for lymph node metastases and its prognostic impact in curettage specimens and preoperative plasma samples.

Method

Immunohistochemical staining of L1CAM was performed for 1134 curettage specimen from endometrial cancer patients. In addition L1CAM level in preoperative blood samples from 372 patients was determined using ELISA. Association between L1CAM level and clinicopathologic variables including lymph node status and survival was investigated.

Results

Expression of L1CAM in curettage specimen was significantly correlated to L1CAM level in corresponding hysterectomy specimen. Both in curettage specimen and preoperative plasma samples was L1CAM upregulation significantly associated with features of aggressive disease and poor outcome. L1CAM was an independent predictor of lymph node metastases, after correction for curettage histology, both in curettage specimen and plasma samples.

Conclusion

We demonstrate that preoperative evaluation of L1CAM levels, both in curettage or plasma samples, predicts lymph node metastases and adds valuable information on patient prognosis. Our results strongly support the usefulness of L1CAM as a biomarker in endometrial cancer.
Aims

To set up a simple test for circulating cell-free DNA (cfDNA) quantification in endometrial cancer (EC) and correlate it with the individual metabolic syndrome factor and tumor aggressiveness to help clinical diagnosis and prognosis.

Method

The blood of cancer patients was obtained before surgery and before the beginning of any treatment. Information about patients was obtained by reviewing their medical charts.

Blood samples were collected in vacutainer tubes and left at room temperature to allow to clot. The clot was removed by centrifuging at 1,000–2,000 x g for 10 minutes in a refrigerated centrifuge and stored at −80°C.

For measurement of cfDNA levels SYBR Gold Nucleic Acid Gel Stain we followed the protocol described by Goldshtein et al (Ann Clin Biochem. 2009 Nov;46(Pt 6):488-94).

Results

Our data show that cfDNA levels are higher in G2 (n=30) and G3 (n=17) compared with G1 (n=12) EC sera, but this increase does not depend on cancer stage. Moreover, a significant increase on cfDNA amount was detected in sera from patients with BMI>30 compared with those with BMI<30, even if not related with EC grading. Interestingly, we observed a further and significant increase of cfDNA in hypertensive patients with G2-G3, but not with G1 EC.

Conclusion

cfDNA levels are indicative of EC occurrence and aggressiveness and further increase in hypertensive patients with high grade EC. Our data indicate that assessment of cfDNA levels in blood sera with direct SYBR gold assay may help in prediction of EC development and aggressiveness.
Aims

POLE exonuclease domain-mutant (EDM) endometrial cancers (ECs) have an excellent clinical outcome. To reduce overtreatment, minimization of adjuvant treatment has been proposed in early-stage POLE-mutant EC. However, studies showing prognostic significance of these mutations failed to conclude its independence of adjuvant therapy. Therefore, we tested treatment sensitivities of POLE EDMs in a model system.

Method

Three somatic POLE exonuclease domain hotspot mutations were generated in mouse embryonic stem cells using CRISPR/Cas9. Spontaneous mutation frequencies and spectra were determined through Hprt assays. Cells were treated with ionizing radiation or chemotherapeutic agents including nucleoside analogs. IC50s were calculated and compared between isogenic wild type and POLE EDM cell lines.

Results

Similarly to POLE-mutant ECs, POLE EDMs resulted in a mutator phenotype in mouse embryonic stem cells (~8-30x higher mutation frequency compared to wild type). POLE EDM cells did not show increased sensitivity to ionizing radiation ($P = 0.8281$) or to chemotherapeutic agents (cisplatin, 5-FU, paclitaxel, doxorubicin, methotrexate and etoposide; $P=0.1091-0.9960$) compared to wild type cells. In contrast, POLE EDM cells displayed hypersensitivity to nucleoside analogs cytarabine and fludarabine (IC50 2.6 vs 6.5 μM, $P=0.0386$; IC50 18.0 vs 74.9 μM; $P=0.0002$, respectively).

Conclusion

Based on this study, hypersensitivity to currently used adjuvant treatments cannot explain the good prognosis of POLE-mutant (endometrial) cancers. These results support ongoing efforts to explore minimization of adjuvant therapy for early-stage POLE EDM ECs. Moreover, this study proposes nucleoside analogs as most effective chemotherapeutic agents for advanced-stage POLE-mutant cancers, which should be subject of further studies.
Aims

We aimed to clarify retrospectively, the post-pregnancy outcomes of young patients with endometrioid adenocarcinoma (EC) or atypical endometrial hyperplasia (AEH) who received fertility-preserving hormonal therapy using medroxyprogesterone acetate (MPA).

Method

We reviewed 248 patients with AEH (102), EC Grade1 (142), EC Grade2 (4) , who were determined to have neither myometrial invasion nor extrauterine metastasis. After 4 months oral administration of MPA (400-600mg/day), D&C was performed. An additional 2 months medication and D&C were repeated when positive residual disease. At intrauterine recurrence, we repeated MPA therapy for patients meeting the same eligibility for initial therapy. We analyzed the recurrence-free survival (RFS) rates in EC patients or AEH patients by Kaplan-Meier method.

Results

Median follow-up period was 60 months. In initial therapy, pathological CR rate was 97% in AEH, 90% in G1/G2. The pregnancy rate after MPA therapy was 34% in AEH, 34% in G1/G2. After delivery or abortion, 2 year-RFS rate was 91% in AEH, 65% in G1/G2, and 5 year-RFS rate was 65% in AEH, 38% in G1/G2 (p=0.0038, Log-rank test). RFS rate was similar between patients after abortion or patients after successful delivery (53% vs. 50%, p=0.49).

Conclusion

Post-pregnancy RFS rate was low especially in patients with EC. Careful surveillance for intra-uterine recurrence is needed even after successful pregnancies.
A COMPARATIVE STUDY OF TWO FOLLOW-UP STRATEGIES FOLLOWING TREATMENT OF ENDOMETRIAL CANCER BETWEEN AN ITALIAN AND A UK CENTRE

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Aims

To date there are no studies demonstrating survival advantage in endometrial cancer (EC) with intensity of follow-up (FU). The objective of this study was to compare PFS and OS in EC patients treated and followed-up in two European tertiary centers, each with markedly different FU protocols.

Method

This retrospective study included consecutive patients treated for EC 2005 to 2010, with 5-years of FU. FU in the Italian group (Genoa) included examination, vault cytology, CA125, CT and ultrasound scans at predefined intervals regardless of symptoms. In the UK group (Gateshead), FU included examination at decreasing time intervals with symptom-directed imaging.

Results

907 patients were surgically treated for EC 2005-2010. There were 61(10.9%) recurrences in the UK group and 24(8.0%) in the Italian group. In the UK group, 45(73.8%) recurrences were symptomatic with confirmation on examination in 14(22.9%) cases and radiologically in 31(50.8%). 16 cases were asymptomatic, of which 4(25.0%) were detected on examination and 12(75.0%) as an incidental finding on unrelated imaging. In the Italian group, 6(25.0%) cases were symptomatic. Of the 18(75.0%) asymptomatic cases, 2(11.1%) were detected following examination, and 7(38.9%) with pre-planned imaging. There was no survival advantage observed in the patients diagnosed using intensive FU in comparison to the less intense UK based FU.

Conclusion

This observational study suggests that early diagnosis of asymptomatic recurrence has no significant survival advantage. Structured FU interview and clinical assessment is likely to trigger appropriate and timely imaging. Initial evaluation suggests that there are significant health service costs associated with intensive FU.
ORAL 10 - ENDOMETRIAL II

ESGO7-1079

DOES THE NODAL RE-STAGING SURGERY FOR HIGH RISK ENDOMETRIAL CANCER, ACCORDING TO THE RECOMMENDATIONS OF THE ESMO-ESGO-ESTRO GUIDELINES, CHANGE THE MANAGEMENT OF PATIENTS?

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Aims

To evaluate in routine practice ESMO-ESGO-ESTRO guidelines which recommended a second staging surgery (SSS) to perform a para-aortic (+/- pelvic) lymphadenectomy in case of high risk endometrial cancer operated by only a radical hysterectomy.

Method

At Gustave Roussy, from 2010 to 2014, 55 patients had a hysterectomy with a diagnosis of high risk endometrial cancer.

Results

Median age and BMI were respectively 63 years (53-74) and 26 kg/m2 (23-30). Performance status was 0 (n=37), 1 (n=16), 2 (n=2). Twenty-four patients had a SSS with a number's median of para-aortic nodes of 18 (12-14). Six (25%) patients had at least one metastatic node and received radiotherapy with extension field in para-aortic area and adjuvant chemotherapy. We used systematically a laparoscopic approach (extraperitoneal approach in 87%). One patient required a conversion by laparotomy for a vascular injury. No major postoperative morbidity occurred. Twenty-one patients didn’t have a second staging surgery for the following reasons: age > 70 years (n=7), comorbidities (n=3), initial surgery’s delay (n=1), previous abdominal surgery (n=4), poor medical status (n=2), patient’s choice (n=1), combined reasons (n=10). Adjuvant treatment consisted on radiotherapy (n=44), brachytherapy (n=48) and chemotherapy (n=19). Among the 24 patients with a SSS, 23 (96%) received the complete adjuvant treatment whilst 8 patients (26%) of the 31 patients without SSS stopped the adjuvant treatment due to toxicity (P=.03).

Conclusion

Due to change of management, SSS via a laparoscopic approach should be considered in high risk endometrial cancer in light of age, comorbidities, BMI, medical status and previous abdominal surgery.
E-POSTER TALK SESSION 1

ESGO7-0076

ESTROGEN RECEPTOR AND PROGESTERONE RECEPTOR DOUBLE NEGATIVITY PREDICTS POOR SURVIVALS IN PATIENTS WITH GRADE I AND II ENDOMETRIOD ENDOMETRIAL ADENOCARCINOMA

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Aims

A third of woman died for endometrial cancer were initially considered with low risk for relapse. This implies clinical classification as type I and type II is sub-optimal. Hence, more improved means are needed, to precisely identify high-risk patients from low-risk ones. Many studies associated the negativity of estrogen receptor (ER) and progesterone receptor (PR) with poor survival in endometrial carcinoma. However, their roles in low-risk endometrial cancer are unclear. This study was to investigate the prognostic value of double negative ER and PR (ER/PR loss) in low-grade endometriod endometrial adenocarcinoma (EEA).

Method

ER and PR expression were assessed by immunohistochemical staining on formalin-fixed paraffin-embedded tumor samples for 903 patients with grade I-II EEA. ER and PR negativity were determined if none of tumor cell nuclei was stained. The results were correlated with clinicopathologic parameters and survivals.

Results

Thirty-five of 903 patients were confirmed with ER/PR loss. They had deeper myometrial infiltration (P=0.006), severer FIGO stage (P=0.005), and higher rate for pelvic lymph node metastasis (P=0.016), vascular invasion (P=0.015) and relapse (P=0.001), when compared with other 868 of 903 patients who had positive ER and/or PR. In univariate analysis, ER/PR loss was associated with a shorter progression-free survival (PFS, P=0.0002) and overall survival (OS, P=0.0003). ER/PR loss also predicted poor PFS (HR=4.04, P=0.003) and OS (HR=5.56, P=0.016) in multivariate analysis.

Conclusion

In low-grade EEA, ER/PR loss seemed to correlate with a more aggressive subtype with poorer survivals. Implementing ER/PR evaluation into clinical algorithms may improve the risk stratification for tailored therapeutic strategy.
E-POSTER TALK SESSION 1

ESGO7-0157

COMPARISON OF UTERINE LEIOMYOSARCOMA (LMS) AND LEIOMYOMA (LM) FINDINGS FOR CREATION OF A PREOPERATIVE LMS-RISK-SCORE

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Aims

Are there any significant differences between LMS and LM clinical findings allowing the creation of a preoperative LMS-Risk-Score to prevent an inadequate LMS surgery?

Method

Matched data analysis of 235 LMS and 669 LM from the German Clinical Competence Centre for Genital Sarcomas and Mixed Tumours and cooperating departments was performed.

Results

There was a statistical significant difference (p < 0.01) in regard to the mean age of patients with LM vs. LMS (43.3 vs. 54 years) and in mean tumor diameter (5.2 vs. 10.1 cm), respectively. Further significant different findings are presented in table 1. Tamoxifen exposition, failure of prior pharmacological therapy of LM, and prior surgery of atypical smooth muscle tumor were higher in LMS group, but differences not reached significant levels. Tumor related symptoms without bleeding disturbances were slightly higher in LM. Despite these differences 60 % of the 235 LMS were operated under the diagnosis of LM and 66.8 % underwent an inadequate surgery.

Table 1. Significant (p < 0.01) different findings in LM and LMS

<table>
<thead>
<tr>
<th>Findings</th>
<th>LM %</th>
<th>LMS %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postmenopause</td>
<td>3.4</td>
<td>60.9</td>
</tr>
<tr>
<td>Additional uterine bleeding</td>
<td>10.5</td>
<td>42.4</td>
</tr>
<tr>
<td>Bleeding postmenopause</td>
<td>30.4</td>
<td>42.6</td>
</tr>
<tr>
<td>Rapid growth tumor/uterus</td>
<td>17.0</td>
<td>51.1</td>
</tr>
<tr>
<td>Suspicious sonography</td>
<td>6.9</td>
<td>82.6</td>
</tr>
<tr>
<td>Solitary tumor</td>
<td>37.8</td>
<td>51.5</td>
</tr>
</tbody>
</table>

Conclusion

Age, tumor diameter, menopausal status, additional bleedings in premenopause, bleedings in postmenopause, sonographic findings, rapid growth of tumor or uterus, and solitary tumor are suitable to generate a preoperative LMS-Score for prevention of inadequate LMS-surgery.
E-POSTER TALK SESSION 1

ESGO7-0232

EXPRESSION OF miR-146a IN PRIMARY TUMOUR AND OMENTAL IMPLANTS IN OVARIAN CANCER PATIENTS AND ITS CORRELATION WITH CLINICOPATHOLOGICAL FEATURES, PROGNOSIS AND CHEMO-RESISTANCE

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Aims

To study the miR-146a expression in primary tumour and omental implants of ovarian serous cancer, and to investigate the correlation with clinicopathological features, including chemosensitivity and survival.

Method

MiRNA-146a was evaluated in formalin-fixed, paraffin-embedded (FFPE) samples collected from 48 patients operated for advanced (FIGO III/IV stage) ovarian cancer. The reference group included 48 normal ovaries. Total RNA was extracted from FFPE tissue using Roche High Pure miRNA Isolation Kit. The yield and quality of RNA were measured using PicoDrop spectrophotometer. Reverse transcription to cDNA was carried out according to the miRCURY LNA Universal RT micro RNA PCR instruction. PCR amplification was performed using primer set for hsa-miR-146a-5p. U6 snRNA and SNORD48 were internal controls. Reactions were performed on a 7900HT Fast Real-Time PCR System. Relative expression was calculated according to the Cq method $2^{-\Delta\Delta Cq}$.

Results

MiR-146a expression in primary tumour was increased in comparison to normal ovaries (p=0.02) and implants (p=0.01). Negative correlation was found between miR-146a expression in primary tumours and serum levels of CA125 (R= -0.37, p=0.03) and ROMA index (R= -0.79, p=0.0007). Overall survival (OS) positively correlated with the miR-146a expression in the primary tumour (R= 0.38, p=0.01). Probability of survival was decreased in patients with lower miR-146a expression (HR=0.21, p=0.003) in the primary tumour. In multivariate analysis lower levels of miR-146a expression correlated with shorter progression-free survival (PFS) (p=0.04) in primary tumour and with platinum-resistance in implants (p=0.006).

Conclusion

MiR-146a expression could be a prognostic marker for chemosensitivity and survival in serous ovarian cancer.
E-POSTER TALK SESSION 1

ESGO7-0384

A panel of miRNAs, identified with global microarray, may provide prognostic information for patients with ovarian cancer

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Aims

Ovarian cancer is the leading cause of gynecologic cancer deaths in the Western world. Prognosis of the disease is mainly related to stage at diagnosis, surgery and sensitivity to chemotherapy. The purpose of the current study was to identify miRNAs associated with prognosis and resistance to chemotherapy in patients with ovarian cancer.

Method

Patients who were surgically treated for epithelial ovarian cancer, diagnosed between September 2004 and January 2010 were enrolled in the study. MicroRNA expression profiles were identified from tumor tissue using microarray analysis. In the primary statistically analyses miRNA index predictors of survival and resistance to chemotherapy were developed with adaptive index models, adjusted for known prognostic variables.

Results

A total of 198 patients with epithelial ovarian cancer were included. Of these, 170 patients had received platinum-based chemotherapy as first-line treatment after primary surgery, and were eligible for analyses of resistance to chemotherapy. In the multivariate adaptive index model analyses combinations of three different miRNAs were identified to be significant and independent predictors of survival and time-to-progression. One miRNA were found to be significant for chemotherapy resistance.

Conclusion

In the current study combinations of either one or three miRNAs were identified as significant predictors of survival, time-to-progression and chemotherapy-resistance for patients with epithelial ovarian cancer. This approach could potentially give important information of prognosis and thereby support patient management towards a more individualized treatment.
E-POSTER TALK SESSION 1

ESGO7-0422

ROBOTIC VERSUS LAPAROSCOPIC TRANSPERITONEAL PARA AORTIC LYMPHADENECTOMY IN GYNECOLOGIC CANCERS: A SINGLE INSTITUTE EXPERIENCE

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Aims

To evaluate the surgical and pathological outcomes of patients underwent transperitoneal para-aortic lymphadenectomy (PAL) for gynecological cancer patients with minimally invasive approach.

Method

Between 2012 and 2016, 184 patients underwent robotic transperitoneal (R-PAL) (n=78) and laparoscopic transperitoneal (L-PAL) (n=106), 43 for cervical cancer (23.3%), 31 for endometrial cancer (16.8%) and 110 (59.7%) for ovarian cancer in Gemelli hospital in Rome. The patients were retrospectively evaluated and compared.

Results

78 patients underwent R-PAL were compared to 106 patients underwent L-PAL. The study showed no significant difference between the 2 groups in terms of age, BMI, and preoperative characteristics. In all series 24 (13%) patients had BMI > 32. The Median operative time for both groups was 237.5 minutes for R-PAL and 220 for L-PAL (p=0.446). Median blood loss was 100 in R-PAL and 80 in L-PAL (p=0.693). Only one patient was converted to open approach in the robotic group. The rate of intraoperative complications in the whole series was 2.7% with no significant difference between the 2 groups (P=0.652). The rate of the postoperative complications in the whole series was 16.8% with slightly higher rate in robotic group (p=0.045). In all series, the pathological results showed presence of lymph node metastasis in 18 (9.7%) patients, with no difference between the two groups.

Conclusion

The present study showed feasibility, safety of minimally invasive approach for PAL.
E-POSTER TALK SESSION 1

ESGO7-0428

OPTICAL IMAGING FOR PERITONEAL METASTASES DETECTION IN OVARIAN CANCER: A PILOT STUDY

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Aims

Cytoreductive surgery (CS) is limited by the vision of the surgeon. Furthermore, no tools exist for the detection of tumoral cells in post neoadjuvant chemotherapy (NAC) residual scars (RS).

The aims of this study are to evaluate the role of ICG-Fluorescence Imaging (FI) for the detection of peritoneal metastasis and tumoral cells in RS (post NAC).

Method

Patients admitted for primary or interval CS with stage III/IVa from September 2013 to August 2016 were elected for the study. Free ICG (0.25 mg/kg) was IV injected intraoperatively before CS. Fluorescence intensity and tumor to background ratio (TBR) was calculated for all peritoneal nodules (PN) and RS.

Results

Twenty patients including 17 seropapillar adenocarcinoma, and 3 others type of tumors were included. A total of 108 PN and 25 RS were imaged, resected and analysed by histopathology. Amongst PN, 73 were malignant (67.6%) and 35 benign (32.4%). The mean of the TBR (ex vivo) was 1.8 (SD 1.3) in malignant nodules and 1.0 (SD 0.79) in benign nodules (p = 0.007). With a TBR cut-off of 1.3, sensitivity and specificity are respectively 72.6% (53/73) and 45.7% (16/35). Amongst the 25 RS, the mean TBR (in vivo) was 2.06 (SD 1.15) in malignant (n=2) and 1.21 (SD 0.50) in benign nodules (n=23). The positive predictive value of ICG-FI to detect tumoral cells in scars was 57.1%.

Conclusion

ICG-FI is able to discriminate between benign and malignant PN, but not sufficient specific for the detection of tumoral cells in RS post NAC.
E-POSTER TALK SESSION 1

ESGO7-0476

PRIMA-1MET INDUCES APOPTOSIS THROUGH ACCUMULATION OF INTRACELLULAR REACTIVE OXYGEN SPECIES IRRESPECTIVE OF P53 STATUS AND CHEMO-SENSITIVITY IN EPITHELIAL OVARIAN CANCER CELLS

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Aims

PRIMA-1MET is a small molecule compound that restores wild-type p53 to mutant p53, and is recently confirmed to be safe at therapeutic plasma levels. The aims of this study were to identify the anti-tumour activity of PRIMA-1MET on epithelial ovarian cancer (EOC) cells and elucidate the underlying mechanism in vitro.

Method

We used nine EOC cell lines and their chronic cisplatin/paclitaxel-resistant cells and performed cell viability assay and cell apoptosis assay to evaluate the efficacy of PRIMA-1MET. Moreover, we assessed the functional role of reactive oxygen species (ROS) and their scavenger in the EOC cells.

Results

We examined the viability of the total 13 EOC cells after 48 h treatment with PRIMA-1MET. Measuring the half maximal inhibitory concentration (IC₅₀) of EOC cells revealed that the sensitivity was heterogeneous, and did not correlate with TP53 status. PRIMA-1MET induced apoptosis, PARP cleavage, and intracellular ROS accumulation in a p53-independent manner. The anti-tumour effects of PRIMA-1MET were completely rescued by a ROS scavenger, N-acetyl cysteine. Furthermore, PRIMA-1MET reduced the expression of antioxidant enzymes, PRX3 and GPX1, in a dose-dependent manner.

Conclusion

We demonstrated that PRIMA-1MET had an anti-tumour effect on EOC cells regardless of TP53 status and chemo-resistance. PRIMA-1MET is a promising therapeutic agent for chemo-resistant EOC patients and may contribute to a better prognosis in the future.
E-POSTER TALK SESSION 1

ESGO7-0499

GENOMIC LANDSCAPE OF BRAIN METASTASIS FROM OVARIAN/PERITONEAL CANCER

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Aims

Brain metastasis from ovarian cancer is a rare disease entity which leads to dismal prognosis. However, the genomic alterations of primary ovarian/peritoneal cancer and the brain metastasis have not been fully elucidated.

Method

We performed whole-exome sequencing of three matched brain metastases and ovarian/peritoneal cancers.

Results

We detected increased number of genomic alterations from brain metastases when compared to ovarian/peritoneal cancers (range: 88-155 and 52-74, respectively). All the ovarian/peritoneal and brain tissues encompassed TP53 non-silent mutations and SEC16B non-silent mutations were harbored in two of the three cases. In addition, genetic alterations of ADGRB1, a tumor suppressor gene that is known to be related to glioblastomas, were detected only in brain metastases (two of the three cases).

Conclusion

Our data revealed that brain metastasis from ovarian/peritoneal cancer harbors a somatic mutation known to be associated with glioblastomas, suggesting that brain-specific genetic alterations may exist.
E-POSTER TALK SESSION 1

ESGO7-0522

COMPARISON OF GENE MUTATIONAL ANALYSES, INCLUDING BRCA1 ALTERATIONS, IN TWO PROSPECTIVE STUDIES IN NEWLY DIAGNOSED VERSUS PLATINUM-RESISTANT OVARIAN CANCER


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9 Radboud University Medical Center, Medical Oncology, Nijmegen, The Netherlands
10 Groupe Hospitalier Diaconesses Croix Saint-Simon and Alliance Pour la Recherche en Cancérologie, Medical Oncology Service, Paris, France
11 Fios Genomics Ltd, Biostatistics Department, Edinburgh, United Kingdom
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Aims

We compared prevalences of various genomic alterations in patients with epithelial ovarian cancer treated in two prospective clinical trials, ROSiA (single-arm: front-line bevacizumab-containing therapy [Oza 2016; NCT01239732]) and PENELOPE (placebo-controlled phase III: chemotherapy ± pertuzumab for low HER3 mRNA-expressing platinum-resistant disease [Kurzeder 2016; NCT01684878]), to explore genomic profiles predicting for platinum resistance.

Method

Pre-treatment tissue samples were analysed using FoundationOne® (Foundation Medicine). The distribution of mutational load was compared between trials using a bootstrapped Kolmogorov-Smirnov test. Relative prevalences of gene alterations in >5% of patients were compared using Fisher’s exact test. Benjamini-Hochberg false-discovery rate (FDR) adjustment for multiplicity was applied using a 10% threshold for statistical significance.

Results

Samples from 141 PENELOPE and 154 ROSiA patients were evaluable. The mean mutational load was 3.64/megabase and 4.48/megabase, respectively; the difference bordered on statistical significance (bootstrapped Kolmogorov-Smirnov test p=0.097). The figure shows mutational profiles by trial. There were marked differences between PENELOPE and ROSiA for alterations in BRCA1 (16/141 [11.3%] vs 34/154 [22.1%], respectively; odds ratio 0.45) and MYC (20/141 [14.2%] vs 38/154 [24.7%]; odds ratio 0.50); neither
remained statistically significant after multiplicity adjustment (both FDR p=0.21).

Conclusion

Apparent qualitative and quantitative inter-trial differences in mutational profile, particularly BRCA1 mutation, from diagnostic/archival samples may be attributable to prognosis and patient selection (poor-prognosis platinum resistant vs unselected newly diagnosed). No significant difference in mutational load was observed. Analyses by histological subtype and combined markers warrant exploration.
E-POSTER TALK SESSION 1

ESGO7-0530

SYMPTOMS RELEVANT TO SURVEILLANCE FOR OVARIAN CANCER

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Aims

To examine how frequently and confidently healthy women report symptoms during surveillance for ovarian cancer.

Method

A symptoms questionnaire was administered to 24,526 women over multiple visits accounting for 70,734 reports. A query of reported confidence was included as a confidence score (CS). Chi square, McNemars test, ANOVA and multivariate analyses were performed.

Results

17,623 women completed the symptoms questionnaire more than one time and >9500 women completed it more than one four times for >43,000 serially completed questionnaires. Frequency of reported symptoms is in Table 1. Reporting ovarian cancer symptoms was ~245 higher than ovarian cancer incidence. The positive predictive value (0.073%) for identifying ovarian cancer based on symptoms alone would predict one malignancy for 1368 cases taken to surgery due to reported symptoms. Confidence on the first questionnaire (63.3%) decreased to 74% when more than five questionnaires were completed. Age-related decreases in confidence were significant (p < 0.0001). Women reporting at least one symptom expressed more confidence (41,984/52,379 = 80.2%) than women reporting no symptoms (11,882/18,355 = 64.7%), p < 0.0001. Confidence was unrelated to history of hormone replacement therapy or abnormal ultrasound findings (p = 0.30 and 0.89).

<table>
<thead>
<tr>
<th>Duration Period of Data Collection, May 2008–June 2013</th>
<th>Women enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms questionnaire administered</td>
<td>24,526 (100%)</td>
</tr>
<tr>
<td>Questionnaire reporting symptoms</td>
<td>32,467 (44.3%)</td>
</tr>
<tr>
<td>Women reporting symptoms</td>
<td>21,280 women (80.1%) on 12,687 questionnaires</td>
</tr>
<tr>
<td>Women never reporting symptoms</td>
<td>2717 (11.5%)</td>
</tr>
<tr>
<td>Women reporting symptoms on first symptoms questionaire</td>
<td>18% (26.1% of women reporting symptoms)</td>
</tr>
<tr>
<td>Women reporting symptoms with no symptoms on first symptoms questionnaire</td>
<td>54.8% (68.1% of women reporting symptoms)</td>
</tr>
<tr>
<td>Women reporting symptoms on first symptoms questionaire and subsequently symptoms reported</td>
<td>2306 (86.2% of women reporting symptoms on 1st questionaire; 11.5% of all women reporting symptoms)</td>
</tr>
<tr>
<td>Women reporting symptoms on first symptoms questionaire and subsequently symptoms reported</td>
<td>4315 (66.9% of women reporting symptoms on 1st questionaire; 30.8% of all women reporting symptoms)</td>
</tr>
<tr>
<td>Women reporting NO symptoms on first symptoms questionaire and subsequently symptoms reported</td>
<td>14,771 (90.6% of women with no symptoms on 1st questionaire; 71.8% of women reporting symptoms)</td>
</tr>
</tbody>
</table>

Conclusion

The frequency of symptoms relevant to ovarian cancer was much higher than the occurrence of ovarian cancer. Approximately 80.1% of women expressed confidence in what they reported.
E-POSTER TALK SESSION 2

ESGO7-0542

DEVELOPMENT OF AN ANTIBODY MEDIATED OPTICAL IMAGING METHODOLOGY IN MOUSE MODELS OF HIGH-GRADE SEROUS OVARIAN CARCINOMA

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Aims

Epithelial ovarian carcinoma remains the deadliest of all gynecological malignancies with high-grade serous ovarian carcinoma (HGSOC) being the most common subtype. Due to late stage diagnosis with peritoneal tumour spread, complete surgical debulking is often difficult to achieve. It is essential, that preclinical models are relevant and permit the analysis of tumour manifestations, treatment responses and the development of new treatment strategies.

Method

Through a series of immunophenotyping experiments, we screened a panel of biomarkers for the cell lines OV90 and CaOV3, and identified CD24 as a homogeneous biomarker of several HGSOC cell lines. Orthotopic xenograft models were subsequently generated by injecting stably transfected OV90 and CaOV3 cells into the ovarian bursa of immunodeficient mice. Further, we established patient derived xenografts (PDX) by orthotopical implantation of unprocessed cancer cells after immediate mechanical tumour dissociation. After conjugation of a specific monoclonal antibody directed against CD24 to the near-infrared dye Alexa680, we studied detection of primary tumour and metastasis by non-invasive optical imaging in parallel with the more established method of bioluminescence.

Results

We identify the cell surface receptor CD24 to be a suitable target for fluorochrome-conjugated antibodies in time-domain optical imaging of HGSOC and find this novel methodology to be comparable to bioluminescence.

Conclusion

We introduce a noninvasive fluorophore mediated optical imaging protocol for HGSOC that facilitates the study of orthotopic models without the need for genetic alteration of tumour cells. Exploration if this original technique is applicable in the established PDX models is ongoing.

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CHARACTERISTICS OF OVARIAN CANCER IN WOMEN WITH LYNCH SYNDROME

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Aims

To describe clinical characteristics of ovarian cancer diagnosed in women with Lynch syndrome (LS) and the role of surveillance in the early detection of these cancers.

Method

All women with LS identified in the Dutch Lynch syndrome registry or from the cohort at our University Medical Center Groningen (UMCG) who developed ovarian cancer were included. Clinical data on age at diagnosis, mutation type, histological type, FIGO stage, treatment, follow-up and gynaecological surveillance were collected.

Results

In the Dutch LS registry, 46/785 women (6%) with ovarian cancer were identified and 7/80 (9%) from the UMCG. The mean age of 53 patients at ovarian cancer diagnosis was 46.1 years (range 20-75 years). MSH2 (32%) and MSH6 (28%) were the most frequent gene mutations. The most frequently reported histological type was endometrioid adenocarcinoma (40%) and most tumours (87%; n=46) were detected at an early stage (FIGO I/II). Forty-one of 53 (77%) patients were diagnosed with ovarian cancer before LS was known. In 12/53 (23%) women ovarian cancer developed after starting annual gynaecological surveillance. Three ovarian cancers were diagnosed during surveillance in asymptomatic women, (two FIGO stage 1A, one stage IC). Six ovarian cancers were detected together with a (pre)malignancy of the endometrial tissue, (four FIGO stage IA, one stage IB, one stage IIA)

Conclusion

Ovarian cancer in women with LS has a wide age-range of onset, is most often diagnosed at an early stage with an endometrioid type histology. The early stage at diagnosis could not be attributed to annual gynaecological surveillance.
E-POSTER TALK SESSION 2

ESGO7-0616

BORDERLINE OVARIAN TUMORS: A NATIONWIDE OVERVIEW OF INCIDENCE, SURVIVAL AND RISK OF SUBSEQUENT INVASIVE OVARIAN TUMORS

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Aims

Population-based studies on borderline ovarian tumours (BOTs) are rare as data collection is mostly limited to invasive ovarian tumours. In this nationwide study, we provide an overview of trends in incidence and survival of BOTs and establish the risk of a subsequent invasive ovarian tumour.

Method

All patients diagnosed with BOTs between 1993 and 2015 (n=6,706) were selected from the Netherlands Cancer Registry (NCR). Age-adjusted incidence rates and relative survival ratios were calculated. Patients with a subsequent invasive ovarian tumour were identified by the NCR.

Results

Incidence of BOTs doubled between 1993 and 2011, after 2011 incidence declined (see Figure). Five-year relative survival increased from 91% in 1993-1997 to 98% in 2010-2015. The proportion of bilateral tumours decreased from 16% to 11% during the same time periods. Of all patients, 0.9% developed a subsequent invasive ovarian tumour during a median follow-up time of 8 years.

Conclusion

Incidence of BOTs increased over time, but declined since 2011. The decline might be due to changes in the classification of gynecological tumours. The risk of a subsequent invasive tumour is low. Survival is high and has improved since 1993. An earlier detection through improvements in ultrasound or improved distinction between BOTs and metastases of gastrointestinal tumors may have contributed to the increased survival. Further analyses are going on to gain more insight into those changes.
E-POSTER TALK SESSION 2

ESGO7-0663

SURGICAL MORBIDITY OF ROBOTIC-ASSISTED SENTINEL LYMPH NODE BIOPSY VS. SYSTEMATIC PELVIC LYMPHADENECTOMY FOR ENDOMETRIAL CANCER STAGING: A PROPENSITY-MATCHED ANALYSIS

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Aims

To compare perioperative surgical outcomes and treatment-related morbidity of patients undergoing robotic-assisted sentinel lymph node (SLN) biopsy vs. systematic pelvic lymphadenectomy (PLD) for apparent early stage Endometrial Cancer (EC) staging.

Method

Records of consecutive patients with FIGO stage I-III EC undergoing robotic-assisted staging during 01/01/2009-06/30/2016 were manually reviewed. Perioperative and 30-day surgical outcomes were compared between patients who underwent PLD vs. SLN as actual treatment for staging (i.e. patients who had SLN biopsy followed by pelvic lymphadenectomy were excluded). Inverse probability of treatment weighting (IPTW) derived from propensity scores was used to minimize the allocation bias when comparing outcomes between groups.

Results

423 patients were included in the analysis: 235 (55.6%) PLD and 188 (44.4%) SLN. IPTW analysis balanced for baseline characteristics (age, BMI, ASA score, Charlson comorbidity index, parity, prior C-section and prior abdominal surgery) showed no significant differences in intraoperative and postoperative complications, readmissions and reoperations between the groups. Women who received PLD and SLN had similar conversion to open surgery rates (1.5% vs 0.8%; p=0.48). Patients in SLN group had lower mean operative time (216.2 vs 138.1 minutes) and lower median blood loss (50 vs 100 mL) when compared to PLD (p<0.001). Table 1.
Table 1. Comparison of surgical outcomes in patients undergoing robotic-assisted pelvic lymphadenectomy (LND) vs. sentinel lymph node biopsy (SLN) for endometrial cancer staging from January 1, 2009 and June 30, 2016.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Unadjusted cohort</th>
<th>IPTW-Adjusted cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pelvic LND assessment (N=235)</td>
<td>SLN assessment (N=185)</td>
</tr>
<tr>
<td>Any intraoperative complication</td>
<td>4 (1.7%)</td>
<td>1 (0.5%)</td>
</tr>
<tr>
<td>Conversion to open surgery</td>
<td>4 (1.7%)</td>
<td>1 (0.5%)</td>
</tr>
<tr>
<td>Postoperative complications within 30 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accordion grade ≥ 2</td>
<td>19 (8.1%)</td>
<td>9 (4.8%)</td>
</tr>
<tr>
<td>Accordion grade ≥ 3</td>
<td>3 (1.3%)</td>
<td>1 (0.5%)</td>
</tr>
<tr>
<td>Readmission within 30 days</td>
<td>9 (3.8%)</td>
<td>4 (2.1%)</td>
</tr>
<tr>
<td>Reoperation for complication within 30 days</td>
<td>2 (0.8%)</td>
<td>0</td>
</tr>
<tr>
<td>Operative time (minutes), mean (SD)</td>
<td>218.3 (69.3)</td>
<td>136.6 (42.0)</td>
</tr>
<tr>
<td>EBL (mL), median (IQR)</td>
<td>100 (60-200)</td>
<td>50 (50-100)</td>
</tr>
</tbody>
</table>

†Comparisons between groups were evaluated using a logistic regression model for binary outcomes and a linear regression model for continuous outcomes. EBL was analyzed after applying a logarithmic transformation.

*EXCLUSION CRITERIA: FIGO Stage IV, synchronous cancer, neoadjuvant treatment performed, no lymph node assessment, para-aortic lymphadenectomy performed, SLN followed by pelvic lymphadenectomy.

Conclusion

The introduction of SLN biopsy reduces operative times and further improves short-term perioperative surgical outcomes of robotic-assisted staging for apparent early stage EC.
E-POSTER TALK SESSION 2

ESGO7-0935

OVARIAN PROTECTION AND FERTILITY PRESERVATION IN WOMEN WITH CANCER: A FRENCH REGISTRY ANALYSIS BETWEEN 2005 AND 2014.

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Aims

The aim of the study was to describe the practices concerning ovarian protection and fertility preservation in young women treated for cancer over the last decade in France.

Method

The study population comprised women between 15 and 49 years old diagnosed with cancer between 2005 and 2014 abstracted from the Echantillon Généraliste des Bénéficiaires database, a 1/97th random sample of the French population covered by the national healthcare insurance system. To assess practices concerning ovarian protection, gonadotropin-releasing hormone (GnRH) agonists consumption and ovarian transposition were analyzed. For fertility preservation, GnRH agonists consumption, ovarian cryopreservation and oocyte cryopreservation within 6 months after cancer treatment were analyzed. Explanatory variables were analyzed using a multilevel model.

Results

2447 women were identified. Among the 553 patients exposed to ovarian failure, 74 (13%) had ovarian protection (67 received GnRH agonists and 7 underwent ovarian transposition). Among the 227 women exposed to fertility alteration, 53 (23%) had fertility preservation (37 received GnRH agonists and 16 had ovarian or oocyte cryopreservation). Factors associated with ovarian protection were the age under 40 years old, diagnosis of breast cancer and the type of health institution. Fertility preservation was more frequently performed in patients with breast cancer. The five years probability of pregnancy was 3.8% and 9.8% (p=0.26) for women with fertility preservation and without fertility preservation respectively.

Conclusion

Over the last decade, ovarian protection and fertility preservation concerned respectively 13% and 23% of French women treated for cancer (mainly breast cancer).
E-POSTER TALK SESSION 2

ESGO7-0963

THE TEN YEAR EXPERIENCE OF A REGIONAL SPECIALIST GYNAECOLOGY CANCER GENETICS CLINIC WITH LYNCH SYNDROME

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⁵University of Cambridge, Clinical Cancer Genetics, Cambridge, United Kingdom

Aims

To review the outcomes from a single institution experience of a regional referral practice in Lynch Syndrome (LS)

Method

Service review. Surveillance was outpatient hysteroscopy, endometrial biopsy, CA 125 and TV ultrasound. Risk reducing surgery (RRS) was laparoscopic hysterectomy and bilateral salpingo-oophorectomy.

Results

Since 2007 60 patients have had RRS and a further 7 patients are undergoing surveillance. There are 18 MLH-1, 17 MSH-2, 7 MSH-6 and 2 PMS-2 mutation carriers having risk reducing surgery with the balance having strong family history. The frequency of surgery is increasing with more referrals. The mean age for RRS is 45 years (range 32-62 yrs). 21 patients opted for surveillance, mean time period 3 years, with the longest screen being 11 years. Forty patients chose RRS, 25 within 6 months of the specialist clinic, 9 within 12 months (1 cancer at surgery aged 54 years), 6 within 24 months (1 cancer at surgery aged 48 years). There has been one ovarian cancer (stage 1A endometrioid) discovered at the time of removing an abnormal ovary at time of colorectal cancer surgery aged 41 years which precipitated diagnosis of LS. Three patients have had endometrial cancer detected at RRS, one stage 2 requiring adjuvant radiotherapy. Prior cancer in carriers include bowel and breast cancer. There have been no deaths.

Conclusion

Centralised services provide excellent care for patients with cancer mutations

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E-POSTER TALK SESSION 2

ESGO7-0968

RISK FACTORS FOR PARA-AORTIC LYMPH NODE METASTASIS IN ENDOMETRIAL CANCER

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Aims

The purpose of this study was to determine the risk factors for para-aortic LN metastasis in EC patients that underwent comprehensive surgical staging.

Method

A total of 641 women with EC (endometrioid, non-endometrioid, or mixed histology) who underwent comprehensive surgical staging including pelvic and para-aortic LN dissection between 2008 and 2016 were included in this retrospective study. Patient data were analyzed with respect to para-aortic LN involvement and predictive factors for para-aortic LN metastasis were investigated.

Results

Lymph node metastasis was detected in 90 (14%) patients; isolated pelvic LN metastasis in 28 (4.3 %), isolated para-aortic LN metastasis in 15 (2.3 %), and both pelvic and para-aortic LN metastasis in 47 (7.3 %) women, respectively. Univariate analysis revealed that the risk of para-aortic LN metastasis significantly increased in patients with non-endometrioid histology, >60 years of age, grade 3 tumor, deep myometrial invasion, lymphovascular space invasion (LVSI), primary tumor diameter (≥2 cm), cervical stromal invasion, adnexal involvement, serosal invasion, pelvic LN involvement, ≥2 positive pelvic LNs and positive peritoneal cytology (p<0.05). At the end of multivariate analysis, presence of LVSI (odds ratio [OR]: 4.8, 95% confidence interval [CI] 1.25 - 18.2, p= 0.022) and pelvic LN metastasis (OR: 18.8, 95% CI 5.7-61.6, p<0.001) remained as independent risk factors for para-aortic LN involvement in women with EC.

Conclusion

Presence of LVSI and pelvic LN involvement appear to be independent risk factors for para-aortic LN metastasis in patients with EC. LVSI may be considered as a routine pathological parameter during frozen section analysis in women with EC undergoing surgery.
## Univariate and multivariate analysis of women with endometrial cancer with regard to para-aortic LN metastasis

<table>
<thead>
<tr>
<th>Cases</th>
<th>Univariate Analyses</th>
<th>Multivariate Analyses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>p</td>
<td>OR</td>
</tr>
<tr>
<td><strong>Age, y</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;60</td>
<td>28/381 (7.3%)</td>
<td>0.023</td>
</tr>
<tr>
<td>≥60</td>
<td>24/260 (9.2%)</td>
<td></td>
</tr>
<tr>
<td><strong>Histopathology</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endometroid</td>
<td>29/300 (9.7%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Non-endometroid</td>
<td>23/253 (9.1%)</td>
<td></td>
</tr>
<tr>
<td>Mixed*</td>
<td>10/47 (21.2%)</td>
<td></td>
</tr>
<tr>
<td><strong>Grade of endometroid type</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 1</td>
<td>4/328 (1.2%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Grade 2</td>
<td>12/232 (9.9%)</td>
<td></td>
</tr>
<tr>
<td>Grade 3</td>
<td>11/232 (1.1%)</td>
<td></td>
</tr>
<tr>
<td><strong>Peritoneal Cytology</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>22/380 (5.8%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Positive</td>
<td>29/60 (48.3%)</td>
<td></td>
</tr>
<tr>
<td><strong>Cervical stromal invasion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present</td>
<td>43/558 (7.6%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>&lt;1/2</td>
<td>12/426 (2.8%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>≥1/2</td>
<td>50/215 (23.2%)</td>
<td></td>
</tr>
<tr>
<td><strong>Serosal invasion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>47/596 (8.3%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Present</td>
<td>15/32 (46.9%)</td>
<td></td>
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<tr>
<td><strong>Adnexal involvement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>37/387 (9.7%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Present</td>
<td>23/51 (45.1%)</td>
<td></td>
</tr>
<tr>
<td><strong>Number of metastatic pelvic LNs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-1</td>
<td>28/390 (7.2%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2</td>
<td>34/48 (70.8%)</td>
<td></td>
</tr>
<tr>
<td><strong>Primary tumor diameter</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤2 cm</td>
<td>3/108 (2.8%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2-3 cm</td>
<td>26/271 (9.6%)</td>
<td></td>
</tr>
<tr>
<td>&gt;3 cm</td>
<td>33/172 (19%)</td>
<td></td>
</tr>
<tr>
<td><strong>LVSI</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>4/467 (0.8%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Present</td>
<td>58/171 (33.9%)</td>
<td></td>
</tr>
<tr>
<td><strong>Pelvic LN metastasis</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>15/556 (2.7%)</td>
<td>1.25 - 18.2</td>
</tr>
<tr>
<td>Present</td>
<td>4/75 (5.3%)</td>
<td>18.8</td>
</tr>
</tbody>
</table>

* Endometroid histopathology with other subtypes

**Abbreviations:**
- LVSI: Lymphovascular space invasion
- LN: Lymph node

The role of para-aortic lymph node metastasis according to the presence of LVSI and/or positive pelvic LNs

<table>
<thead>
<tr>
<th>LVSI</th>
<th>Positive Pelvic LNs</th>
<th>Rate</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>No</td>
<td>14/100 (14.0%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>12/46 (26.1%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>Yes</td>
<td>3/9 (33.3%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>46/66 (69.5%)</td>
<td></td>
</tr>
</tbody>
</table>

* Number of patients with para-aortic metastasis: number of total patients

**Abbreviations:**
- LVSI: Lymphovascular space invasion
- LN: Lymph node
E-POSTER TALK SESSION 2

ESGO7-1078

IMPACT OF HORMONAL RECEPTOR STATUS AND Ki-67 EXPRESSION ON DISEASE FREE SURVIVAL IN PATIENTS AFFECTED BY HIGH-RISK ENDOMETRIAL CANCER

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Aims

The aim of this study was to evaluate the immunohistochemical expression of Ki-67, estrogen (ERα) and progesterone (PR) receptors in high-risk endometrial cancer patients and to assess their prognostic impact.

Method

Immunohistochemical (IHC) expression of Ki-67, estrogen (ERα) and progesterone (PR) receptors was evaluated in primary untreated endometrial cancer. The correlation among IHC staining and risk factors of recurrence such as age, FIGO (Federation International of Gynecology and Obstetrics) stage, grading, depth of invasion, and metastatic spread was assessed.

Results

82 patients were available for the analysis. Mean age was 65.05 ± 10.48 years. The IHC assessment revealed a lack of ERα in 46.3%, of PR in 48.7%, and a high Ki-67 in 31.7%. Loss of ERα and PR was associated with a significant higher rate of advanced stage of disease, a higher frequency of G3 tumors and a myometrial invasion >50%. A strong Ki-67 expression correlated with a deeper myometrial invasion. Analysis of the inter-relationship between receptor immunonegativity revealed a relevant association of ERα immunolocalisation with PR and with a high Ki-67 expression. The present study also showed that loss of ERα (p = 0.003), advanced FIGO stage (p < 0.001) and high Ki-67 (p = 0.004) were independent prognostic factors of a shorter DFS. Importantly, loss of ERα, loss of PR and a high Ki-67 were correlated with a higher incidence of distant recurrence.

Conclusion

A systematic immunohistochemistry should be a key step in the therapeutic algorithm and could contribute to the identification of high-risk tumors.
E-POSTER TALK SESSION 2

ESG07-1122

REDEFINING THE PRE-MALIGNANT LANDSCAPE OF GYNAECOLOGIC CANCERS: GENOMIC ANALYSIS OF UTERINE LAVAGE FLUID DETECTS BOTH EARLY STAGE CANCERS AND PRECANCEROUS CELLS OF UNKNOWN POTENTIAL.

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3Swift Biosciences, - , Ann Arbor- MI, USA

Aims

The holy grail of cancer treatment remains detecting and eliminating cancers at their earliest. Endometrial cancer is the most common gynecologic malignancy and its incidence and associated mortality are increasing. Strikingly, there is no effective screening methodology. We hypothesized that ultra-deep, targeted gene sequencing of uterine lavage fluid could detect even microscopic endometrial cancer.

Method

Uterine lavage and paired blood samples were analyzed from 107 consecutive patients undergoing hysteroscopy and curettage for diagnostic evaluation. Cellular and cell-free DNA were isolated from each lavage fluid sample. Ultra-deep sequencing, coverage in excess of 5,000x, was performed using a targeted 12 gene endometrial cancer panel.

Results

Seven patients were diagnosed with endometrial cancer based on classic histopathology. Six were stage IA cancers and several were microscopic. Despite their microscopic size and demonstrating the extreme sensitivity of the molecular assay, all seven patients had significant cancer-associated gene mutations detected in their lavage fluid. Unexpectedly, nearly half of the study population without histopathologic evidence of cancer also possessed high levels of lavage fluid cancer driver-gene mutations. One returned 10 months later with stage IA cancer. Mutations in these women were age and menopausal status associated.

Conclusion

Given that a uterine lavage can be easily and quickly performed in a physician's office-based setting, our findings suggest the future possibility for screening women for the earliest stages of endometrial cancer. However, our findings further demonstrate the unprecedented opportunity and clinical necessity to gain additional insight into the genetic basis of endometrial cancer development and its possible interruption.
E-POSTER TALK SESSION 2

ESGO7-1129

GENETICS OF ENDOMETRIAL CANCER IS GREATER THAN PREVIOUSLY ESTIMATED IN THE OUR LOCAL POPULATION.

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¹Hadassah-Hebrew University, Gynecology, Jerusalem, Israel
²Hadassah-Hebrew University, Genetics, Jerusalem, Israel
³Hadassah-Hebrew University, Oncology, Jerusalem, Israel

Aims

To expand the data base on the hereditary component of endometrial cancer (EC) in the local population.

Method

The study population included EC patients that visited the oncogenetic clinic in Hasassah Ein-Kerem hospital. The patients were either tested for 18 common germline mutations associated with Lynch syndrome and breast and ovarian cancer syndrome, or known carriers from previous genetic testing. DNA was extracted from blood samples provided by the patients after signing an informed consent form. The Genomic DNA was then analyzed using High Resolution Melting (HRM) method and the results were validated using Sanger sequencing.

Results

Out of a total of 166 endometrial cancer patients included in the study, 41 patients (25%) were found to be carriers of a pathogenic germline mutation (fivefold the expected); 25 patients (15%) were found to be Lynch carriers. 10 patient (6%) were found to be carrier of a BRCA mutation (7 BRCA1 and 3 BRCA2), and 6 carriers of the APC-K1307 mutation. Only 76% of the lynch carriers met The Bethesda criteria at time of EC diagnosis.

Conclusion

The results of this study suggest that the genetic component of EC is greater than previously estimated in the local population, both in lynch and none lynch carriers. Since the women included in the study are of high risk population, the prevalence of pathogenic mutation carriers in the general population cannot be estimated. More women with EC should be referred for genetic counselling in order to conduct further research.
HIGH GRADE SEROUS OVARIAN CARCINOMAS ORIGINATE IN THE FALLOPIAN TUBE


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Aims

High-grade serous ovarian carcinoma (HGSOC) is the most frequent type of ovarian cancer and has a poor outcome. It has been proposed that fallopian tube cancers may be precursors of HGSOC but evolutionary evidence for this hypothesis has been limited. We aimed to provide insights into the origins of HGSOC.

Method

We performed whole-exome sequence and copy number analyses of laser-capture microdissected fallopian tube lesions (p53 signatures, serous tubal intraepithelial carcinomas (STICs), and fallopian tube carcinomas), ovarian cancers, and metastases from nine patients with HGSOC.

Results

The majority of tumor-specific sequence and structural alterations in ovarian cancers were present in STICs, including those affecting TP53, BRCA1, BRCA2 or PTEN genes. An evolutionary analysis revealed that p53 signatures and STICs were the precursors of ovarian carcinoma which in turn gave rise to metastatic lesions. In one patient we identified a second STIC as a metastasis in the fallopian tube opposite from the affected ovary. These analyses revealed a window of seven years between the development of a STIC and the initiation of ovarian carcinomas, with development of metastases following rapidly thereafter.

Conclusion

Our results provide insights into the etiology of ovarian cancer and have implications for the prevention, early detection and therapeutic intervention of this disease.
BREAST CANCER

ESGO7-0179

OSTEOMIMICISM INDUCED BY CDCA IS INTERFERED BY LITHOCHOLIC ACID IN BREAST CANCER

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2UMONS, Department of Human Anatomy and Experimental Oncology, Mons, Belgium

Aims

We have investigated the involvement of farnesoid X receptor (FXR) in breast cancer cells to determine [1] a possible relationship between its expression and proliferation of cells; and [2] the role of FXR in osteomimetism of breast cancer.

Method

We evaluated [1] by immunofluorescence the FXR, the RUNX2 and some bone proteins (OPN, OC, BSP, OPG) expression; and [2] the cells proliferation by crystal violet staining in MCF-7 and MDA-MB-231 cell lines, after different treatments (chenodeoxycholic acid (CDCA), lithocholic acid, z-guggulsterone, ibandronate).

Results

We observed an activation of cell proliferation in MCF-7 but not in MDA-MB-231 after a CDCA treatment. This stimulating effect is interfered by lithocholic acid in MCF-7. Z-guggulsterone decreased cell proliferation in both cell lines. FXR expression increased after a CDCA treatment and decreased with ibandronate in both cell lines. CDCA induced an increase of RUNX2 and bone proteins expression and this expression is interfered by lithocholic acid (in both cell lines) and by z-guggulsterone in MDA-MB-231 cells.

Conclusion

Z-guggulsterone decreased bone proteins expression in MDA-MB-231 cells but not in MCF-7, caused by the ER implication in these cells. Lithocholic acid is a competitive inhibitor of FXR and indirectly of cells proliferation and bone proteins expression when it is used in combination with CDCA. Altogether, experimental data highly support a relationship between FXR, ER (in MCF-7) and RUNX2 expression, and the propensity of the tumor cells to develop osteomimetism, involving an increase of RUNX2 expression after CDCA treatment and a subsequent promotion of bone-related protein synthesis.
BREAST CANCER

ESGO7-1018

Correlation and Outcome Prediction of Biomarkers in Early, Estrogen Receptor-Positive and HER2-Negative Breast Cancer: Comparison of EndoPredict, uPA/PAI-1 and ki67

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²Klinikum rechts der Isar, Department for Pathology, Munich, Germany

Aims

Due to the molecular tumor heterogeneity of breast cancer, novel multigene assays have been developed helping to stratify patients according to their individual risk of distant recurrence. Especially for patients at intermediate risk a new dimension of risk estimation and therefore change in decision making has been achieved.

Method

321 patients with estrogen-receptor (ER)-positive and Her2-negative breast cancer at intermediate risk were included in this monocentric prospective study from 2011-2015. Classical clinic-pathological markers, ki-67, uPA/PAI-1 and EndoPredict (EP) were assessed for all patients. Concordance of these predictive markers and patient follow up, including the compliance to advised CTX, RTX and hormone therapy, was analysed.

Results

Overall survival, distant and local recurrence of all patients, as well as therapy compliance was assessed (min 21 months and max 5 year follow up).

Conclusion

Concordance of ki-67, PgR status and other pathology-based surrogates, uPA/PAI-1 and Epcin classification could be assessed. In this prospective comparison of EndoPredict, uPA/PAI-1, ki-67 and progesterone receptor we found, that EP is superior to all other biomarkers with respect to feasibility and decision impact. This leads to substantial avoidance of adjuvant chemotherapy in this patient collective.
ROLE OF PREOPERATIVE MRI IN GUIDING THE SURGICAL TREATMENT DECISION IN PATIENTS WITH INVASIVE BREAST CANCER

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2. Saint Joseph University, Beirut, Lebanon
3. Oncology, Beirut, Lebanon
4. Radiology, Beirut, Lebanon

Aims

To illustrate the importance of preoperative MRI in the surgical treatment decision in patients with invasive breast cancer.

Method

We reviewed retrospectively the preoperative MRI (3 Tesla) of 169 patients operated at Hôtel-Dieu de France for invasive breast cancer. The sequences of 85 patients who underwent a radical treatment (mastectomy) were compared to those of 84 patients who benefited from conservative surgery. We estimated the tumor volume (TV) and breast volume (BV) on enhanced MRI and then we compared the tumor volume to breast volume ratio (TV/BV) in both groups.

Results

When compared to pathologic reports, the MRI seemed to slightly increase the estimation of tumor size. The mean of tumor to breast volume ratio was 9.5 % in the mastectomy group vs. 1.7% in the conservative treatment group (p = 0.000). Using a threshold of 4, a tumor to breast volume ratio less than 4 % seemed to favor the adoption of the conservative option in the surgical treatment decision in patients with invasive breast cancer (p = 0.000). MRI had also helped the assessment of multifocality and multicentricity of tumor which were noted respectively in 57.4 % and 54.4% % of cases treated with mastectomy vs. 15.5 % and 3.6% of cases treated conservatively (p = 0.000).

Conclusion

Our data suggest that preoperative MRI can aid the surgical treatment decision in patients with invasive breast cancer by assessing the tumor to breast volume ratio as well as by providing a full mapping of multifocal and multicentric lesions in the breast tissue.
BREAST CANCER

ESGO7-0460

CLINICAL CHARACTERISTICS OF THE PATIENTS WHO EXPERIENCED EARLY RECURRENCE AFTER CURATIVE SURGERY FOR BREAST CANCER

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1Yonsei University Wonju College of Medicine, Radiation Oncology, Wonju, Republic of Korea

Aims

To identify the patients with high risk of early recurrence who need to be evaluated during chemotherapy or radiotherapy after curative surgery.

Method

Seven hundred and seventy-four patients who underwent curative surgery and radiotherapy between January 2010 and December 2016 were reviewed retrospectively. Among them, recurrence was detected in two patients (0.3%) during the interval between the surgery and the completion of RT. Their tumor characteristics, treatment details, and follow up information were reviewed.

Results

<table>
<thead>
<tr>
<th>Age at the diagnosis</th>
<th>Patient 1</th>
<th>Patient 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient 1</td>
<td>31</td>
<td>78</td>
</tr>
<tr>
<td>Stage</td>
<td>icT3N2M0</td>
<td>T2N1M0</td>
</tr>
<tr>
<td>Histology</td>
<td>Invasive ductal carcinoma</td>
<td>Invasive ductal carcinoma</td>
</tr>
<tr>
<td>Grade</td>
<td>2 (3-2-2)</td>
<td>3 (3-3-3)</td>
</tr>
<tr>
<td>ER/PR/Her2</td>
<td>+/-/2+</td>
<td>+/-/2+, FISH (+)</td>
</tr>
<tr>
<td>Ki-67</td>
<td>Undone</td>
<td>80%</td>
</tr>
<tr>
<td>Lymphovascular invasion</td>
<td>Positive</td>
<td>Negative</td>
</tr>
<tr>
<td>Resection margin</td>
<td>Negative</td>
<td>Negative</td>
</tr>
<tr>
<td>Treatment</td>
<td>Adriamycin/Paclitaxel 3 cycles Partial mastectomy and axillary node dissection Adriamycin/Paclitaxel 3 cycles Radiotherapy</td>
<td>Total mastectomy and axillary node dissection Paclitaxel/Trastuzumab/carboplatin 6 cycles Radiotherapy</td>
</tr>
</tbody>
</table>

Suspicious mass was detected on simulation computer tomography (sCT) of patient 1. Total mastectomy was performed and it revealed 7.5cm-sized recurrence. She completed radiotherapy of total dose 54 Gy followed by 6 cycles of Cyclophosphamide/Methotrexate/Fluorouracil. Operation bed seroma was showed on sCT of patient 2 and she complained its growing. Wide excision revealed 3.1cm-sized metaplastic carcinoma. A month later multiple metastases developed in liver and bones.

Conclusion

In patients with risk factors such as negative hormone receptor and nodal metastasis, paying attention to sCT findings might be helpful to detect early recurrence. Considering rarity of the early recurrence, further study engaging large number of patients is required.

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BREAST CANCER

ESGO7-0255

ENDOMETRIAL PATHOLOGY IN BREAST CANCER PATIENTS: PRELIMINARY DATA OF A MULTICENTRIC RETROSPECTIVE COHORT ANALYSIS

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4 University of Rome Tor Vergata, Department of Biomedicine and Prevention, Rome, Italy
5 Catholic University of the Sacred Heart, Department of Women’s and Children’s Health, Rome, Italy

Aims

Current literature showed that breast cancer patients using tamoxifen have an increased risk of endometrial pathology. To investigate the different incidence of histological alteration of endometrium and their possible correlation with the following adjuvant treatment: tamoxifen (TAM), non-steroidal aromatase inhibitors (AIs) or no treatment (NT).

Method

We reviewed retrospectively 970 breast cancer women who were referred to the Hysteroscopic Service of three Italian Centers (University of Messina, Gynecological Center “Nuova Villa Claudia” of Rome, “Regina Elena” National Cancer Institute of Rome) for vaginal bleeding or ultrasound indications.

Results

Hysteroscopic and histological findings in the TAM, AIs and NT groups, respectively, included: atrophic/physiological endometrium in 48, 52 and 33.3% of cases; endometrial polyp in 40.4, 38 and 49.1% of cases; submucous myoma in 4, 3 and 5.2% of cases; simple hyperplasia in 5, 3 and 7.1% of cases; complex hyperplasia in 0.3% in TAM patients and 0.4% in NT cases, no case in AIs group; dysplasia in 0.3% of TAM patients and 0.4% of NT patients, no case in AIs group; and endometrial cancer in 2, 4 and 4.1% of cases; one case (0.4%) of endometrial metastasis from the breast cancer was registered in the NT group (Table 1).

Conclusion

Our preliminary data analysis suggests that TAM is not likely to be associated with endometrial pathology in breast cancer patients. In conclusion, we suggest a gynecological follow-up for all breast cancer patients, regardless of the adjuvant treatment; in addition, we solicit future studies to confirm the TAM safety profile in breast cancer patients.
USE OF COMPLEMENTARY THERAPIES IN BREAST AND GYNAECOLOGICAL CANCER PATIENTS DURING SYSTEMIC THERAPY

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Aims

Recent studies state that approximately 10 to 70% of breast and gynaecological cancer patients use complementary medicine (CAM) during systemic therapy. The aim of this study was to verify the number of CAM users at our certified cancer center.

Method

Between February and April 2017 a self-administered questionnaire was given to all breast and gynaecological cancer patients undergoing systemic cancer therapy at the certified cancer center of the Klinikum Rechts der Isar. Completed questionnaires (85%, n=202/238) were analyzed by age, cancer diagnosis, therapy status and CAM treatments.

Results

81% of the responding patients use complementary therapy methods. These include:

- 68% vitamins and minerals
- 38% phytotherapeutics
- 31% mistletoe treatment
- 37% homoeopathics
- 61% medicinal teas
- 2% others

CAM use is correlated with younger age (61 y vs. 66 y) and primary non metastatic cancer diagnosis (94%). No difference in breast cancer patients or patients with gynaecologic malignancy, as well as systemic therapy status could be analyzed.

Conclusion

Our data demonstrates high use of CAM by cancer patients undergoing systemic therapy. It is indispensable to implement counselling and evidence-based complementary treatments into clinical routine of cancer centers. A counselling service for integrative medicine concepts and outpatient program (ZIGG) was therefore implemented in our cancer center in 2005.
BREAST CANCER

ESGO7-1362

HIGHLY INCREASED CONCENTRATION OF ANTIBODIES AGAINST THE RED MEAT DERIVED SILIC ACID, Neu5Gc, IN WOMEN WITH BREAST CANCER UNDER CHEMOTHERAPY

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Aims

N-glycolyneuraminic acid (Neu5Gc) is a sialic acid synthesized by animals, but not humans and birds. However, it can be incorporated in human cells and trigger immune response. Neu5Gc has been found on the surface of many cancer cells including breast cancer. Development of anti-Neu5Gc antibodies in cancer patients is thought to induce cancer progress by triggering inflammatory reaction. In the present study, anti-Neu5Gc antibodies were measured in 40 samples of healthy women and in 40 patients with breast cancer.

Method

Anti-Neu5Gc antibodies were measured using ELISA method. Different concentrations of human IgG (Sigma) were used to produce a standard curve for the expression of relative antibody concentrations in μg/ml.

Results

The patients with breast cancer exhibited a mean concentration of 89.6 μg/ml (median=57.4μg/ml, max.=378μg/ml), much higher than that healthy individuals (mean 6.6μg/ml, SD 6.7μg/ml, median=4.0μg/ml)(p<0.000). The average and maximum concentration of anti-Neu5Gc antibodies detected in women with breast cancer were much higher than that detected by our team in patients with lung cancer (average 20.6μg/ml–23.6μg/ml, depending on the type) and ovarian cancer (average 30.2μg/ml). Higher concentrations did not correlate with metastasis occurrence.

Conclusion

Highly increased concentrations of anti-Neu5Gc antibodies were found in patients with breast cancer. Future results may elucidate if it could be used as an indicator for the prognosis of the disease.

REFERENCES

NO EVIDENCE OF HUMAN PAPILLOMAVIRUS (HPV) INFECTION ON BREAST CANCER IN INDIAN WOMEN

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Aims

Two high-risk HPV types 16 and 18 associated with development of cervical carcinoma and also reported to be present in many other carcinomas. Presence of HPV has been reported in breast carcinoma which is the second most common cancer in India. The two early genes E6 and E7 of HPV type 16 have been shown to immortalize breast epithelial cells in vitro, but the role of HPV infection in breast carcinogenesis is highly controversial. To analyze prevalence of HPV infection in both breast tissues and blood from a large number of women with breast cancer from different regions.

Method

High-risk HPV 16 and 18 DNA was detected by two PCR methods - conventional PCR using consensus primers (MY09/11, or GP5+/GP6+) or HPV16 E6/E7 primers and (ii) highly sensitive Real-Time PCR. A total of 228 biopsies and corresponding 142 blood samples collected from 252 patients from four different regions of India with significant socio-cultural, ethnic and demographic variations were tested.

Results

All biopsies and blood samples of breast cancer patients tested by PCR methods did not show positivity for HPV DNA sequences in conventional PCRs either by MY09/11 or by GP5+/GP6+/HPV16 E6/E7 primers. Further testing of these samples by real time PCR also failed to detect HPV DNA sequences.

Conclusion

Lack of detection of HPV DNA either in the tumor or in the blood DNA of breast cancer patients by both conventional and real time PCR does not support a role of genital HPV in the pathogenesis of breast cancer in Indian women.
BREAST CANCER

ESGO7-0640

BREAST CANCER IN TUNISIAN YOUNG WOMEN

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Aims

Breast cancer occurrence in young women accounts for 9-10% in Tunisia. Tumor characteristics may be more aggressive.

The aim of our study was to describe characteristics in young Tunisian patients with breast carcinoma.

Method

This was a retrospective study about 348 young women aged less than 35 years treated for breast cancer at Salah Azaiez Institute from 2000 to 2008.

Results

The mean age was 31 years. A family history of breast cancer was reported in 28 patients (8%) and pregnancy was associated to breast cancer in 25 patients. The mean tumor size was 39mm. Tumor was bilateral in 2.3% cases. Stage T2 was frequent (39.6%) followed by T4 stage (24%). Patients were metastatic at diagnosis in 11.2% cases. Ductal breast carcinoma was the most common histological subtype (90.2%). Axillary lymph node involvement was found in 61.4% of cases and Hormone receptors were positive in 194 patients (61.4%). Surgery was performed in 90.2% of cases. Radiotherapy was delivered in 75% of cases and chemotherapy was administered in 330 patients (94.8%). Hormonotherapy by Tamoxifen was adjuvant in 176 patients and ovarian suppression was performed in 155. Overall survival and disease free survival at 5 years were 71.6% and 53.9%. Prognostic factors were TNM stage, tumour size, SBR grade, lymph node involvement and capsular rupture, surgery, radiotherapy, adjuvant chemotherapy, hormonotherapy and ovarian suppression.

Conclusion

Despite therapeutic advances, the survival rates remain worse in young women. Further investigations are needed to develop awareness campaigns to improve early detection.
Aims

Breast cancer represents a major public health problem in Tunisia. Few recent studies have exhaustively investigated the special features of Tunisian patients. The aim of this study was to identify the epidemiological, clinical, histological and therapeutic characteristics of breast cancer in Tunisia.

Method

It was a retrospective study of 730 patients with breast cancer diagnosed in 2012 and treated in Salah Azaiz Institute.

Results

Our series included 730 patients. Two percent were male. The median age was 50 years. The median clinical tumor size was 35 mm. The median radiological tumor size was 25 mm. Stage T2 was predominantly observed (41.6%). A clinical nodal involvement was present in 69.8% of cases. Metastatic localization was observed in 12.5% of patients. The infiltrating ductal carcinoma was the most common histological type. The median histological size was 25 mm. Hormone receptors were positive in 75.3% of cases. Receptors Her2 were overexpressed in 21% of cases. The most common molecular subtype was the Luminal B. The nodes were positive in 57.4% of cases. Surgery was performed in 89.7% of cases. Radiotherapy was performed in 76.1% of cases. Chemotherapy was administrated to 77.9% of patients. Hormonotherapy was administered to 89.4% of patients. Castration was performed for 61.2% of patients. The Herceptin was administered to 45.3% of cases.

Conclusion

The epidemiological characteristics of breast cancer in Tunisia are mainly the young age and the large tumor size at diagnosis.
BREAST CANCER

ESGO7-0659

SENTINEL LYMPH NODE BIOPSY IN BREAST CANCER AFTER NEOADJUVANT CHEMOTHERAPY

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Aims

Sentinel node biopsy (SNB) is largely recommended in breast cancer. However it is still debatable whether this procedure can accurately predict lymph node status after neoadjuvant chemotherapy (NAC). The aim of this study was to determine the detection rate and the false negative rate of SNB after NAC in advanced breast cancer.

Method

In this transversal monocentric study, 53 patients were enrolled in Salah Azaïz Institute from June 2012 to August 2016. After neoadjuvant chemotherapy for breast cancer, all patients had sentinel node biopsy.

Results

The median age was 48 years. The median clinical tumor size was 44.96 mm. Tumors were cN0 in 34 cases and cN1 in 19 cases. The most common molecular subtype was the luminal B in 23 cases. Lymphoscintigraphy was realized in 32 patients. Detection rate of this method was 83.3%. Patent blue was injected to 47 patients and the detection rate of this method was 95%. The detection rate of the combined method was 96%. The overall SNB detection was 94%. Axillary lymph node dissection was done to all patients. A complete pathologic response was obtained in 13.2% of cases. Immunohistochemical study was performed to the three SNB and was negative. Thus, false negative rate was 16%. Negative predictive value of this technique was 91%.

Conclusion

Detection and false negative rate of SNB were successively 94% and 16%, similarly to results of many prospective studies dealt with SNB in breast cancer after chemotherapy. Because SNB after chemotherapy is still not worldwide approved, more randomised studies are required.
MALE BREAST CANCER IN TUNISIA: EPIDEMIOLOGICAL AND CLINICAL FEATURES & PROGNOSIS FACTORS

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Aims

This retrospective study has been realized to determine the epidemiological profile and clinico-pathological aspects of male breast cancer in the center of Tunisia and to analyze its therapeutic results and its prognostic factors.

Method

We analyzed all male breast cancers with a pathological proof of malignancy diagnosed in the departments of gynecology and obstetrics and general surgery of Farhat Hached hospital Sousse Tunisia, between 1997 and 2016. Survival was done with the Kaplan-Meier method.

Results

Forty four new cases of male breast cancer have been diagnosed. The average patient age was 54 years (extremes 28 and 92 years). According to the TNM classification, 6.8% were classified T1 and 43.1% T4; 18.2% were M1. Cancer was bilateral in 9%. 13.7% of the tumors were in-situ carcinomas and 86.4% ductal infiltrating carcinomas. Hormonal receptors were expressed in 45.5%. Triple negative cases represented 36.4%. Chemotherapy was indicated in 68.2% of the patients and loco regional radiation was performed in 86.4% of the cases. Hormonotherapy was prescribed in all cases of positive hormonal receptors. Overall survival rate at 5 years after diagnosis was 26% in all cases and about 55% in patients stage T1N0M0. After univariate analysis, the clinical stages T4, M1 and the pathological stage pN+ affected survival.

Conclusion

The male breast cancer in our area remains relatively less frequent than in women but its prognosis remains alarming even with gold standard treatments. To get better prognosis it is important to increase information among the population and general practitionners and to promote early detection.
BREAST CANCER

ESGO-1310

INfiltrating Mucinous ADENOCARCINOMA of the BREAST: CLINical and PATHOLOGICAL Tumor CHARACTERISTICS & PRogNostic FACTORS

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Aims

The infiltrating mucinous adenocarcinoma (IMC) is a rare and challenging entity. The aim of our study is to evaluate epidemiologic, clinical and imaging characteristics of pure infiltrating mucinous adenocarcinoma (IMC) and its prognostic factors.

Method

We report a retrospective analysis including 36 female patients with pure IMC treated at the department of gynecology and obstetrics at Farhat Hached Hospital Sousse Tunisia between 2000 and 2016.

Results

The mean age was 53 years. The tumor was classified as T1 in 2 cases, T2 in 18 and T3 in 16 cases. Axillary nodes were staged as N0 in 3 patients, N1 in 12 and N2 in 11. Bone metastases were diagnosed in 2 patients. The sensitivity of mammography and sonography for pure IMC were 66% and 92%, respectively. Breast-conserving surgery was performed in 6. The mean histological tumor size was 42.5 mm. Patients were more likely to have low grade tumors (66%) and positive hormonal receptors (89%). Adjuvant chemotherapy was administered for 31 patients. After a mean follow-up of 70 months, 4 patients developed local recurrence and 5 distant metastases (bone). The overall survival at 5 years was 71% for all patients and 83% for non metastatic ones. On univariate analysis, clinical stage T, neoadjuvant chemotherapy and lymph node involvement were the most significant prognostic factors for overall survival.

Conclusion

Women presenting with breast symptoms should be examined carefully and evaluated with an appropriate diagnostic work-up because some patients with IMC may present radiologically benign-like lesions.
Ki-67 CAN BE USED AS A PREDICTIVE FACTOR FOR THE EFFECTIVENESS OF NEOADJUVANT CHEMOTHERAPY IN BREAST CANCER PATIENTS

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Aims

Cell proliferation measurement is believed to be an important predictive factor for the success of neoadjuvant chemotherapy (NACT) in breast cancer, but its use is still controversial. The aim of the study was to determine the cut-off value of Ki-67 in breast cancer patients and evaluate its predictive potential.

Method

74 patients with locally advanced breast cancer undergoing NACT were analysed. Response to NACT was measured by pathological complete response (pCR) rate and neoadjuvant response index (NRI). All patients underwent centralized Ki-67 evaluation among other tumor characteristics. Optimal cut-off value of Ki-67 was determined using receiver operating characteristics curve while its predictive potential was confirmed using univariate and multivariate analyses.

Results

Ki-67 cut-off value of 50% was optimal for predicting both pCR rate and NRI. Patients with high Ki-67 (> 50%) achieved NRI 0.49 versus 0.32 in patients with Ki-67 < 50% (p < 0.01). Similar was shown for pCR rate (5.3% in Ki-67 > 50% group vs. 19.4% in Ki-67 < 50% group) yet pCR rate difference did not reach statistical significance (p = 0.06). Independent predictive value of Ki-67 cut-off value was confirmed using multivariate analysis.

Conclusion

Cell proliferation measured by Ki-67 is an important predictor of NACT response. Cut-off value of 50% could be used to identify patients with favorable NACT outcome and higher probability of achieving pCR.
BREAST CANCER
ESGO7-1034

LOW-DOSE METRONOMIC CHEMOTHERAPY WITH CYCLOPHOSHAMIDE AND METHOTREXATE IN METASTATIC BREAST CANCER PATIENTS

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Aims

Low-dose metronomic chemotherapy (LDMC) is increasingly used in metastatic breast cancer (MBC). In the current investigation we examined the therapeutic response of LDMC in MBC.

Method

In this retrospective analysis we focus on patients with MBC receiving LDMC with oral cyclophosphamide (CTX) (50mg daily) and methotrexate (MTX) (2.5mg every other day). Patients were treated between 2009 and 2015. Primary endpoint was disease control rate (DCR) ≥ 24 weeks after start of LDMC. DCR included complete remission (CR), partial remission (PR) and stable disease (SD). Secondary endpoints were duration of progression free survival (PFS) and rates of discontinuation due to progression and side effects.

Results

35 patients entered the study. 11 (31%) patients achieved DCR. 1 (3%) patient had CR, 6 (17%) PR and 4 (11%) showed SD, respectively. The patients had received a median of 2 (range: 1-8) lines of chemotherapy. DCR was 7/19 (37%) the first 2 lines. DCR was achieved in 8/24 (33%) hormone-positive patients and 3/11 (27%) hormone-negative patients. The median PFS was 12 (range: 6-86) weeks. 3 (9%) patients dropped out because of adverse events.

Conclusion

The DCR of 31% is in line with the results of previous phase-II-studies. This orally administered LDMC regimen has a favourable therapeutic index for advanced breast cancer patients without need for rapid response.
CERVICAL CANCER

ESGO7-0455

EXTENDED-FIELD RADIOTHERAPY WITH CONCURRENT CHEMOTHERAPY (EXTENDED-FIELD CCRT) FOR CERVICAL CANCER WITH PARA-AORTIC OR HIGH COMMON ILIAC LYMPH NODE INVOLVEMENT

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Aims

Lymph node metastasis in cervical cancer is a potentially important risk factor for recurrence. For cases of suspected para-aortic lymphadenopathy or high common iliac lymph node involvement, extended-field radiotherapy was applied. The present study aimed to retrospectively evaluate the efficacy of extended-field CCRT as primary treatment.

Method

Between January 2010 and December 2014, 26 patients with cervical cancer positive for para-aortic and/or high common iliac lymphadenopathy were treated with extended-field CCRT at our hospital.

Results

The median age was 56 years (range, 30-75), and the median size of the tumors was 55.5 mm (range, 27-106). The distribution of stage was as follows: Ib2, n=2; IIb, n=6; IIIa, n=2; IIIb, n=16, and MA, n=15. The 2- and 5-year OS rates were 86% and 52%, respectively. Eleven patients had a recurrence. Adjuvant therapy was administered to 12 patients (9 in MA), and TC therapy was administered monthly for 3 cycles after extended-field CCRT. Three patients had a recurrence (locoregional failure, n=2; distant recurrence, n=1). The other 14 patients were treated without adjuvant chemotherapy, of whom 8 had a recurrence (locoregional failure, n=4; distant recurrence, n=4). No significant differences were found in PFS or OS between the patients treated with and those treated without adjuvant chemotherapy (p=0.546 and p=0.895, respectively).

Conclusion

Extended-field CCRT appears effective as reported in previous studies. When followed by adjuvant chemotherapy, it decreased the incidence of distant recurrence. However, owing to the small number of cases in this study, the benefits of extended-field CCRT to PFS and OS could not be observed.
CERVICAL CANCER

ESGO7-0871

BASELINE SERUM PROTEIN LEVELS ASSOCIATED WITH SURVIVAL IN AXALIMOGENE FILOLISBAC (AXAL)-TREATED METASTATIC CERVICAL CANCER PATIENTS: THE GOG/NRG-0265 TRIAL

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Aims

Prognostic biomarkers that identify high-risk patients may guide treatment decisions for patients with persistent, recurrent or metastatic cervical cancer (PRmCC). To identify such biomarkers, we evaluated the association between baseline inflammation-related serum protein levels and overall survival (OS) in 45 of the 50 AXAL-treated PRmCC patients participating in the phase 2 GOG/NRG-0265 trial (NCT01266460).

Method

The levels of inflammation-related analytes in PRmCC patients’ sera, collected prior to AXAL treatment, were measured using multiplex immunoassays. Linear regression and Kaplan-Meier analysis with log-rank test were used to evaluate the association of baseline levels of individual serum proteins with OS.

Results

Baseline levels of 4 serum proteins were significantly associated with OS (P < .01) and were significantly lower in patients surviving ≥12 months than in those surviving <12 months (P < .01). Unsupervised hierarchical clustering with complete linkage identified 2 patient clusters, distinguishable by low (cluster 1) or high (cluster 2) baseline levels of the 4 serum proteins. Survival analyses revealed that while the total patient population (n=50) exhibited a 12-month OS rate of 38%, cluster 1 (n=25) exhibited a rate of 56% and cluster 2 (n=20) exhibited a rate of 15%, suggesting that the baseline levels of these 4 serum proteins have prognostic value for OS (HR=0.23; 95% CI: 0.10-0.48; P<.001).

Conclusion

We have identified baseline levels of 4 distinct serum proteins as candidate prognostic biomarkers of clinical outcome in PRmCC patients. Cluster 1 criteria may identify PRmCC patients most likely to benefit from AXAL treatment.
KNOWLEDGE OF THE LEBANESE POPULATION TOWARDS HUMAN PAPILLOMAVIRUS AND ITS IMPLICATION IN CERVICAL CANCER

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Aims

To evaluate the knowledge of Lebanese women concerning the Human Papillomavirus (HPV), its implication in cervical cancer as well as the screening methods and vaccination. To measure the pap smear and HPV vaccination uptake and to determine the factors influencing them in the same population.

Method

We have recruited randomly Lebanese women over 18 years old, residing in the greater Beirut area and with no medical history. 444 women were asked to fill out a questionnaire composed of 33 questions evaluating their knowledge about HPV and cervical cancer.

Results

14.4% had not heard of cervical cancer and 64.4% had not heard of HPV. Of those who did, 80.4% thought their information was lacking. Only 54.4% and 64.6% were aware of screening tests and vaccination for HPV respectively and over 50% could not correctly identify true facts about HPV, its diagnostic tests and vaccination. Only 37.6% had had a pap smear at least once in their lifetime whereas 9% did not know what a Pap smear was. Screening was significantly associated with cervical cancer awareness and regular visits to a gynecologist (p<0.001). Only 11.7% of participants aged between 18 to 26 years were vaccinated against HPV. Vaccination uptake was significantly associated with religion (p = 0.021), profession (p = 0.03) and regular visits to a gynecologist (p = 0.022).

Conclusion

Lebanese women are not well informed about HPV and cervical cancer. Screening by Pap smear and HPV vaccination uptakes are nonsatisfactory. Further interventions are required in order to improve these numbers.
SIZE OF THE SENTINEL NODE METASTASIS AND THE RISK OF NON-SENTINEL NODE METASTASIS IN CERVICAL CANCER

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Aims

Correlate the size of metastatic sentinel node (SLN) with the risk of non-sentinel node (N-SLN) metastasis in cervical cancer.

Method

The study included 68 patients who met the FIGO staging criteria from IA2 to IB2, treated at AC Camargo Cancer Center from May 2014 to March 2017. The patients underwent SLN mapping using patent blue dye and systematic bilateral pelvic lymphadenectomy.

Results

Median SLN count was 2 (range, 1-8) and median total lymph node (LN) count 24 (range, 6-81). Bilateral pelvic detection was found in 41 (60.3%) cases. We found metastatic LN in 11/56 (19.6%) of patients. Of the 97 hemi-pelvises mapped, SLN was able to predict LN involvement in 96 (98.9%). Two patients had bilateral positive LNS. A total of 12 hemi-pelvises had LN metastasis, and in 11 the SLN was involved, resulting in a sensitivity of 91.7%, NPV of 98.8%. In 3 (6.4%) cases the SLN was positive only after immunohistochemistry – 6 macrometastasis, 2 micrometastasis and 1 ITC. The median positive SLN was 1 (range, 1-3) – 1 patient had 2 positive SLN and another had 3 positive SLN. Of 9 patients with positive SLN, 4 (66.6%) also had positive N-SLN. Of 6 patients with macrometastasis, 2 (33.3%) had positive N-SLN (1 contralateral positive N-SLN) – 1/7 (14.2%) hemipelvises. Of 3 patients with metastasis ≤2mm, 2 (66.6%) had positive N-SLN – 1/4 (25%) hemipelvises.

Conclusion

Macrometastasis (>2mm) of SLN in cervical cancer was not related to a higher risk of N-SLN metastasis compared to SLN metastasis of ≤2mm.
DETECTION OF LYMPH NODE METASTASIS IN CERVICAL CANCER USING THE SENTINEL NODE MAPPING ALGORITHM

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Aims

Evaluate the sensitivity and negative predictive value (NPV) of sentinel node (SLN) procedure in cervical cancer, and test the SLN algorithm proposed by Memorial Sloan Kettering Cancer Center (MSKCC).

Method

The study included 68 patients, stages IA2 to IB2, treated at AC Camargo Cancer Center from May 2014 to March 2017. Following the SLN procedure with blue dye, a radical hysterectomy or trachelectomy that included parametrectomy and systematic bilateral pelvic lymphadenectomy was performed.

Results

Median SLN count was 2 (range, 1-8) and median total lymph node (LN) count 24 (range, 6-81). Fifty-six (82.4%) patients had at least 1 SLN detected. Bilateral pelvic detection was found in 41 (60.3%) cases. We found overall metastatic LN in 14/68 (20.5%) patients and in 11/56 (19.6%) of patients with SLN detected. There were 9 in 11 patients with LN metastasis with a positive SLN (one patient had positive node in hemipelvis where no SLN were found), with an overall sensitivity of 81.8% and NPV of 96.6%. Of the 97 sides mapped, SLN was able to predict LN involvement in 96 (98.9%) hemi-pelvises. A total of 12 hemi-pelvises had LN metastasis, and in 11 the SLN was involved, resulting in a sensitivity of 91.7%, NPV of 98.8%. In 3 (6.4%) cases the SLN was positive only after immunohistochemistry (2 micrometastasis and 1 ITC).

Conclusion

We found that SLN procedure is a safe and accurate technique that increases metastatic nodal detection rates by 6.4% after IHC. We found better performance of the SLN procedure when analyzing per side, however we still had one false negative even applying the MSKCC’s algorithm.
CERVICAL CANCER

ESGO7-0504

FUNCTIONAL AND ONCOLOGIC OUTCOMES OF RADICAL TRACHELECTOMY IN EARLY-STAGE CERVICAL CANCER: A PROSPECTIVE MULTICENTRIC COHORT OF 61 PATIENTS

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Aims

To assess the post-operative morbidity of patients who have undergone a radical trachelectomy for early-stage cervical cancer and the oncologic outcomes.

Method

We retrospectively analyzed the data of two prospective trials on sentinel node biopsy for cervical cancer (SENTICOL I & II) between January 2005 and March 2012 from 8 French oncologic centers.

Results

A total of 61 patients have undergone a radical trachelectomy: 41 patients by laparoscopic-assisted vaginal way, 7 patients by total laparoscopic way, 11 patients by total vaginal way and 2 patients by laparotomy. The median age was 33 years (range = 22-68 years). 88.5 % of patients had a stage IB1 disease. There were 63.9% of epidermoid carcinoma and 34.4 % of adenocarcinoma. Eighteen patients (29.5%) had only a sentinel lymph node biopsy and 43 patients (70.5%) had an additional pelvic lymphadenectomy. The median follow-up was 46 months (range = 0-85 months). There were 12 cases of urinary infections (19.6%), 6 cases of dysuria (9.8%), 3 cases of urinary incontinence (4.9%), and one case of ureteral fistula (1.6%). The genito-femoral nerve was injured in 4 cases (6.5%) and the obturator nerve was injured in 5 cases (8.2%). There were 12 cases of limb lymphedema (19.7%) and 5 cases of pelvic lymphocyst (8.2%). During the follow-up, 3 patients (4.9%) had a local recurrence and two patients died: one from a breast cancer and one from a liver metastasis.

Conclusion

The radical trachelectomy is a safe alternative option for young patient with an early-stage cervical cancer to preserve their fertility.
CERVICAL CANCER

ESGO7-0508

EARLY AND LATE MORBIDITY OF RADICAL HYSTERECTOMY WITH LYMPHADENECTOMY IN EARLY-STAGE CERVICAL CANCER: A PROSPECTIVE MULTICENTRIC COHORT OF 232 PATIENTS

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Aims

The aim of this study was to assess the post-operative morbidity of patients who have undergone a radical hysterectomy (RH) for early-stage cervical cancer.

Method

We retrospectively analyzed the data of two prospective trials on sentinel node biopsy for cervical cancer (SENTICOL I & II). Patients underwent a radical hysterectomy for early-stage cervical cancer between January 2005 and March 2012 in 23 French oncologic centers.

Results

A total of 412 patients were enrolled and 284 had a radical hysterectomy. Data were complete for 232 patients: 115 by laparoscopic-assisted vaginal way, 80 patients by total laparoscopic way, 9 patients by total vaginal way, 22 patients by laparotomy and 6 patients by robot-assisted way. The median age was 44 years (range = 25-85 years). 89.6% of patients had a stage IB1 disease. 72.4% were epidermoid carcinoma and 24.6% adenocarcinoma. Eighty-one patients (35%) had only a sentinel lymph node biopsy and 151 patients (65%) had an additional pelvic lymphadenectomy. There were 45 cases of urinary infections (19.4%), 17 cases of dysuria (7.3%), 10 cases of urinary incontinence (4.3%), and 6 cases of ureteral or vesical fistula (2.6%). The genito-femoral nerve was injured in 25 cases (10.7%) and the obturator nerve was injured in 22 cases (9.5%). There were 38 cases of limb lymphedema (16.3%) and 14 cases of pelvic lymphocyst (6%).

Conclusion

These complications rates are similar with those found in the current literature. Urinary infections and limb lymphedema are the main complications of RH. The functional outcomes could be improved by applying nerve-sparing techniques.
FUNCTIONAL AND ONCOLOGIC OUTCOMES OF TRACHELECTOMY IN EARLY-STAGE CERVICAL CANCER: VAGINAL VERSUS LAPAROSCOPIC WAYS

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Aims

To compare the vaginal radical trachelectomy (VRT) and the laparoscopic-assisted vaginal radical trachelectomy (LAVRT) surgical approaches and to provide data on functional outcomes.

Method

We prospectively included patients who were elective to a radical trachelectomy for early-stage cervical cancer between March 2009 and March 2012 from 10 French oncologic centers.

Results

A total of 32 patients were included. Eleven patients had a VRT: 5 with a sentinel lymph node detection only and 6 with an additional pelvic lymphadenectomy. Twenty-one patients had a LAVRT: 13 with sentinel lymph node detection only and 8 with additional pelvic lymphadenectomy. The median age was 35 in the LAVRT group and 34 in the VRT group. The median follow-up was 43 months (range = 0–68 months). There were more urinary infection and dysuria in the VRT group than in LAVRT group respectively, 36.4% and 23.8% and, 9% and 4.8%. The genito-femoral nerve and the obturator nerve were more frequently injured in the VRT group (27.3% and 27.3%) than in the LAVRT group (4.8% and 4.8%). There were more limb lymphedema in the VRT group than in LAVRT group, respectively 54.5% and 23.8% and more lymphocele in the VRT group than in the LAVRT group, respectively 18.2% and 9.5%. There were two recurrences and one death in the LAVRT group and none in the VRT group.

Conclusion

The functional outcomes after a radical trachelectomy seem to be better with a laparoscopic-assisted vaginal approach for the early-stage cervical cancer with an aim of fertility-sparing. Bigger population is needed.
CERVICAL CANCER

ESGO7-0622

LINA LOOP MONOPOLAR DEVICE FOR CERVICAL AMPUTATION DURING LAPAROSCOPIC RADICAL TRACHELECTOMY

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Aims

Cervical cancer is the third most common gynaecological malignancy. Irish figures state that 52% of cases are under the age of 45. We present an intraoperative video and case series of 13 patients from two tertiary centres with early stage cervical cancer who underwent laparoscopic radical trachelectomy (LRT) and sentinel pelvic lymph node sampling. LRT involves excision of the cervix, upper 2cm of the vagina, parametrium and paracolpos and is a recognized fertility preserving procedure.

Method

The video demonstrates sentinel node biopsy using ICG, nerve-sparing radical trachelectomy and cervical amputation, performed using the Lina Loop monopolar device at the level of the internal os. The utero-vaginal anastomosis was performed using a V-Loc suture. The Lina Loop allows for an accurate and safe cervical amputation and clear interpretation of pathological margins, which is demonstrated in the video.

Results

13 women (9 nulliparous) were included in the case series with ages ranging between 25 to 39 years. All cases were FIGO stage 1B1. There were eight cases of squamous cell carcinoma, four cases of adenocarcinoma and one large cell neuroendocrine tumour. Two patients received neo-adjuvant chemotherapy. Post-operative margins were clear in all cases, two patients required adjuvant treatment. There was one death in the cohort.

Conclusion

The above cases were done using the Lina Loop monopolar device to amputate the cervix. This 5mm single use device provides a more accurate amputation of the cervix than standard monopolar devices, providing excellent haemostasis and clear, even margins for pathological assessment.
MESTASTATIC PARAORTIC LYMPH NODES IN LOCALLY ADVANCED CERVICAL CANCER: DO WE NEED TO BE MORE AGGRESSIVE IN THE TREATMENT?

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Aims

To study risk factors in patients with LACC undergoing pretherapeutic laparoscopic paraaortic lymphadenectomy (LPL), as well as the progression-free and overall survival rates specifically in the subgroup of patients with metastatic paraaortic lymph nodes (PLN).

Method

Prospective study, conducted between 2009-2015, based on the review of data on demography, pathology, surgery, complications and disease-status of patients with LACC undergoing pretherapeutic LPL. All patients were treated with chemoradiotherapy and those with metastatic PLN received extended lumbo-aortic radiation therapy. Survival analysis was performed with the Kaplan-Meier method. Statistical significance was considered for p-values<0.05.

Results

The study included 139 patients. Their mean age was 49.2 years (SD10). The most frequent histologic type was SCC (77%) and the most frequent FIGO stage was IIB (48.2%). Metastatic PLN were identified in 18.7% of patients (26). The OS-rate after 28 months follow-up was 68.2 months (OR2.7; CI95%, 63-73.5). For N- patients, the mean survival time was 76.9 months (OR1.8; CI95%, 73.4-80.4) while for N+ patients; the mean survival time was 24.9 months (OR4.6; CI95% 15.9-33.9; p<0.0001). A logistic regression analysis revealed that the presence of metastatic PLN and tumor size were both independent risk factors for poor OS [(OR117.5; CI95% 11.6-990.2; p<0.0001) and (OR 21.5; CI95% 2-230.3; p=0.01)].

Conclusion

Women with LACC with metastatic PLN had a poor prognosis and low survival rate. We postulate that this finding could be accounted for by the presence of hidden systemic disease and high-recurrence rate following therapy. Efforts should be made to improve the available therapeutic schedules for this particular subgroup of patients.
MicroRNA PROFILING OF HUMAN PAPILLOMAVIRUS MEDIATED CERVICAL CANCER IN INDIAN WOMEN

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Aims

Though persistent HPV infection is needed for development of cervical cancer but HPV infection alone is not sufficient but together with other genetic factors might be responsible for cervical carcinogenesis. There are two licensed prophylactic vaccines against HPV - 16 and -18; but they are prophylactic in nature. So, there is an urgent need to find novel molecular diagnostic markers and therapeutic targets for the treatment of cervical cancer.

Method

We investigated the role of miRNAs in HPV-mediated cervical pre-cancer and cancer cases in Indian population. We analysed the HPV infection and its genotypes both in cases and controls. Also, microRNA profiling was done in a subset of cervical pre-cancer (n = 20), cancer cases (n = 50) and normal samples (n = 30) by real-time quantitative PCR (qRT-PCR).

Results

The miRNA profiling revealed that in cervical pre-cancer, 100 miRNAs were significantly (p < 0.001) differentially expressed with 70 miRNAs upregulated and 30 miRNAs downregulated. In cervical cancer cases, 383 miRNA were found to be differentially expressed (p < 0.001), of which 350 miRNAs were upregulated and 33 miRNAs were downregulated. We also observed that 182 miRNAs were differentially expressed (p < 0.001) in HPV-16/18-positive (SiHa/HeLa) cell lines compared with HPV-negative (C33A) cell line. In addition, we identified the novel microRNAs such as miR-892b, miR-500, miR-888, miR-505 and miR-711 in cervical precancerous lesions and cervical cancer cases in Indian population.

Conclusion

Ultimately, the study demonstrates a crucial role of microRNAs in cervical cancer, which may serve as potential early diagnostic markers for cervical carcinogenesis.
CERVICAL CANCER

ESGO7-1386

CLINICAL AND PATHOLOGICAL FACTORS ASSOCIATED WITH RESIDUAL DISEASE IN Hysterectomy AFTER CONIZATION FOR MICROINVASIVE CERVICAL CANCER (STAGE IA1 AND IA2) TREATMENT.

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Aims

Evaluate clinical and pathological factors associated with residual disease in hysterectomy after conization for microinvasive cervical cancer (stage IA1 and IA2) treatment.

Method

603 patients diagnosed and treated for squamous cervix microinvasive carcinoma, FIGO stage IA1 and IA2 (MIC), from 1975 to 2013 were included.

Results

CKC was performed in 333 patients (55.2%) and 270 (44.8%) LEEP. The analysis of surgical resection margins showed 489 (81.1%) free ectocervical margins and 331 (54.8%) endocervical margins. Cervical conization was definitive treatment in 170 (28.2%) patients, but in 433 (71.8%) women, a further hysterectomy was performed. Of these, 387 women with stage IA1 were treated with extra fascial hysterectomy and 46 women with stage IA2 disease or with LVSII were treated with radical hysterectomy with pelvic lymphadenectomy. Residual disease (CIN3 or MIC) was found in 179 (41.3%) hysterectomies specimens. Only one case of positive lymph nodes was detected, 32 women (5.3%) recurred during the follow up and two patients died due to the disease.

Multivariate analysis showed that conization margins involvement (OR=6.80, p<0.001) were significantly associated with residual disease. Absence of residual disease in hysterectomy specimens was associated with conization depth >19mm in woman >40yr (p=0.001) and >19.2 for all women (p<0.001) There was no significant difference in the presence of residual disease in hysterectomies, in women treated with both types of conization (p=0.204).

Conclusion

In Women, which fertility desire is a concern, the conservative treatment is a possible option. However, conization margins involvement and conization depth <19mm should be strongly avoided in exclusive conization treatment.
CERVICAL CANCER

ESGO7-0091

PRETREATMENT NEUTROPHIL:LYMPHOCYTE RATIO IN PREDICTING THERAPEUTIC RESPONSE IN CERVICAL CARCINOMA TREATED WITH CONCURRENT CHEMORADIATION

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Aims

Cancers have been linked with systemic inflammation. Neutrophil-to-lymphocyte ratio (NLR) has been investigated as prognostic markers for different cancers. The aim is to investigate the role of the pretreatment NLR and other factors in predicting response to treatment in cervical cancer patients treated with chemoradiation.

Method

This was a retrospective study with cervical cancer patients treated with chemoradiation at a single institution from January 2012 to December 2014. Primary end point was tumor response to treatment. Logistic regression analysis was used to identify prognostic factors to NLR and treatment response.

Results

A total of 150 subjects were included. The median NLR was 2.43, and patients were divided into high NLR and low NLR. Patients with low NLR had 100% complete response. Among patients with high NLR, 56% had complete response and 44% had incomplete response (p<0.01). Regression analysis showed that stage, tumor size and NLR are significant prognostic factors (p<0.01) with treatment response. The odds ratio for a complete response is decreased by a factor of 0.121 in high NLR, by 0.208 for >4cm tumors, and by 0.050 for stage III disease.

Conclusion

Pretreatment NLR may be used as parameter to predict therapeutic response to chemoradiation in cervical cancer. A low NLR is associated with good treatment response, and patients with advanced stage, larger tumor size and high NLR have lower chances of complete response to treatment.
COMPARISON OF INDOCYANINE GREEN VS RADIOCOLLOID AND/OR BLUE DYE FOR SENTINEL NODE MAPPING IN STAGE IB1 >2 CM–IIB CERVICAL CANCER: A RETROSPECTIVE EUROPEAN EXPERIENCE.

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Aims

Compare the detection rate and bilateral mapping of sentinel lymph node (SLN) in women with cervical cancer (CC) with tumor > IB1 (>2cm) by using Indocyanine Green (ICG) versus Tc99m ± blue-dye (BD).

Method

Between 2008 and 2016, 95 women with stage IB1 (>2cm), or IB2, IIA and IIB cervical cancer at final pathology who underwent SLN mapping with Tc99m ± BD (n=47) or ICG (n=48) underwent radical hysterectomy with or without BSO were retrospectively reviewed from 4 European centers. Detection rate and bilateral mapping of ICG were compared with those obtained using the Tc99m radiotracer ± BD. A lymphadenectomy was performed, and false negative rate was assessed.

Results

Overall detection rate of SLN mapping was 91.5 and 100% for Tc99m ± BD and ICG respectively. Bilateral mapping rate for ICG resulted 91.7%, significantly higher with respect to 66% obtained with Tc99m + BD (p=0.025). False negative rate was 11.5% (3 false negative cases in ICG group only). Nine out the 23 SLN-positive patients (39,1%), were exclusively diagnosed as a result of ultrastaging, that allowed to identify micrometastasis or ITC only.

Conclusion

In advanced CC (stage IB1>2cm-IIB) the real-time fluorescence SLN mapping with ICG achieved higher detection rate and higher bilateral migration rate when compared to Tc99m radiotracer ± BD. SLN and ultrastaging could provide additional information on nodal staging also in advanced CC. In this setting, ICG is a promising tool for mapping, as it seems less affected by the higher stage of disease respect to the traditional methods.
CERVICAL CANCER

ESGO7-1111

MULTIPLE ALLELE SEQUENCE IN MICA INFLUENCE SUSCEPTIBILITY TO CERVICAL CANCER IN A KOREAN POPULATION

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Aims

We aimed to identify that variants of MICA(MHC class I chain-related gene A) can influence susceptibility to cervical cancer in a Korean population

Method

A case-control study was conducted on 124 cervical cancer patients and 200 controls in Korean women. The MICA 129 genotypes, MICA 129 alleles, STR allele, and sequencing alleles frequencies of the MICA gene were compared by PCR-SBT (polymerase chain reaction-sequence base typing) method.

Results

We identified protective effects of MICA-A5 (OR = 0.4, P= 2.4 x 10^-5) And MICA*027 (OR = 0.3, P=0.2 X 10^-2 ), MICA*008:01 increased the susceptibility to cervical cancer (OR = 1.6, P = 0.043) with the same association shown with MICA-A5.1 but, no association was observed between MICA-129 allele, genotypes and risk of cervical cancer.

In subgroup analysis, MICA * 008: 01 (OR = 2.6 corrected P = 0.045) and MICA * 027 (OR = 0.2, corrected P = 0.005) allele frequency were different in HPV 16 or 18 confirmed cervical cancer patients compared to HPV non-16,18 confirmed cervical cancer patients, the susceptibility was increased and corrected P value was validated.

In MICA * 002.01, there was a difference between the two groups at Stage IIA and below. And in stage IIA and above, Odd ratio was significantly increased in MICA * 002.01.

Conclusion

Our results revealed the susceptible and protective effect of MICA*008:01, MICA*027 in the pathogenesis of HPV 16 or 18 infected cervical cancer in Korean population
CERVICAL CANCER

ESGO7-0586

POSTOPERATIVE COMPLICATIONS AND SURVIVAL AFTER PELVIC EXENTERATION: OUR EXPERIENCE ON 50 PATIENTS

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Aims

The pelvic exenteration became an ultimate, salvage therapy for patients with advanced or recurrent pelvic cancers. The aim of the study was to analyse our results regarding postoperative complications and survival after pelvic exenterations performed in a tertiary referral center.

Method

Between 2011 and January 2017, 50 patients underwent a pelvic exenteration. The indications were advanced or recurrent cervical (35 patients), vaginal (4), advanced or recurrent ovarian (7), advanced endometrial (2), recurrent vulva (1) or advanced bladder cancer (1).

Results

Out of the 50 exenterations, 25 were total, 17 anterior and 8 posterior. In respect to levator ani muscle, a supralevatorian exenteration was performed in 32 cases, an infralevatorian in 9 and an infralevatorian with vulvectomy in 9. A Bricker non-continent ileal or sigmoid urinary conduit was performed in 41 out of 42 anterior and total exenterations, and a continent orthotopic Budapest pouch in one. Four patients (8%) developed grade V Dindo-Clavien complications (perioperative deaths), 3 patients grade IVa (6%), and 12 (24%) grade IIIb. Among the 50 patients, at this moment, 28 are alive; 20 are dead because of the disease, one is dead of non-oncologic cause and one is lost to follow-up.

Conclusion

Pelvic exenteration for recurrent or advanced pelvic malignancies can be associated with long-term survival and even cure without high perioperative mortality in properly selected patients. However, postoperative complications are common and can be lethal.
ROBOTIC VERSUS LAPAROSCOPIC RADICAL HYSTERECTOMY FOR EARLY CERVICAL CANCER: A CASE MATCHED CONTROL STUDY

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Aims

To evaluate the surgical, pathological and oncological outcomes of robotic radical hysterectomy (RRH) versus laparoscopic radical hysterectomy (LRH) in patients with early-stage cervical cancer (ECC).

Method

Between 2010 and 2016, 204 patients underwent RRH (n=70) and LRH (n=134) were retrospectively evaluated and compared.

Results

No statistically significant difference were found between the two approaches with regard to clinical characteristics. Median operative time was longer in RRH (245.5 vs 210 min, p: 0.008) compared to LRH; no difference in terms of EBL, intraoperative complications and rate of conversion to open approach were revealed between the two groups. In all series, 15 patients experienced major postoperative complications, with no difference between the two groups. Pathological characteristics did not differ significantly between the two groups, as well as no significant differences were found in pathological FIGO stage, histology and tumor grade. Pathological results revealed 19 (9.3%) patients with parametrial invasion and 29 (14.2%) patients with lymph nodes metastasis. 96 (47%) patients underwent adjuvant therapy. With a median follow up of 30 months no differences in DFS (p: 0.866) and OS (p: 0.723) were found between the two groups. In all series 22 patients experienced relapse of disease and 5 died of disease.

Conclusion

The present study showed feasibility, safety of minimally invasive approach for ECC with no relevant differences in surgical and clinical outcomes between RRH and LRH.
CERVICAL CANCER

ESGO7-0733

CERVICAL CANCER PATIENTS BECOME MALNOURISHED DURING TREATMENT WITH CONCOMITANT CHEMO-RADIOThERAPY

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Aims

To evaluate the magnitude of malnutrition in cervical cancer patients that received cisplatin based chemotherapy concomitant with radiotherapy

Method

55 patients with locally advanced cervical cancer were included in this longitudinal, prospective, observational study, at the National Cancer Institute in Mexico. Nutritional evaluation was performed using objective and subjective tools, including anthropometric, biochemical and dietary data, during and after patients received treatment and standardized dietary recommendations. Percentage change and trajectory analysis were calculated, comparing the initial and final evaluations

Results

By the end of treatment, 96.3% patients lost weight (p=0.001); of these, 78.2% had severe weight loss (>5.1% weight loss); 62% patients presented anemia and all of them had lymphopenia. All patients consumed less than 95% energy required; carbohydrate intake increased, while protein and fat intakes decreased during treatment.

At the initial nutritional evaluation, 8 patients were undernourished, during treatment 31 patients, and by the third evaluation 45 patients were undernourished, showing a clinical and statistical significance (p<0.001). The percentage change between the initial and third evaluation was 462%. In other words, the number of undernourished patients increased 4 times in a period of 9 weeks. By the end of treatment only 2 patients (3.6%) presented an adequate nutritional status (p=0.001).

Conclusion

Malnutrition in cervical cancer patients undergoing chemo-radiotherapy, is clinically and statistically significant. Since nutritional status has been proven determinant in the quality of life, response to treatment and survival of patients, it is of utmost importance to take individualized nutritional measures to prevent malnutrition.
CHEMORADIOThERAPY WITH CISPLATIN VS GEMCITABINE IN PATIENTS WITH LOCALLY ADVANCED CERVICAL CANCER WITH COMORBIDITIES. RETROSPECTIVE ANALYSIS OF PATIENTS TREATED AT THE NATIONAL CANCER INSTITUTE

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Aims

Cervical cancer is third most frequent cancer in worldwide. In Mexico it represents 49% of new cancer cases in women. Standard treatment consists of chemoradiotherapy with cisplatin, which could cause impair renal function, neuropathy and ototoxicity. Currently, two emerging problems are being presented: the increase in the geriatric population and the chronic noncommunicable diseases. These variables impose an increased risk of adverse effects in patients with cervical cancer and comorbidities, which may limit them to receive standard treatment.

Objective: To Evaluate the activity and Toxicity of cisplatin vs gemcitabine chemoradiotherapy in locally advanced cervical cancer

Method

A retrospective review was conducted of 212 patients with cervical cancer diagnosis (stage FIGO IB2-IVA) and fragility data (Diabetes Mellitus type 2, systemic arterial hypertension or geriatric patients) treated with cisplatin vs gemcitabine chemoradiotherapy.

Results

Significantly more acute hematologic and gastrointestinal toxicity was present in cisplatin group. Changes in creatinine clearance, pretreatment, posttreatment, and one year after treatment were analyzed; creatinine clearance declined at one year in cisplatin group (p= 0.0001). No difference was found in terms of response rates, overall survival (OS) and disease-free survival (SLE) between the two groups. The 5-year OS was 77.2% for gemcitabine group and 86.4% for cisplatin group (p= 0.15). The 5-year SLE for the gemcitabine group was 76.8% vs 84% for the cisplatin group (p= 0.827).

Conclusion

Response and survival rates of gemcitabine group were similar to those of cisplatin, but in cisplatin group, renal function was significantly deteriorated at one year after the end of treatment, compared with gemcitabine.
SAFETY AND EFFICACY OF A QUADRIVALENT HPV (qHPV) VACCINE IN CHINESE WOMEN: RESULTS OF BASE STUDY WITH 30-MONTH FOLLOW-UP

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Aims

To assess safety and efficacy of a quadrivalent HPV (types 6, 11, 16, 18) L1 virus-like particle vaccine (qHPV vaccine, Gardasil®) in women of mainland China.

Method

A randomized, double-blind, placebo-controlled, multicenter trial was conducted among 3006 women subjects aged 20-45 years who were randomized (1:1) to receive 3 doses of vaccine/placebo at Day 1, Month 2 and 6, and followed up for 30 months (base study). The co-primary efficacy endpoints of base study were combined incidence of HPV 6/11/16/18-related 6-month persistent infection (PI) and genital disease endpoints in two age groups (20-45 and 20-26 years). Efficacy against 6-month and 12-month PI was also analyzed. Safety measurements included adverse events (AEs) within 15 days after each vaccination, deaths, vaccination-related serious AEs (SAEs), and pregnancy outcomes. (ClinicalTrials.gov registry: NCT00834106)

Results

The co-primary efficacies were 76.8% (95.6% CI: 44.8, 91.7) in women aged 20-45 years (N=3006) and 82.3% (95% CI: 38.3, 96.7) in women aged 20-26 years (N=1840). The base study met the co-primary efficacy objectives. The efficacies against HPV6/11/16/18 6- and 12-month PI were 75.9% (95% CI: 43.5, 91.1) and 94.3% (95% CI: 63.8, 99.9), respectively. Injection-site AEs were more frequent in the vaccine group (37.6% vs. 27.8%, p<0.001), while similar incidences of systemic AEs were observed (50.4% vs. 48.7%). One SAE was reported from each group. No safety issues were identified regarding the pregnancy outcomes.

Conclusion

The qHPV vaccine is generally well-tolerated and highly efficacious against HPV6/11/16/18-related PI and genital disease among Chinese women aged 20-45 and 20-26 years.
CERVICAL CANCER

ESGO7-0761

WHO’S TALKING ABOUT GYNAECOLOGICAL ONCOLOGY ON TWITTER

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Aims

Patients and physicians live in an information era dominated by the Internet and social media. Patients have unparalleled access to medical information from all sources. Much of present-day patient education occurs online through social media platforms like Twitter.

The aim of this study was to gain a better understanding of what online conversations about gynaecological cancers are taking place and what sources most commonly provide information to the general public.

Method

Over an 80 day period, individual tweets containing hashtags relating to women’s cancer were collected via the Twitter API. Data collection was limited to 14 terms relating to women’s cancers, sourced from the CDC web site.

Results

Of the 200 most linked websites on Twitter, 14% were social media (e.g. www.youtube.com), 13% were general news (e.g. www.telegraph.co.uk), 12% were medical/science news (e.g. www.medicalnewstoday.com), 12% were charity/advocacy websites (e.g. www.jostrust.org.uk), 11% were commercial websites (e.g. www.amazon.co.uk) and 8% were academic journals (e.g. oncology.jamanetwork.com).

Conclusion

The dissemination of good quality information by Healthcare professionals to patients has always presented challenges. Social media presents further challenges, as any users may broadcast or promote content without regulation. Also, social media organizations need to generate revenue and depend on advertising and other commercial entities. Our results demonstrate that only 20% of Twitter conversations that specifically tag gynaecological cancers contain links to web sites associated with credible medical or scientific professional sources. Analysis and deeper understanding of social media content allows healthcare professionals to enter this global social conversation and to leverage it for the benefit of patients.
CERVICAL CANCER

ESGO7-1030

OUTCOME OF EXTENDED PELVIC RESECTIONS, INCLUDING PELVIC NERVES, BONES AND EXTERNAL ILIAC VESSELS, PERFORMED WITH CURATIVE INTENT

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Aims

Pelvic exenteration (PE) offers a chance of 40–60% for long-term survival to selected patients with recurrent pelvic malignancies and no other curative alternative. Traditionally, the involvement of large vessels, nerves, and pelvic bones are considered contraindications. The aim of the paper is to present the outcome of the procedures performed with curative intent that go beyond the traditional limits of PE.

Method

Extended pelvic resections (EPR) were defined as procedures that included the resection of large pelvic nerves, external and common iliac vessels, and pelvic bones.

Results

EPR were performed in 20 patients with the recurrence of gynecological malignant tumours between 2011–2017. The spectrum of procedures comprised nerve resections in 18, bone resection in 5, and large vessel resection in 6 patients. No patient died of complications, but postoperative complications occurred in 12 patients, 9 of which required re-operation. Bone resection was not associated with any specific morbidity. Two cases of vascular resection required femoro-femoral artery bypass. Resection of large nerves caused functional loss and loss of sensation corresponding to individual nerve injury. Within the median follow-up of 18 months, 6 patients died of disease progression, 1 died of another cause, 2 are alive with disease, and 11 are without evidence of disease.

Conclusion

EPR is associated with specific short- and long-term morbidity; it is, however, feasible. The involvement of large vessels, nerves and bones do not represent an absolute contraindication for surgery in selected cases with pelvic recurrence.
A NEED FOR ADJUVANT RADIOTHERAPY IN HIGH-RISK STAGE IB LYMPH-NODE-NEGATIVE PATIENTS WITH CERVICAL CANCER AFTER PROPER SURGICAL TREATMENT? THE SEDLIS CRITERIA REVISITED AFTER 30 YEARS.

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Aims

The role of adjuvant radiotherapy (RT) in LN negative patients with high-risk stage IB cervical cancer is not uniformly accepted. It is advocated based on GOG RCT, which was initiated in 1989. The aim of the current study was to assess the oncological outcome of a similar cohort of patients treated recently by surgery without adjuvant radiotherapy.

Method

Data from patients who were treated by radical surgery in a single institution and who fulfilled the inclusion criteria for original GOG RCT were reviewed. None of the patients received adjuvant treatment.

Results

136 patients were included in the final analysis. Distribution of histological types and tumor size groups did not differ significantly from the GOG trial. The 2-year recurrence rate (RR) reached 7% in our study, while in the GOG trial the figures were 12% and 21% in groups with and without RT. The corresponding figure for 5-year RR was 13% in our study, but 15% and 28% in the GOG trial. The isolated pelvic RR was 4% in our trial, and 14% and 21% in the GOG trial. Only the adenosquamous histological type and the presence of micrometastases in LN were significant prognostic factors in univariate analysis in our study.

Conclusion

Excellent oncological outcome, especially pelvic control, was achieved by tailored radical surgery in high-risk IB cervical cancer patients without adjuvant RT. The substantially better outcome than in the GOG trial can be attributable to more accurate pre-operative or pathologic LN staging, improvement in surgical standards, or both.
CERVICAL CANCER

ESGO7-0988

EFFECT OF TRACHELECTOMY ON QUALITY OF LIFE, AND ONCOLOGICAL OUTCOMES IN PATIENTS WITH EARLY STAGE CERVICAL CANCER

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Aims

to follow up patients undergoing laparoscopic assisted vaginal trachelectomy by objective questionnaires in order to evaluate changes in bladder, bowel and sexual functions and compare these with patients undergoing vaginal assisted laparoscopic radical hysterectomy (RH).

Method

51 patients were included prospectively. Control group consisted of patients undergoing RH. German pelvic symptom questionare was used preoperatively and re-evaluated 6 months after surgery.

Results

Mean age of patients was 38.6 years. 26 patients underwent trachelectomy, 25 patients underwent RH. In preoperative testing median scores of all four items were comparable between patients with trachelectomy and RH. In six month control all four items and pelvic scores were comparable in two groups. When difference between changes in scores preoperatively and six months postoperatively were evaluated, all scores were also comparable but there is a tendency for higher scores in bladder function of patients undergoing RH. Regarding urinary morbidity 4 out of 26 patients (15%) undergoing trachelectomy experienced urinary problems while 40% of patients undergoing RH had urinary problems in 6 month control. Urinary morbidity in early postoperative period was more prevalent in patients with RH. However, urinary morbidity was not pronounced as higher scores in questionnaires in 6 months control. Regarding the oncological outcomes, two patients experienced early relapses.

Conclusion

Radical trachelectomy is a reasonable option for fertility preservation in young patients. Urinary morbidity is acceptable. Urinary, sexual, pelvic prolapse and bowel symptoms are not augmented after 6 months which all are important aspect long term effects of radical oncologic surgeries.
CERVICAL CANCER

ESG07-0125

PROMISING SURVIVAL RESULTS FOR DOSE-INTENSE NEOADJUVANT WEEKLY CHEMOTHERAPY, CONCURRENT CHEMORADIATION, HDR BRACHYTHERAPY AND PELVIC SIDE WALL BOOSTS IN PATIENTS WITH CERVICAL CANCER

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Aims

To audit our survival results for cervical cancer patients treated with radical radiotherapy.

Method

Retrospective review of 32 patients from Derriford Hospital (Plymouth, UK) treated March 2012-April 2015. Median follow-up 29.6 months (data locked November 2016).

Patients received pelvic external beam radiotherapy[EBRT] with concurrent chemotherapy, HDR brachytherapy and pelvic side wall boosts[PSWB]. Stage IIIB+ disease offered neoadjuvant dose-intense weekly chemotherapy.

Results

Median age: 54 years (range25-83). Histology: 18 squamous, 8 adenocarcinoma and 6 adenosquamous. TNM staging: IB=1, IIB=17, IIIB=10 and IVB=4 patients. PET staging in 31 patients; median SUV of 12 (range0-59). Median EBRT dose to pelvis 50.4Gy/28 fractions[#]; 2 patients received 45Gy/25#. 12/32 received PSWB; median dose of 3.6Gy/2# (range3.34-5Gy/2-3#). Fourteen received neoadjuvant chemotherapy; median of 6 cycles (range2-6). 29/32 received concurrent chemotherapy, median 5 cycles (range3-6). Median duration of EBRT brachytherapy was 45 days (range38-86, IQR44-50); median duration of EBRT/brachytherapy/PSWB was 49 days (range38-86, IQR45-55), 6 patients relapsed; 3 within the radiotherapy field. Median time (months) from diagnosis to relapse was 12.5 (range6-17). Four patients died. 2 year actuarial overall survival [OS] was 92% (95%CI 76-100) and 3 year OS 88% (95%CI 76-100). Actuarial relapse-free survival at 2 years 81% (95%CI 68-96) and at 3 years 76%. 10/32 patients experienced grade 3+ toxicities. Nil exploratory analyses were significant.

Conclusion

Our survival data are promising, giving credence to current hypotheses being explored in clinical trials of definitive chemoradiotherapy in cervical cancer (e.g. minimum 5 cycles of concurrent chemotherapy, total treatment time <50 days, adequate brachytherapy dosage (ICRU 89), and use of neoadjuvant/adjuvant chemotherapy).
INTRAOPERATIVE AND POSTOPERATIVE MORBIDITY IN SENTINEL LYMPH NODE BIOPSY VS PELVIC LYMPHADENECTOMY IN EARLY-STAGE CERVICAL CANCER

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Aims

To compare the morbidity associated to lymph node staging in patients with early-stage cervical cancer undergoing sentinel lymph node biopsy (SLNB) vs. bilateral pelvic lymphadenectomy (LDN).

Method

Retrospective cohort study in patients with FIGO IA1-IB1/IIA1 cervical cancer. From February 2001 until May 2011 lymph node staging was performed by SLNB and LDN and between June 2011 and October 2016 by only SLNB, being LDN performed when SLNB was unilaterally or non-detected. When SLNB was intraoperatively positive, para-aortic lymphadenectomy was performed in order to plan the radiation field. Otherwise, radical surgical treatment was performed. Intraoperative and early postoperative complications following Clavien-Dindo classification were assessed.

Results

We recruited 134 patients. Fifty-four patients were included in the SLNB group and 80 in the LDN group. The median age of the whole cohort was 43 years (range 22-76). Ninety patients (67.2%) presented tumors ≤ 2cm. Most of the patients had FIGO stage IB1 (121/134, 90.3%) and squamous cell carcinoma (91/134, 67.9%). No differences regarding type of surgery (trachelectomy vs. histerectomy) and rate of para-aortic lymphadenectomy was observed between both groups.

In the SLNB group we observed 1 (1.8%) intraoperative complication (urinary tract lesion). In the LDN group, we observed 4 (5%) intraoperative complications (2 urinary tract lesion, 1 vascular lesion and 1 intestinal lesion). We observed a lower rate of Clavien-Dindo ≥ II complications in SLNB group compared with LDN group (5.5% vs. 11.2%). All these differences were not statistically significant.

Conclusion

SLNB seems to be associated with less intraoperative and early postoperative morbidity compared with LDN.
A PHASE III STUDY OF ORAL ONDANSETRON VERSUS TRANSDERMAL GRANISETRON FOR WOMEN WITH GYNECOLOGIC CANCERS RECEIVING PELVIC CHEMORADIATION

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Aims

Pelvic radiation with cisplatin is highly emetogenic and late onset (days 4-7) nausea and vomiting occurs in > 25% of these women. The objective of this study was to measure response rates to anti-emetic therapies of granisetron administered via a transdermal patch (TG) compared to orally administered ondansetron (OO) in women with cervical, endometrial or vaginal cancer undergoing chemoradiation therapy.

Method

Eligible patients were assigned either granisetron formulated in a transdermal patch replaced every 7 days or 8 mg of ondansetron orally thrice daily starting with cisplatin administration and continued for 72 hours after chemotherapy infusion using outcome adaptive randomization. The primary endpoint was complete response to anti-emetic therapy on days 4-7 of chemoradiation therapy. Data on compliance/ease of administration, amount of nausea and vomiting, and effect of nausea and vomiting on quality of life were collected.

Results

Seventy-five women were randomized. The majority of patients were receiving chemoradiation for cervical cancer (83%) followed by endometrial (14%) and vaginal cancers (3%). TG achieved a success rate of 49.8% (90% CI 37.5-62.1%) and OO achieved a success rate of 39.7% (90% CI 26.6%-53.5%). The posterior probability that TG achieved a higher success rate in controlling late onset nausea and vomiting compared to OO was 82%. There was no difference between the 2 groups in the compliance or in the effect of nausea and vomiting on quality of life.

Conclusion

Transdermal granisetron is better than oral ondansetron in controlling late onset nausea and vomiting from pelvic radiation with weekly cisplatinum in women with gynecologic malignancies.
CERVICAL CANCER STAGING IN THE NORDIC COUNTRIES - SURVEY FROM THE NORDIC SOCIETY OF GYNECOLOGICAL ONCOLOGY (NSGO)


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Aims

In the Nordic countries much resources are spent on pretreatment imaging like ultrasound, MRI, PET-CT or CT, and sentinel node for cervical cancer patients. The NSGO surgical group performed this survey to collect information about the use of these modalities, handling of the information gained, and how the information is integrated into the treatment algorithm.

Method

We conducted a questionnaire-based survey from 1 January to 31 March 2017. The NSGO surgical group elaborated a questionnaire in the fall 2016. In the five Nordic countries, all 22 Gynecological Oncology Centers were invited to participate. (Denmark 5, Finland 5, Iceland 1, Norway 4, and Sweden 7).

Results

The questionnaires were returned by 19 (86%) centers. The median number of cases treated in each center was 32 (15-120). All, except one center that only used PET-CT, used a combination of imaging for treatment planning. Eighteen (94%) centers used MRI and 15 (79%) centers used PET-CT. The clinicians knew the imaging results before FIGO clinical staging in 14 (74%) centers. The result of the imaging had an influence on the clinical staging in more than half of the centers, 11 (58%). Sentinel node was a routine procedure in three (16%) centers and was used in protocol in five (28%) centers.

Conclusion

The majority of the Nordic Gynecological Oncology Centers report a FIGO clinical stage influenced by pretreatment imaging. Therefore, the NSGO surgical group plans to elaborate a proposal for future amendments of the staging guideline and streamlining the reporting of the stage to increase transparency of results.
CERVICAL CANCER

ESGO7-0039

COST UTILITY ANALYSES DEMONSTRATING SUPPORT FOR INDICATION SPECIFIC PRICING FOR THE TARGETED THERAPY BEVACIZUMAB

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Aims

Medications in the U.S. are approved because of safety and efficacy not price. The object of this study was to see what potential prices would look like if indication specific pricing existed for bevacizumab in cervical and colon cancer using various willingness to pay (WTP) thresholds ($50,000 – 150,000/QALY).

Method

Information from two phase III studies was examined with pharmacoeconomic techniques, specifically Markov analysis and deterministic sensitivity analysis.

Results

The per cycle cost of bevacizumab for both indications is currently $10830 for a standard 100 kg patient ($72.03/10mg, Medicare Average Sales Price (ASP)+6%). If a WTP of $50,000/QALY was used, the cost of bevacizumab should be lowered to $29.15/10mg for cervical cancer and $11.80/10mg for colon cancer. If instead a WTP of $100,000/QALY was the target, the cost would be decreased to $63.38/10mg for cervical cancer and $30.22/10mg for colon cancer. Alternatively, if a WTP $150,000/QALY was chosen, the price would be increased to $97.63/10mg for cervical cancer and still decreased to $48.78/10mg for colon cancer. This would be a 36% increase in cost per dose for a cervical cancer indication and a 32% decrease in cost per dose for an indication of colon cancer.

Conclusion

Indication specific pricing would change prices for bevacizumab when used for cervical cancer and colon cancer depending on the WTP target.
CERVICAL CANCER

ESGO7-1000

PROGNOSTIC VALUE OF THE CONUT - SCORE IN PATIENTS WITH CERVICAL CANCER

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Aims

The pretreatment Controlling Nutritional Status (CONUT) Score was established as a screening tool for early detection of poor nutritional status. However, it is an independent prognostic marker in oncologic patients, the prognostic value in patients with cervical cancer is still unknown.

Method

The pretreatment CONUT – Score of 429 patients with cervical cancer was calculated. Patients were classified as either as „low risk or „high – risk“ depending on their score. The Patients’ prognosis was calculated by uni- and multivariated analysis.

Results

371 patients (86.3%) had a low risk, 59 (13.7%) patients a high risk CONUT Score. In univariate analysis, patients in the high risk group were associated with a shorter overall survival (p=0.024). Thus, those results couldn’t be verified in the multivariate analysis (HR 1.3 [0.8-2.3], p=0.33). There was a significant association between the CONUT – Score and tumor stage (OR 3.4 [1.8-6.2], p<0.001) and tumor Grading (OR 6.6 [0.9-49.1], p=0.04) There was no significant result regarding the patients’ age or the histological subtype.

Conclusion

The overall survival of patients with cervical cancer and a CONUT – Score > 2 was significantly shorter. A CONUT Score >2 was associated with severe malnutrition. The benefit of nutritional intervention in patients with pretherapeutic malnutrition should be investigated in further studies.
CERVICAL CANCER

ESGO7-0535

SMALL CELL NEUROENDOCRINE TUMORS OF THE CERVIX (SCNEC). DO TUMOR CHARACTERISTICS AND ORDER OF MULTIMODALITY THERAPY INFLUENCE OUTCOMES IN EARLY STAGE DISEASE?


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Aims

To report our experience in the management of women with SCNEC. To explore favorable tumor and treatment characteristics related to survival.

Method

All cases with SCNEC treated at our institution from 01/1978-12/2015 were identified. Demographic, pathologic, treatment and survival-data were collected. Appropriate statistical methods were applied.

Results

64 women met inclusion criteria. 22 (34%) presented as early stage (ES) (I-IIA), 41% (9/22) had lymph node metastasis (LNM). 20/22 (91%) ES cases underwent initial radical surgery accompanied by platinum-based neoadjuvant chemotherapy (NACT) in 10/20 (50%), adjuvant chemotherapy (AdCT) in 6 (30%) and adjuvant radiotherapy in 4 (20%). NACT versus surgery as initial therapy did not influence overall survival (OS) (p=0.72). There was no association between ≤3NACT<3 cycles and recurrence free survival (RFS) (p=0.61) or OS (p=0.55). Tumor size ≤ 4cm< did not influence RFS (p=0.31) or OS (p=0.08). Early versus advanced stage (AS) was not associated with RFS (p=0.073), it was however associated with OS (p=0.002). Presence of LNM negatively influenced RFS (p= 0.015) and OS (p=008). With a median follow up of 23.3 months (range 0.4+315.7) 1 patient is currently without evidence of disease. Median time to recurrence was 28.1 months in ES and 13.5 months in AS. The 5-year OS was 49.4% for ES and 18.1% for AS.

Conclusion

SCNEC is an aggressive disease. LNM and AS were negatively associated with survival. NACT versus AdCT did not influence survival. Targeted therapies being investigated for small cell lung cancer should also be tested for patients with SCNEC.
CERVICAL CANCER

ESGO7-0774

RECURRENT FREE SURVIVAL AFTER SENTINEL LYMPH NODE BIOPSY IN PATIENTS WITH EARLY-STAGE CERVICAL CANCER

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Aims

To compare recurrence free survival (RFS) in women with early-stage cervical cancer who were primarily treated by radical surgery and pelvic bilateral lymphadenectomy (LDN) versus sentinel lymph node biopsy only (SLNB).

Method

From 02/2001 until 05/2011, patients with FIGO stage IA1-IB1/IIA1 cervical carcinoma underwent SLN biopsy followed by complete pelvic LDN as part of their primary treatment in University Hospital Clinic (Barcelona, Spain). Between 06/2011 and 10/2016, patients underwent radical surgery after SLNB. Patients underwent complete preoperative staging workup and were treated by radical hysterectomy or radical tachelectomy. Patients in whom SLN were detected unilaterally or not detected underwent a complete lymphadenectomy of the failed mapped side. SLN were evaluated by pathologic ultrataging. Intraoperative and postoperative as well as follow up data were prospectively recorded. SPSS 20.0 was used for statistical analysis.

Results

80 patients underwent radical surgery plus LDN and 54 patients underwent surgery with SLNB. No differences regarding age at diagnosis, size of the tumor (≤ 2cm vs > 2cm), FIGO stage, histology type and type of surgery were seen between both groups. Median follow up time was 60.6 months (0.13-190.3). Detection rate of the sentinel node group was 96% and it was bilaterally detected in 47 patients (87%). 121 patients were node negative patients, 73 LDN- and 45 SLNB-. No statistically significant differences were seen in term of RFS between both groups with negative nodes.

Conclusion

Patients with SLNB negative at the time of primary surgery seem to have the same RFS than patients with LDN negative nodes.
CERVICAL CANCER

ESGO7-0330

LAPAROSCOPIC PELVIC EXENTERATION FOR RECURRENT OR COMPLICATED PELVIC TUMORS: ANALYSIS OF TECHNIQUE AND POSTOPERATIVE OUTCOMES
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Aims

Pelvic exenteration is an ultra-radical surgical procedure with both palliative and curative intent in management of pelvic tumors. It remains one of the most difficult with high postoperative morbidity (31-90%). We want to represent our experience in performing laparoscopic pelvic exenteration (LPE).

Method

In 2012-2017 we performed 16 LPE (9 total, 4 anterior and 3 posterior). Indications were central pelvic recurrence of cervical (9), colorectal (6) and bladder cancer (1) after combined chemo-radiotherapy and surgery, complicated with different fistulas. Five ports technique was used in all cases. Dissection was performed with harmonic scissors and bipolar. Colorectal reconstruction: terminal colostomy (7) or anastomosis (5). For urinary diversion an ileal-loop conduit (the Bricker technique) was used. Uretero-ileostomy and stenting were performed intracorporally (2) and extracorporally (11).

Results

Average age 44.2(31-66) years. Average operative time 392(295-520) minutes. Estimated blood loss 295(95-500) ml. Mean length of hospital stay 8.9(5-14) days. The number of lymph nodes harvested 16 (5-34). Postoperative complications grade IIIB-IV (Clavien-Dindo, 2004) occurred in 6 patients (37,5%): anastomotic leak (4) with 2 relaparoscopy; small intestine perforation (1) with relaparoscopy and suturing; arterial thrombosis with multiple organ failure and death (1). Grade I-IIIA complications: gastroparesis (3), seroma (2), lymphocyst (2), positional fibular neuritis (1). After 1 year 10 out of 15 patients (66,7%) were alive, after 2 years: 4 out of 12 (33,3%).

Conclusion

Laparoscopic pelvic exenteration is technically feasible and can be offered to carefully selected patients with locally advanced pelvic tumors. Potential postoperative advantages of laparoscopic approach are faster recovery and relatively low morbidity.
CERVICAL CANCER

ESGO7-1277

IMPACT OF PLATELET, LEUCOCYTE AND HEMOGLOBIN VALUES ON THE PROGNOSIS OF LOCALLY ADVANCED CERVICAL CANCER

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Aims

To evaluate the prognosis value of pretreatment leucocyte, platelet and hemoglobin disorders in locally advanced cervical cancer (LACC).

Method

We conducted a prospective study of 240 patients treated from 2007 to 2015 at Gustave Roussy for LACC with negative PET imaging of the PA area and undergoing laparoscopic PA lymphadenectomy. Patients with a poor prognosis histologic subtype or peritoneal carcinomatosis were excluded. All patients were treated by chemo-radiation and brachytherapy. All patients had preoperative blood cell count and clinical follow-up.

Results

Patients had clinical International Federation of Gynecology and Obstetrics stages IB2 (n =79), IIA (n=10), IIB (n=124), III (n=18), or IVA (n=9). One hundred ninety-one patients had squamous carcinoma, 43 had adenocarcinoma/adenosquamous lesions and 6 clear cells carcinoma. Twenty-two patients (9%) had nodal involvement (false-negative PET imaging). median follow-up was : 53 months [48-59]. We identified three cut-off whose impact disease free survival at 36 months: 114 g/L for hemoglobin (81% [75-89] vs 62% [52-74], p < 0.001); 11.7x10⁹/L for leucocyte (48% [32-73] vs 79% [73-85], p < 0.001); 308x10⁹/L for platelet (65% [54-77] vs 79% [73-87], p = 0.005) for patients above and under the cut-off respectively.

Conclusion

Leucocyte, platelet and hemoglobin are significant prognostics factors for relapse in locally advanced cervical cancer. Those biomarkers could help identifying patients with higher risk of relapse and requiring new strategies as neo-adjuvant and adjuvant chemotherapy.
CERVICAL CANCER

ESG07-1105

MANAGEMENT OF VERTEBRAL METASTASIS IN PATIENTS WITH UTERINE CERVICAL CANCER

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Aims

We sought to identify risk factors and management options for uterine cervical cancer (UCC) patients with a vertebral metastasis (VM) treated over the course of 23 years.

Method

Among 844 UCC patients, 18 were diagnosed with a VM. Thirty-six control patients with UCC but without recurrence were matched to these 18 in terms of stage and histological tumor type using a dependent random sampling method. A logistic regression analysis was employed to identify factors prognostic of VM; the results are presented as odds ratios with 95% confidence intervals (CIs).

Results

The mean survival time after VM treatment commenced was 12.1 ± 2.7 months (95% CI=5.3–12.6 months) in patients who received chemotherapy (CT) and 15.0 ± 2.3 (95% CI=9.7–14.2) months in those treated via chemoradiotherapy (CRT) (P=0.566). In patients who underwent CT, the 1- and 2-year survival rates after recurrence were 19.2% and 0%, respectively. However, these figures were 50% and 8.3% in those treated via CRT. Both lymphovascular space invasion (LVSI) and mean corpuscular volume were risk factors for VM. Cox’s regression analysis showed that these prognostic factors had no effect on survival duration after recurrence.

Conclusion

We found that patients with LVSI were at high risk for isolated VM and that the survival times after CT and CRT were similar.
DO PATIENTS AND PHYSICIANS ACCEPT LESS RADICAL PROCEDURES OFFERING LOWER MORBIDITY IF THEY ARE ASSOCIATED WITH HIGHER ONCOLOGICAL RISK?

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Aims

This prospective survey study aimed to evaluate the opinions of women who underwent radical surgery for cervical cancer (CC) and physicians who treat CC about the acceptability of increased oncological risk after less radical procedures in the surgical treatment of CC.

Method

Patients (n=182) and physicians (n=101) were asked whether they would accept any additional oncological risks, which can be attributable to the omission of parametrectomy (radical hysterectomy/trachelectomy vs. simple hysterectomy/trachelectomy) and omission of PLND (systematic resection vs. sentinel lymph node (SLN)) sampling, if these less radical procedures offered diminished postoperative morbidity.

Results

Although more than half of the patients (52.2%) reported morbidity related to the previous treatment, the majority of them would not accept less radical surgical treatment if it was associated with any increased risk of recurrence (50–55 % No risk and 17–24% risk < 0.1%). Physicians tend to accept a significantly higher risk than patients in the Czech Republic but not in Turkey (Table 1). Risk acceptance was not significantly modified by the type of the procedure. Patients with higher education levels, advanced stage disease, adverse events related to previous cancer treatment, and patients that received adjuvant therapy were significantly more likely to accept an increased oncological risk. Physicians’ risk acceptance increased only with age (Table 2).

Table 1. Comparison of risk acceptance between patients and physicians

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<th>TURKEY (N=184)</th>
<th>Physicians (N=47)</th>
<th>Statistical evaluation: p-value1</th>
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<td><strong>SUBJECTIVE ONCOLOGICAL RISK ACCEPTANCE in %</strong></td>
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<td>presented as mean (95% confidence interval)</td>
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<td>Simple hysterectomy instead of radical hysterectomy</td>
<td>1.1 (0.7; 1.5)</td>
<td>0.6 (0.1; 1.0)</td>
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<td>Removal of sentinel lymph nodes only instead of pelvic lymphadenectomy</td>
<td>0.7 (0.4; 1.0)</td>
<td>0.6 (0.3; 1.0)</td>
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<td>Simple trachelectomy instead of radical trachelectomy</td>
<td>1.5 (1.0; 2.0)</td>
<td>0.7 (0.3; 1.1)</td>
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<td>1.1 (0.9; 1.3)</td>
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<thead>
<tr>
<th></th>
<th>CZECH REPUBLIC (N=99)</th>
<th>Physicians (N=54)</th>
<th>Statistical evaluation: p-value1</th>
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</thead>
<tbody>
<tr>
<td><strong>SUBJECTIVE ONCOLOGICAL RISK ACCEPTANCE in %</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>presented as mean (95% confidence interval)</td>
<td></td>
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<tr>
<td>Simple hysterectomy instead of radical hysterectomy</td>
<td>1.0 (0.6; 1.4)</td>
<td>0.6 (0.1; 1.0)</td>
<td>0.031</td>
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<td>Removal of sentinel lymph nodes only instead of pelvic lymphadenectomy</td>
<td>1.2 (0.8; 1.6)</td>
<td>1.7 (1.1; 2.4)</td>
<td>0.004</td>
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<td>Simple trachelectomy instead of radical trachelectomy</td>
<td>1.3 (0.8; 1.8)</td>
<td>2.0 (1.2; 2.7)</td>
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<td>Total</td>
<td>1.2 (0.9; 1.4)</td>
<td>1.7 (1.3; 2.1)</td>
<td>&lt; 0.001</td>
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</table>

The answers to the risk acceptance questions are treated as continuous variables.
Conclusion

Patients, even if they suffer from morbidity related to previous treatment of CC, do not want to choose between oncological safety and better QoL. Physicians tend to accept the higher oncological risk associated with less radical surgical procedures, but attitudes differ regionally.
CERVICAL CANCER

ESGO7-0991

ASSISTED MOLECULAR STAGING GUIDED BY ONE-STEP NUCLEIC ACID AMPLIFICATION (OSNA) IN ADVANCED CERVICAL CANCER: A PROSPECTIVE STUDY

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5Institut cancerologie de l’ouest, oncology, nantes, France

Aims

Radiochemotherapy is the standard treatment for locally advanced cervical cancer. Para-aortic (PA) lymph nodes metastases remain a poor prognostic factor. Recently, a multicentric prospective study has reported the same survival rate for patients with PA nodal metastases ≤ 5 mm treated by an extended radiation field and patients pN0. Detecting occult metastases in PA lymph nodes may have an impact on survival.

We aimed to compare prospectively the accuracy of OSNA with both standard Hematoxylin and Eosin (H&E) analysis and intensive histopathology for the detection of lymph node metastases of cervical cancer.

Method

A total of 127 lymph nodes from 10 patients with stage FIGO ≥ IIb cervical cancer were assessed. Among them, 68 were also assessed by OSNA. Half of each lymph node was analyzed initially by H&E followed by an intensive histologic workup: 5 levels of H&E and immunohistochemistry analyses. The other half was analyzed using OSNA.

The OSNA method is based on the detection of CK19 mRNA as a marker for cervical cancer. The positivity of the CK19 was investigated on the prior cervical biopsy. A cut off value of 250mRNA copies/µL was used.

Results

The concordance rate was 79%. 14 cases were discordant: 12 OSNA-positive/histology negative (11 micrometastasis) and 2 OSNA-negative/histology positive (2 macrometastasis). OSNA was more sensitive for detecting micrometastasis compared with H&E and resulted in an upstaging of 5 of 10 patients.

Conclusion

OSNA appeared to be a promising molecular tool for the detection of lymph nodes metastasis and may lead to an interesting upstaging.
CLINICAL SIGNIFICANCE OF ATYPICAL GLANDULAR CELLS IN CERVICAL PAP SMEARS: AN ANALYSIS OF 329 CASES AT A SINGLE INSTITUTION
T.K. Jang¹, S.W. Lee¹, D.Y. Kim¹, D.S. Suh¹, J.H. Kim¹, Y.M. Kim¹, Y.T. Kim¹, J.H. Nam¹, J.Y. Park¹
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Aims
To determine the rate of clinically significant histopathologic lesions by analyzing patients identified as atypical glandular cells (AGC) in Papanicolaou (pap) test

Method
Data were collected from histopathologic results of women identified as AGC in the pap test from 1999 to 2008. There were 503 cases reported as AGC, 329 women with AGC who underwent histopathologic evaluation including colposcopy directed biopsy, loop electrical excision procedure, endocervical curettage and endometrial biopsy were analyzed to correlate with AGC on pap test.

Results
Among 329 women with AGC who underwent histologic follow up, clinically significant histologic results including pre-cancerous lesions and cancer lesions were diagnosed in 58 women with AGC (17.6%). Of the 58 patients, 23 (7%) were diagnosed with pre-cancerous lesions including cervical intraepithelial neoplasia (CIN) 2-3 and endometrial hyperplasia (EH), and 35 (10.6%) were diagnosed with cancer including cervical/endometrial carcinoma. Cervical carcinoma in situ (CIS)/invasive carcinoma and endometrial carcinoma were identified in 5.5%, 2.7%, and 2.1% of cases, respectively

Conclusion
AGC results on pap test indicated clinically significant lesions in approximately 15% of our cases. These results support that women with AGC should require the need for histologic confirmation of the uterine cervix and endometrium including colposcopy directed biopsy, endocervical curettage and endometrial sampling.
CERVICAL CANCER

ESGO7-0679

MUTATIONAL ANALYSIS OF KRAS AND ITS CLINICAL IMPLICATIONS IN CERVICAL CANCER PATIENTS

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Aims

The predictive and prognostic role of KRAS mutations in cervical cancer remains inconclusive. The aim of this study was to explore the clinicopathological and prognostic relevance of KRAS mutations in invasive cervical cancers (ICC).

Method

Reverse transcription polymerase chain reaction (PCR) and Sanger sequencing were employed to detect KRAS mutations in 876 ICC patients. Quantitative real-time PCR was used to detect human papillomavirus (HPV) 16 and HPV 18.

Results

Non-synonymous mutations of KRAS were identified in 30 (3.4%) patients. These mutations were more common in non-squamous carcinoma than in squamous cell carcinoma (8.2% vs 2.2%, respectively, p<0.001) and were associated with HPV18 infection (p=0.003). The prevalence of mutations was highest (19.2%) in the uncommon histological subtypes followed by adenocarcinoma (7.3%) and adenosquamous carcinoma (5.8%). During the median follow-up of 55 months, compared to patients with wild-type KRAS, a greater percentage of patients with mutant KRAS relapsed (20.0% vs 42.9%, respectively, p=0.007; Fisher’s exact test). The 3-year relapse-free survival (RFS) was poorer in patients with mutant KRAS than in patients without KRAS mutations (57.1% vs 81.9%, respectively, p=0.001). Furthermore, the multivariate analysis showed that the presence of a KRAS mutation was an independent predictor for disease recurrence (HR=2.064, 95% CI: 1.125–3.787, p=0.019).

Conclusion

KRAS mutations were predominant in non-squamous cell carcinomas of the cervix and were associated with HPV 18 infection. A combination of KRAS mutation detection and HPV genotyping would be useful in identifying patients with poor prognosis for further interventions.

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CERVICAL CANCER

ESGO7-0323

OUTCOME OF WOMEN WITH HIGH-GRADE CERVICAL INTRAEPITHELIAL NEOPLASIA (CIN 2/3) AFTER RECEIVING LOOP ELECTROSURGICAL EXCISION PROCEDURE (LEEP)

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Aims

The aims are to present the long-term outcome after loop electrosurgical excision procedure (LEEP) for high-grade cervical intraepithelial neoplasia (CIN2/3) and to identify the rate and risk of treatment failure.

Method

We reviewed retrospectively 1105 cases, confirmed to CIN2/3 after LEEP at our center from 2000 to 2009. Patients were followed with cervical cytology and HPV test. If the results were abnormal, patients received cervical biopsy. The CIN2 or worse was considered as treatment failure.

Results

During a mean follow-up of 94.6 months (range, 60-144), 100 cases (9.0%) had treatment failure; 6.1% in the first 2 years, 1.8% between 2 and 5 years, and 1.1% beyond 5 years. Excision margin involvement and positive result of immediate endocervical cytology after LEEP were significant risk factors for treatment failure (HR=4.280; 95% CI, 2.579-7.105; p<0.001 and 6.696; 2.832-15.833; p<0.001, respectively). Especially, positive endocervical margin had higher risk compared to positive ectocervical margin (5.743; 3.655-9.742; p<0.01 vs. 3.725; 2.627-6.835; p<0.01). Persistent or recurrent infection with HPV-16 (2.417; 1.527-4.484; p<0.01), HPV-18 (3.518; 1.941-6.715; p<0.01) or HPV-58 (1.460; 1.143-2.815; p=0.03) was associated with treatment failure in positive margin group. Persistent or recurrent infection with HPV-16 (3.742; 2.590-6.743; p<0.01), HPV-18 (4.155; 2.610-8.594; p<0.01), or HPV-31 (1.385; 1.092-2.475; p=0.03) was associated in negative margin group.

Conclusion

LEEP is effective, however, treatment failure can appear for a long time. Excision margin involvement and positive endocervical cytology after LEEP are strong predictors for treatment failure. Persistence or recurrence of HPV-16/18 increase the probability of treatment failure regardless of excision margin involvement.
IMIQIMOD AS A VALUABLE OPTION FOR YOUNG WOMEN WITH HIGH GRADE SQUAMOUS EPITHELIAL LESION (HSIL): A RETROSPECTIVE STUDY

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¹ASAN Medical center, Obstetrics and Gynecology, Seoul, Republic of Korea

Aims

In young women, it is not easy to decide on excisional therapy for cervical intraepithelial neoplasia (CIN). We aimed to evaluate how effective topical imiquimod is in the treatment of high-grade CIN in young women.

Method

Patients with high-grade CIN were allocated to this study. They required a once-a-week hospital visit for 8 weeks for the application of imiquimod to the cervix by a specialist. If the lesion got worse, we decided to convert to excisional therapy.

Results

A total of 55 patients with a median age of 30 years (range, 22–42 years). Twenty-nine patients (52.7%) had cervical intraepithelial neoplasm 3 (CIN)3, and 24 (43.6%) had CIN2 on initial biopsy. Two patients had high-grade squamous intraepithelial lesion (HSIL) on their PAP without punch biopsy. Fifty-two patients (94.5%) finished the 8-week imiquimod therapy and two patients were treated with additional imiquimod therapy. One patient stopped treatment because of pregnancy. On the last examination, 32 patients (59.2%) had negative intraepithelial lesions, 7 (12.7%) had atypical squamous cells of undetermined significance, and 4 (7%) had LSIL. Three patients (5.6%) had ASC-H. Two of them underwent loop electrosurgical excision procedure (LEEP). The results were CIN3. Eight patients (14.8%) had persistent HSIL: 5 patients underwent LEEP, resulting in CIN 3 except two patients with superficially invasive squamous cell carcinoma.

Conclusion

This study showed that topical imiquimod therapy was effective for the treatment of high-grade CIN, with a regression rate of 79.6%, and HPV eradication rate of 33.3%. To confirm its efficacy, a phase II study with larger cohort would be needed.
CERVICAL CANCER

ESGO7-0064

RISK FACTORS OF DIAGNOSTIC DISCREPANCY BETWEEN COLPOSOCRALLY DIRECTED BIOPSIES AND LOOP ELECTROSURGICAL PROCEDURE CONIZATION OF THE UTERINE CERVIX

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Aims

This study aimed to determine the factor of pathologic discrepancy between colposcopically directed punch biopsies and LEEP conization.

Method

A total of 1,200 patients with conization were identified in our center between 2004 and 2016, 667 patients of whom underwent all of cervical cytology, HPV test, punch biopsy, and conization were included in retrospective study. We analyzed patient's age, menopausal status, number of delivery, abortion times, visualization of the entire transformation zone, number of punch biopsies and duration of between punch and conization.

Results

Logistic regression analysis of the final diagnosis showed that reproductive age and HPV type were associated with cancer diagnosis, while ASC-H, HSIL and HPV type 16 affected the diagnosis of CIN2. The overall concordance rate of histopathology between the punch biopsy and LEEP conization was 43.3%. The rates of detecting a more severe lesion by LEEP conization than gained by biopsy (biopsy underestimation) were 23.1%. The rates of a less severe lesion detected by LEEP conization than gained by biopsy (biopsy overestimation) were 33.6%. Logistic regression analysis of discrepancy has demonstrated that less than 1 time of vaginal delivery, HSIL, number of punch biopsies and HPV type were factors of biopsy underestimation. Punch biopsies number is a unique factor of biopsy overestimation.

Conclusion

Patients with ASC-H, HSIL and HPV type 16 may undergo conization immediately without punch biopsy by the colposcopic findings. Number of 3 or 5 punch biopsies affected both biopsy underestimation and overestimation. We suggest that colposcopically directed 3-5 punch biopsies may be used to determine conization.
MEDICOBIOLOGICAL PROPERTIES OF PHOTOLON IN A EXPERIMENTAL MODEL

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4NN Alexandrov National Cancer Center, Isotopic laboratory with unsealed sources complex, Minsk, Belarus

Aims

Evaluating the dynamics of Photolon sensitizer accumulation in HeLa tumor cells and it's photodynamic activity by the criteria of cytostatic and cytotoxic effects.

Method

The in vitro studies were performed on a monolayer culture of HeLa tumor cells. The cellular culture was grown in the nutritious Medium 199 with addition of 10% blood serum of cow fetuses and canamicin 50 mg/ml. On the third day after the cell culture sowing in the nutritious medium, chlorin e6 conjugated with polyvinyl pyrrolidone (Photolon ®) solution was added. The photoradiation of the HeLa cells tumor was performed with a laser of 667 nm wavelength at a dose of 5 J/cm².

Results

Photolon accumulation in tumor cells was found to be lasting for 2 hours. No further significant change in its cell level was noted. For this reason, a 3-hour incubation time was selected for studying dark cytotoxicity and photodynamic activity of Photolon. Cell incubation with Photolon for 3 hours with 25 or 50 mg/ml end concentration of the photosensitizer resulted in dose-dependent inhibition of HeLa culture growth, and with a concentration higher than 100 mg/ml it led to intensive cell death. IC50 of Photolon cytostatic effect index was 43.60 ±3.67 mg/ml, and LC50 cytotoxic effect index was 152.63±3.67 mg/ml.

Conclusion

Photolon accumulation in tumor cells occurs in the course of 2 hours, with no further significant change in its level. Photoradiation of HeLa tumor cells at dose of 5 J/cm² after the incubation with the photosensitizer for 3 hours produces strong cytotoxic and cytostatic effects.
BIM OF APOPTOTIC MARKER PREDICTS FAVORABLE SURVIVAL OUTCOME IN CERVICAL CANCER

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1International St. Mary’s Hospital- Catholic Kwandong University, Obstetrics and Gynecology, Incheon, Republic of Korea
2Gangnam Severance Hospital, Obstetrics and Gynecology, Seoul, Republic of Korea
3National Institutes of Health, Experimental Pathology Laboratory, MD, USA

Aims

Bcl-2 interacting mediator (BIM) is a pro-apoptotic protein belonging to the BCL 2 protein family. BIM elicits cell death by binding to prosurvival BCL-2 proteins. Even though association of BIM expression and cell death has been investigated, clinical survival significance for BIM is not investigated in cervical cancer. Prognostic significance of BIM was investigated by immunohistochemical analysis in cervical cancer.

Method

The study subjects included cervical intraepithelial neoplasia (CIN, n = 275) and invasive cervical cancer (n = 164). Immunohistochemistry (IHC) was performed to identify BIM protein expression. IHC scoring was performed using automated digital image analysis and the association of BIM with prognostic factors was investigated.

Results

BIM expression was higher in cervical cancer than normal cervix (p<0.001). Well and moderate differentiation showed higher expression of BIM than poor differentiation (p=0.001). Squamous cell type revealed high expression of BIM compared to non-squamous cell type (0.008). BIM expression was highly observed in radiation sensitive cervical cancer compared to radiation resistant cancer (P=0.049). High expression of BIM showed better 5-year disease-free survival and overall survival rate (p=0.049 and 0.030, respectively) than low expression group. In multivariate analysis, BIM was shown as an independent risk factor with hazard ratio of 0.22 (p=0.006) for disease-free survival and hazard ratio of 0.46 (p=0.046) for overall survival in cervical cancer.

Conclusion

BIM is associated with favorable prognostic marker to predict disease-free and overall survival in cervical cancer. High expression of BIM, apoptotic marker of tumor, might be significant survival factor in cervical cancer.
CERVICAL CANCER

ESGO7-0445

SENTINEL LYMPH NODES MAPPING WITH INDOCYANINE GREEN IN CERVICAL CANCER STAGE IAI – IIB : A SINGLE CENTER EXPERIENCE

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Aims

To determine the validity of sentinel lymph nodes(SLN) mapping using Indocyanine green(ICG) in cervical cancer.

Method

We have performed a retrospective study of cervical cancer patients with SLN mapping from 2015 to 2017 at the Asan Medical Center. Hundred-three patients were included. After using ICG to detect SLN during surgery, we removed SLN following standard radical surgery and bilateral pelvic lymphadenectomy.

Results

The most common surgery was a laparoscopic radical hysterectomy(44.7%). Stage IB1 was most common (61.2%). The median tumor size was 2.4cm. At least One SLN was detected in all cases. Eighty-eight patients (85.4%) had bilateral pelvic SLN. Side specific detection rate was 92.7%. Twenty-seven patients had nodal metastasis after lymphadenectomy on final H&E. On a side-specific basis, the sensitivity of SLN was 71.43%, specificity was 100% and Native predictive value(NPV) was 93.98%. In the case of tumor size less than 2 cm and negative lymph node metastasis at imaging test, sensitivity was 100%, specificity was 100%, and NPV was 100% as side-specific. The size over 4cm, lymphovascular space invasion, parametrium(PM) invasion and previous LEEP history were the risk factors affecting false negative detection of SLN.

Conclusion

It may be possible to perform SLN Biopsy alone in an early stage in which the size is less than 2 cm and the lymph node metastasis is not suspected in the imaging test. However, if tumor size is large and vagina extension is suspected, and if any suspicion of PM invasion, we should be cautious in doing the SLN biopsy alone.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESG07-0783

INFLUENCE OF AGE ON HISTOLOGIC OUTCOME OF CERVICAL INTRAEPITHELIAL NEOPLASIA: RESULTS FROM A LARGE COHORT, SYSTEMATIC REVIEW AND META-ANALYSIS

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³Medical University Vienna, Department of Pathology, Vienna, Austria

Aims

Age is one of the crucial factors influencing the natural history of cervical intraepithelial neoplasia (CIN). Aim of this study was to investigate the histologic outcome of CIN during observational management in young women.

Method

This analysis included 783 women presenting with CIN at our outpatient clinic between 2006 and 2010. At least one colposcopically guided biopsy (CGB) for histologic diagnosis had to be obtained and observational management for at least three months was mandatory. The histologic findings of initial and follow-up visits were collected and rates of persistence, progression and regression were assessed. Uni- and multivariate analyses were performed. In addition, a systematic review of the literature and meta-analysis of published data was performed.

Results

In our cohort CIN I, II, and III was diagnosed by CGB in 42.5%, 26.6% and 30.9%, respectively. Younger patients had higher rates of regression (p<0.001) and complete remission (<0.001) and lower rates of CIN progression (p=0.003). Among women aged <25, 25<30, 30<35, 35<40, and >40 years, regression rates were 44.7%, 33.7%, 30.9%, 27.3%, and 24.9%, respectively. Pooled analysis of published data showed similar results. Multivariable analysis showed that with each five years of age, the odds for regression reduced by 15% (p<0.001) independently of CIN grade, and presence of HPV high-risk infection.

Conclusion

Patient's age has a considerable influence on the natural history of CIN – independent of CIN grade and HPV high-risk infection. Observational management should be considered for selected young patients with CIN. Results of this analysis can be useful for patient counselling.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0067

NOMOGRAM-BASED PREDICTION OF CERVICAL DYSPLASIA PERSISTENCE / RECURRENTNESS

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Aims

To identify predictors of cervical dysplasia persistence/recurrence among women undergoing primary conization.

Method

Data of consecutive women undergoing LASER CO2 conization were retrospectively evaluated. The risk of developing cervical dysplasia persistence/recurrence was assessed with Kaplan-Meier and Cox hazard models. Additionally, two nomograms were built to estimate probability of cervical dysplasia persistence/recurrence: the first based on baseline and operative parameters and the second focusing on type-specific HPV detected. The performance of the above nomograms was assessed using concordance index (c-index).

Results

Overall, 2680 patients were included. After a mean (SD) follow-up of 47.7 (±20.7) months, 149 (5.5%) patients required secondary conization. Via multivariate analysis, HIV infection (HR: 8.22 (95%CI: 3.81, 17.7); p<0.001), positive margins (HR: 10.1 (95%CI: 5.73, 17.8); p<0.001) and persistence of HPV (HR: 11.4 (95%CI: 7.94, 16.49); p<0.001) correlated with CIN2+ persistence/recurrence. The importance of those variables was corroborated by our first nomogram (Figure). The second nomogram suggested the impact of type-specific HPV infection in predicting cervical dysplasia recurrence. HPV16, 33, 35 and 45 were the most common HPV types associated with cervical dysplasia persistence/recurrence. The c-index was 0.73 for both nomograms, thus suggesting the reproducibility of our models.

Conclusion

No other nomogram estimated the risk of developing cervical dysplasia persistence/recurrence is still published. We developed the first two nomograms predicting this risk. Although the large sample size and the high performance of our nomograms, external validation of our data is needed. Once validated our data might be useful to plan a tailored postoperative surveillance of women having conization.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-1097

RISK OVARIAN MALIGNANCY ALGORITHM (ROMA) VALIDITY ASSESSMENT IN IRANIAN WOMEN WITH AN OVARIAN MASS

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Aims

Ovarian cancer is the most common type and lethal of gynecological malignancy. Distinguish between benign and malignant ovarian masses is very important to refer patients to centers with experience in the surgical. The aim of this study was to investigate the validity of the risk ovarian malignancy algorithm (ROMA) in ovarian mass.

Method

One-hundred patients who had been diagnosed with ovarian masses were assessed for the tumor markers CA125, and the ROMA. The sensitivity and specificity of each parameter were calculated using receiver operating characteristic curves according to the area under the curve (AUC) for each method.

Results

The median CA125, and ROMA serum levels had different significant between benign and malignant tumors in the overall assessment (P<0.001). The areas under the curve (AUC) were 0.83(CA125), and 0.92 (ROMA) for benign vs malignant tumors in whole patients. The ROC curves were compared using a pairwise comparison method, and no differences were detected between the CA125, and ROMA. At specificity 75 percent, sensitivity was 64.7 for CA125, 82.4 ROMA generally

Conclusion

The results based on the area under the curve markers of CA125 and ROMA show that ROMA had the best accuracy of AUC-ROC than CA125 in all patients and each group pre- and post-menopausal patients.
Aims

BRCA1/2 mutation carriers are at increased risk of developing ovarian carcinoma arising from precursor lesions in the tubal epithelium (p53 signature/STIL/STIC lesions). Risk-reducing salpingo-oophorectomy (RRSO) is still recommended between the age of 35-40 years. We aimed to analyse the presence of preinvasive lesions in BRCA1/2 mutation carriers undergoing RRSO and associated clinical predictors.

Method

Retrospective study of BRCA1/2 mutation carriers undergoing RRSO at the Vall d’Hebron Hospital over a seven year-period. Data was collected on women’s age at RRSO, parity, personal history of breast cancer, CA125 levels, TVUS results and final histology. All tubes/ovaries were assessed using the SEE-Fim protocol.

Results

Out of 133 women undergoing RRSO, 73 (55%) had a BRCA1 mutation and 60 (45%) BRCA2. The median age was 46 years (range 35-70) and CA125 levels 10,8 U/mL (2,6-48). Twenty-five women were nulliparous (19%) and eighty (60%) had a personal history of breast cancer. Four women had a simple cyst on TVUS. Final histology confirmed p53 signature/STIL lesions in 10 women (7.5%) and one was diagnosed with invasive carcinoma. Multivariate analyses showed a positive correlation between age over 50 years [OR 4.46 (95%CI 1.12-17.6); p=0.033] and abnormal TVUS [OR 13.03 (95%CI 1.39-121); p=0.024] with the presence of preinvasive lesions.

Conclusion

About 8% of BRCA1/2 mutation carriers will have a preinvasive lesion at the time of RRSO and this risk significantly increased in women over 50 years. This suggests that the identification of new markers that predict the development of precursor lesions may help us in the future to defer RRSO when possible. Thus, efforts and future research should be devoted in this direction.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0200

PRIMARY HPV-BASED SELF-SAMPLING SCREENING WITH THE COBAS® HPV TEST FOR UNDERSERVED GREEK WOMEN. PRELIMINARY RESULTS OF THE GRECOSELF STUDY


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2 Aristotle University of Thessaloniki- Hippokratio General Hospital, 2nd Department of Obstetrics and Gynecology, Thessaloniki, Greece
3 Centre for Research & Technology - Hellas, Institute of Applied Biosciences, Thessaloniki, Greece
4 Hippokratio General Hospital, Department of Neonatology, Thessaloniki, Greece
5 PEDY, 25th Martiou, Thessaloniki, Greece
6 Hippokratio General Hospital, Laboratory of Cytology, Thessaloniki, Greece
7 Hippokratio General Hospital, Department of Histopathology, Thessaloniki, Greece

Aims

To assess the performance of self-sampling HPV-based screening in underserved Greek women, in comparison to historical real-life cytology-based screening results, and the acceptability of the Roche® self-collection cervicovaginal specimen device.

Method

Women (sample size n=12,700) 25-60 years old, residing in rural Greek areas, are contacted by midwives, via public announcement, and are provided, after written informed consent, with a self-sampling kit (Roche®). After sampling each woman fills in a questionnaire designed to assess cervical cancer screening participation and outcome history during the last 10 years, and the acceptance of the self-sampling procedure. Samples are tested using the cobas® HPV Test, Roche®, which detects HPVs 16 and 18 separately, and HPVs 31,33,35,39,45,51,52,56,58,59,66 and 68 as a pooled result. HPV-positive women are referred for colposcopy. In case of Cervical Intraepithelial Neoplasia (CIN) grade 1 or 2 or worse (CIN2+) they are referred to follow up or appropriate treatment respectively.

Results

Between May 2016 and April 2017 7,143 samples were collected, 6,456 were tested, of which 489 (7.6%) were HPV-positive, 249 colposcopies were performed and CIN 1, 2 and 3 was detected in 21, 12, and 10 cases respectively. There was a case of vaginal intraepithelial neoplasia and a case of cervical adenocarcinoma. The prevalence of high-grade disease or cancer among HPV-positive women examined was 9.6%.

Conclusion

The preliminary report of the GRECOSELF study shows that HPV-testing with individual HPV16/18 genotyping on self-collected cervicovaginal samples is a feasible and effective cervical cancer prevention method for Greek women residing in rural distant areas.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0235

EVALUATE A REAL TIME MID-IR SPECTROSCOPIC METHOD BASED ON ATR-FTIR AS AN ADDITIONAL METHOD TO 'FROZEN SECTION' IN GYNEONCOLOGY PROCEDURE – A PRELIMINARY STUDY

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Aims

The sensitivity of the 'frozen section' test is in the range of 75% to 100% and the specificity is 80% to 100%. Increasing those measures is needed to improve the clinical decision-making process. ATR-FTIR spectroscopy is a rapid and sensitive technique that measures changes in molecular structures. Hence, it has the potential to differentiate between malignant and benign tumors. The objective of the current study was to explore the potential of mid-IR ATR-FTIR technique in improving the accuracy of pathology evaluation during surgical procedure.

Method

18 samples extracted from suspected tumors were tested using an ATR-FTIR system. Absorption spectrum were measured and analyzed. 'Frozen section' and histopathological results of these samples were used to develop a discriminant model using multivariate classification methods.

Results

Preliminary results of our study suggest that measured spectra of malignant and benign tumors differ from each other (Figure 1). The model demonstrated that the ATR-FTIR technique was able to correctly differentiate between malignant and benign tumors with 100% sensitivity and 93% specificity.

Conclusion

The ATR-FTIR technique was able to discriminate between malignant and benign tumors. Thus, it has the potential to be used as an additional or alternative technique to the 'frozen section' test during the clinical decision-making process. Further study is needed to support this finding.
Aims

Response rates to treatment of vulval intraepithelial neoplasia (VIN) with imiquimod and cidofovir are approximately 57% and 61% respectively. Treatment is associated with significant side effects and, if ineffective, risk of malignant progression. Treatment response is not predicted by clinical factors. Identification of a biomarker that could predict response is an attractive prospect. This work investigated HPV DNA methylation as a potential predictive biomarker in this setting.

Method

DNA from 167 cases of VIN 3 from the RT3 VIN clinical trial was assessed. HPV positive cases were identified using Greiner PapilloCheck and HPV 16 type-specific PCR. HPV DNA methylation status was assessed in three viral regions: E2, L1/L2, and the promoter, using pyrosequencing.

Results

Methylation of the HPV E2 region was associated with response to treatment. For cidofovir (n=30), median E2 methylation was significantly higher in patients who responded (p < 0.0001); E2 methylation >4% predicted response with 88.2% sensitivity and 84.6% specificity. For imiquimod (n=33), median E2 methylation was lower in patients who responded to treatment (p = 0.03 (not significant after Bonferroni correction)); E2 methylation <4% predicted response with 70.6% sensitivity and 62.5% specificity.

Conclusion

These data indicate that cidofovir and imiquimod may be effective in two biologically defined groups. HPV E2 DNA methylation demonstrated potential as a predictive biomarker for the treatment of VIN with cidofovir and may warrant investigation in a biomarker-guided clinical trial.
HPV GENOTYPE IS IMPORTANT IN PREDICTING DISEASE PROGRESSION IN WOMEN WITH ATYPICAL SQUAMOUS CELL OF UNDETERMINED SIGNIFICANCE (ASC-US) CYTOLOGY.

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Our aim was to estimate the risk of disease incidence in women with atypical squamous cell of undetermined significance (ASC-US) without histology-proven cervical intraepithelial neoplasia grade 2 or worse (CIN2+) by human papillomavirus (HPV) genotype.

Method

Between January 2002 and September 2010, incidence of CIN2+ in 2,880 women including 2,172 with ASC-US and histology-proven negative and 708 with ASC-US with histology-proven CIN1 was investigated. Baseline HR-HPV status was determined by the hybrid capture II assay (HC2) and HR-HPV genotype by the HPV DNA chip test (HDC). Cumulative incidence and hazard ratios were estimated to explore differences between index data and associations with CIN2+.

Results

Of the 2,880 women, the HC2 was positive in 1,509 women (52.4%) and the HDC was positive in 1,563 women (54.3%). The overall agreement between the HDC and HC2 was 97.4%. One hundred ninety (6.6%) patients developed CIN2+. The 5-year cumulative incidence rate of CIN2+ in HPV-16, HPV-31, HPV-52, and HPV-58 were 16.7%, 15.1%, 12.6%, and 12.9%, respectively. On multivariate analysis, being positive in HPV-16 (hazards ratio [HR] = 2.431; 95% CI, 1.789-3.332; P < 0.01), HPV-31 (HR = 2.335; 95% CI, 1.373-3.971; P < 0.01), HPV-52 (HR = 1.592; 95% CI, 1.031-2.458; P = 0.03), and HPV-58 (HR = 1.650; 95% CI, 1.132-2.407; P < 0.01) were significantly associated with developing CIN2+ compared to being negative for that type.

Conclusion

Among women with ASC-US, HPV-16, HPV-31, HPV-52, or HPV-58 positive women may need intensified follow-up as they have the highest risk of becoming CIN2+.
HARMONISATION OF BIOBANKING STANDARDS IN ENDOMETRIAL CANCER RESEARCH (HASTEN): SURGICAL AND PATIENT DATA COLLECTION, STANDARD OPERATIVE PROCEDURE FOR TISSUE AND FLUID COLLECTION, PROCESSING AND STORAGE

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Aims

Endometrial cancer (EC) is the most common gynaecological cancer. Incidence of EC is predicted to escalate by a further 50 -100% by 2025 with a parallel increase in associated mortality. Variations in the collection, processing and storage of bio-specimens can affect the internal and external validity and thus the generalisability of the scientific data. We aimed to harmonise the collection of bio-specimens and the associated essential clinical data relevant to EC and to develop standard operative procedures for the collection, processing and storage of EC-biospecimens.

Method

We designed EC research tools, which were evaluated and revised through three consensus rounds – to obtain local/regional, national and European consensus. Modified final tools were disseminated to a group of multi-disciplinary panel members (n=40) representing all stakeholders in EC research, and a modified Delphi technique was used to generate consensus.

Results

We devised three research tools: patient data collection tool, surgical data collection tool, biospecimen tool and a standard operating procedure. The final consensus demonstrated unanimous agreement with the minimal surgical and patient data collection tools. A high level of agreement was also observed for the standard tool.

Conclusion

We here present the final versions of the forms, which are freely available and easily accessible to all EC researchers. We believe that these tools will facilitate rapid progression in EC research; both in future collaborations and in large-scale multi-centre studies, in integrating data from various studies and finally, in uncomplicated clinical translation of new scientific discoveries for the benefit of EC patients.
ENDOMETRIAL CANCER

ESG07-0377

REGIONAL RECURRENCE RATES OF STAGE I ENDOMETRIAL CARCINOMA PATIENTS TREATED WITH ADJUVANT BRACHYTHERAPY


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Aims

After the publication of PORTEC 2 in 2010, there had been an increasing use of brachytherapy in stage I medium risk and HIR (high intermediate risk) patients. Our aim is to investigate the relapse patterns in stage I endometrial carcinoma patients treated with adjuvant brachytherapy.

Method

189 patients who underwent brachytherapy between January 2011 and December 2015 were retrospectively reviewed. Brachytherapy was performed with Iridium 192 source as 3x 700 cGy in 5 mm periphery of vagina.

Results

All cases were endometrioid type endometrial adenocarcinoma. Stage and grade distribution is as follows IA G3 (1.1%), IB G2 (72.5%), IB G3 (1.6%), IC G1 (5.8%) and IC G2 (19%). Within a median of 32 months (range: 12-72 m) of follow-up there was no local recurrence. Five patients had regional (pelvic/paraaortic) recurrence. Operation could not be performed due to the unresectability of the recurrent tumor, besides morbidity and mortality risks of the surgery therefore chemotherapy and/or radiotherapy was administered as salvage treatment. 3-year DFS was 96%. In univariate analysis, LVI (p: 0.06), high grade tumor histopathology (p: 0.008), tumor size ≥ 5 cm (p: 0.01) and the number of dissected median pelvic lymph nodes ≤ 15 (p: 0.05) were found to be negative prognostic factors for 3-year DFS.

Conclusion

In stage I endometrial cancer patients brachytherapy is a preferred adjuvant treatment method and provides high local control rates. However in case of regional recurrence cure rates are low. Determination of further molecular prognostic factors is required to better understand the tumor biology.
Aims

To validate and evaluate feasibility of Memorial Sloan Kettering Cancer Center –Sentinel Lymph Node Algorithm (MSK-SLN algorithm) to detect lymph node metastasis (LNM) in clinical early stages endometrial cancer by using near-infrared fluorescent imaging and indocyanine green (NIR/ICG) integrated laparoscopic system.

Method

Clinically early stages endometrial cancer patients were included in this prospective study. ICG was injected to the uterine cervix and NIR/ICG integrated laparoscopic system was used during the operations. SLN and/or suspicious lymph nodes were resected. Side specific lymphadenectomy were done when mapping was not achieved. Systematic lymphadenectomy was completed following SLN algorithm steps. External validation was performed by evaluating histopathologic results of SLN algorithm steps. Comparison of SLN algorithm steps and systematic lymphadenectomy histopathologic results were used for internal validation.

Results

Seventy-one eligible patients were analyzed. There were 8 (11.2%) patients with LNM. One of them was isolated para-aortic node metastasis. SLN algorithm was able to detect all pelvic metastases. Negative predictive value, sensitivity and falsenegative rate were 98.4%, 87.5% and 1.5%, respectively. There was non-SLN involvement in addition to SLN metastasis in approximately half of the patients with pelvic LNM.

Conclusion

All pelvic node metastases could be detected by SLN algorithm using NIR/ICG integrated laparoscopic system. SLN algorithm may be incapable to diagnose isolated para-aortic metastasis. Using the whole algorithm, instead of removing only mapped nodes, increases detection rate and decreases false negative rate. SLN algorithm for clinical early stage uterine cancer can be used more prevalently with laparoscopic systems.
ENDOMETRIAL CANCER

ESGO7-0452

TRANSVAGINAL ULTRASOUND-GUIDED MYOMETRIAL INJECTION OF RADIONUCLIDE (TUMIR) FOR SENTINEL NODE DETECTION IN ENDOMETRIAL CANCER

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Aims

to determine accuracy of TUMIR for sentinel lymph node (SLN) detection in endometrial cancer (EC).

Method

during 2005-2017, 132 patients with high-risk EC were prospectively recruited. Twenty-four hours before surgery, 5-8 ml of 99mTc-nanocolloid (92-148 MBq) were injected into two spots (anterior and posterior myometrium) using an ultrasound-guided transvaginal puncture. SLN was localized preoperatively by lymphoscintigraphy and intraoperatively with gamma probe. After SLN biopsy, patients underwent pelvic and paraaortic lymphadenectomy. Performance of technique for detection of SLN and accuracy to predict Lymph Node (LN) status were analysed.

Results

TUMIR was achieved in all patients without serious adverse effects. SLN was identified in 96/132 (72.7%) patients. Drainage location is shown in Table 1. In 88/96 (91.7%) patients, SLN was resected during surgery, with a final detection rate of 66.7%. After lymphadenectomy, LN were positive in 12/88 (13.6%) patients, with paraaortic involvement in 5/88 (5.7%) cases. From 88 patients with SLN resected, 145 SLN were obtained. Table 2 shows histological diagnosis of SLN and corresponding lymphadenectomy. Sensibility and negative predictive value of TUMIR to diagnose LN metastasis were 84.2% (IC95%: 62.4-94.5) and 97.7% (IC95%: 93.4-99.2), respectively.

Conclusion

TUMIR has good accuracy for detecting SLN in high-risk EC.
THE VALUE OF SENTINEL LYMPH NODE BIOPSY IN INTERMEDIATE AND HIGH RISK ENDOMETRIOID ENDOMETRIAL CANCER

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Aims

To analyze the biopsy of sentinel lymph node (SLN) in intermediate and high risk endometrioid endometrial cancer (EC) as a method to detect nodal disease and to compare it with systematic pelvic and aortic lymphadenectomy.

Method

A series of 49 consecutive cases with diagnosis of intermediate or high risk endometrioid EC following the ESMO criteria.

We inject the indocyanine green tracer in the uterine fundus transcelvicaly and in cervix (3-9h) to cover aortic and pelvic lymphatic drainage after creation of pneumeperitoneum. Then, we identify and biopsy the fluorescent SLN with a laparoscopic optical (NIR/ICG system KARL STORZ®). Finally, we complete the aortic and pelvic lymphadenectomy.

The anatomophatological study is benefited by ultra standing of the SLN, using fine sections and the inmunohistochecmistry.

Results

The overall detection rate of SLN was 95.9%, 89.8% in pelvic area and 63.3% in aortic area. In 3 cases the detection was exclusively aortic and in 16 exclusively pelvic.

We found 5 cases with metastatic lymph nodes, 4 of them the SLN was positive, nevertheless the other case was a false negative.

In the other 44 cases lymphadenectomy was negative, 38 of them with SLN negative, but we found micro-disease in 6 cases (12.2%).

Conclusion

Lymph node involvement in endometrioid EC is low, even in intermediate or high risk cases. Systematic lymphadenectomy in these patients may involve overtreatment. The SLN technique reduces the number of systematic lymphadenectomies. Moreover it permits an exhaustive histological. To minimize the rate of false negatives with a standardized technique is a challenge for the future.
ENDOMETRIAL CANCER

ESGO7-1205

WHY DID WE REFRAIN FROM ROBOT-ASSISTED LAPAROSCOPIC SURGERY IN ENDOMETRIAL CANCER PATIENTS?

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Aims

To study why women with primary endometrial cancer underwent open laparotomy rather than robot-assisted laparoscopic surgery in the era of robotic surgery, and evaluate the surgical treatment.

Method

A retrospective study, including all women undergoing surgery for endometrial cancer from November 2012 through December 2015 at St.Olavs Hospital, a referral teaching hospital in Norway. Data were extracted from patient records.

Results

239 cases were identified. 137 (57%) underwent robot-assisted laparoscopic operation and 102 (43%) underwent open laparotomy. Suspected advanced disease was the most common reason for laparotomy (31%), followed by concomitant ovarian tumor (21%), large uterus (17%), and comorbidity (14%). Less frequent causes were previous pelvic/abdominal cancer (2%), planned concomitant gastrointestinal surgery (2%), lack of robotic capacity (2%), and previous abdominal surgery (1%). Six cases planned for robot-assisted surgery were converted to open operation, due to anesthesia complications or surgical challenges.

There was no difference in BMI or age between the laparotomy and robot-assisted laparoscopy group (median BMI 30 and 27, respectively, p=0.21, median age 67 years in both groups, p=0.32). The laparotomy group had more advanced stage disease (p=0.002). Lymph nodes were removed in 72% of laparotomy cases, and 93% of robotic cases (p=0.001). Number of nodes removed was significantly higher in the laparotomy group (median 12 vs 6 lymph nodes, p<0.001). The lymph node metastatic rate was 18% in the laparotomy group, compared to 12% in the robotic group (p=0.059).

Conclusion

Advanced stage disease was the main reason for laparotomy instead of robot-assisted laparoscopic operation.
ENDOMETRIAL CANCER

ESGO7-1157

SIZE OF THE SENTINEL NODE METASTASIS AND THE RISK OF NON-SENTINEL NODE METASTASIS IN ENDOMETRIAL CANCER

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Aims

Correlate the size of metastatic sentinel node (SLN) with the risk of non-sentinel node (N-SLN) metastasis in endometrial cancer.

Method

We analyzed a series of 195 patients treated at AC Camargo Cancer Center from January 2013 to April 2017 that had SLN mapping with cervical injection of only blue dye (n=184) or indocyanine green (n=11). Eight-six (44.1%) patients had high-risk tumors (endometrioid grade 3, serous, clear cell, carcinosarcomas, deep myometrial invasion or lymphovascular space invasion). The SLNs were examined by immunohistochemistry when the hematoxylin-eosin was negative.

Results

The overall SLN detection rate was 85.6%, and bilateral of 60%. Median SLN detected was 2 per patient (range, 1-8). In low risk cases, there were only 2 (1.8%) patients with positive SLN – both with micrometastasis detected by immunohistochemistry (IHC). For high-risk group, there were 22 (25.6%) positive SLN cases. Five (5.8%) ITC, 7 (8.1%) micrometastasis, and 10 (11.6%) macrometastasis. 9/22 (40.9%) SLN metastasis was found only by IHC. Of the 24 patients with positive SLN, the median number of positive SLN was 1.5 (range, 1-8). Six (6/24, 25%) had positive N-SLN, with a median of 7 (range, 3-23) positive N-SLN. Regarding the size of SLN metastasis, presence of N-SLN were found in any (0/5) patient with ITC, 11% (1/9) with micrometastasis and in 50% (5/10) of patients with macrometastasis.

Conclusion

Our data suggest that size of metastasis in SLN correlates with the risk of N-SLN metastasis. Any patient with ITC in SLN had other metastatic lymph node.
Aims

To determine the detection rate, sensitivity and predictive negative value of SLN for low and high-risk endometrial cancer (endometrioid grade 3, serous, clear cell, carcinosarcomas, deep myometrial invasion or lymphovascular space invasion).

Method

We analyzed a series of 195 patients treated at AC Camargo Cancer Center from January 2013 to April 2017 that had SLN mapping with cervical injection of blue dye (n=184) or indocyanine green (n=11). Eight-six (44.1%) patients had high-risk and 109(55.9%) low-risk tumors.

Results

Sixty-two (31.8%) patients had pelvic lymph node dissection (LND), 65 (33.3%) pelvic+para-aortic LND, and 68(34.9%) had only SLN. The overall SLN detection rate was 85.6%, and bilateral of 60%. Median SLN detected was 2 per patient (range,1-8). In low risk cases, there were only 2 (1.8%) patients with positive SLN – both with micrometastasis detected by immunohistochemistry (IHC). For high-risk group, there were 22(25.6%) positive SLN cases. Five (5.8%) ITC, 7 (8.1%) micrometastasis, and 10 (11.6%) macrometastasis. 9/22(40.9%) SLN metastasis was found only by IHC. Only 2 patients had false negative SLN, with ipsilateral pelvic non-sentinel positive nodes. Of 164 patients with endometrioid histology, 17(11.3%) had positive SLN, and 8(47.1%) cases were found only after IHQ. We found an overall sensitivity was 92.3%, negative predictive value 98.6%, and false negative rate 7.6% (2/26).

Conclusion

Our data suggest SLN mapping as a safe and accurate technique for endometrial staging that increases metastatic nodal detection rates by 5.6% after IHC. In endometrioid tumors, 4.8% patients had nodal metastasis detected after IHC that clearly impacts the indication of adjuvant chemotherapy.
DOES SENTINEL NODE MAPPING IMPACT THE PREVALENCE OF ISOLATED PARA-AORTIC NODAL METASTASES IN ENDOMETRIAL CANCER?

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Aims

To determine the impact of sentinel node (SLN) mapping in staging high-risk endometrial cancer (grade 3 endometrioid, serous, clear cell, carcinosarcomas, deep myometrial invasion, or angiolympathic invasion).

Method

Eighty-three patients that had SLN mapping with blue dye cervical injection (SLN group) and pelvic ± para-aortic lymph node (LN) dissection from June 2007 to June 2015, were compared to 142 patients that received pelvic + para-aortic lymph node dissection (LND group) from June 2007 to June 2015. Patients with adnexal, peritoneal or suspicious LN metastasis were excluded.

Results

SLN group patients had more minimally invasive surgeries (71.1% vs. 3.5% years; p<0.001), and more presence of angiolympathic invasion (42.1% vs. 14.8%; p<0.001). There was no difference between SLN and LND groups regarding deep myometrial invasion (55.4% vs. 63.4%; p=0.23), and presence of non-endometrioid histologies (34.9% vs. 29.6%). The overall detection rate for SLN group was 86.7% and bilateral in 61.4% of cases. Eight in 19 (41%) positive SLN were detected only after immunohistochemistry. SLN group had more pelvic LN (PLN) metastasis detected compared to LND group (25.3% vs. 12.7%; p=0.016). However no difference were found regarding para-aortic LN (PALN) metastasis between SLN and LND groups (8.6% vs. 5.6%; p=0.38). In LND group, 5 (3.5%) patients had PALN without PLN. Conversely, in SLN group, 1 (1.2%) patient had isolated PALN. Although included in the SLN group, this patient had no SLN detected.

Conclusion

Our data suggest that SLN mapping identified more PLN metastasis compared to only LN dissection. Furthermore, we found no isolated PALN metastasis when SLN was detected.
ENDOMETRIAL CANCER

ESGO7-1038

CONTRIBUTION OF MAGNETIC RESONANCE IMAGING FOR PRE-OPERATIVE ASSESSMENT OF MYOMETRIAL AND CERVICAL INVASION AND PELVIC LYMPH NODE IN ENDOMETRIAL CARCINOMA

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Aims

To evaluate the accuracy of preoperative magnetic resonance imaging (MRI) to detect deep myometrial invasion, cervical extension and pelvic lymph node metastasis in patients with endometrial cancer.

Method

We retrospectively reviewed 42 cases of women with endometrial cancer, who underwent preoperative MRI assessment and surgical staging between January 2000 and December 2015. The MRI findings were then compared with the post-operative histopathological findings that served as reference standards.

Results

The sensitivity, specificity, positive (PPV) and negative predictive values (NPV) of MRI for differentiation between superficial myometrial invasion and deep myometrial invasion were 86.6%, 40.9%, 50% and 81% respectively. The sensitivity, specificity, PPV and NPV for cervical invasion were 60%, 96.2%, 90% and 91.25% for cervical invasion and 70%, 84.37%, 58.3 and 90% for pelvic lymph node metastasis, respectively. There were significant correlation between preoperative FIGO-MRI staging and FIGO-histological staging (p=0.047).

Conclusion

In patients with endometrial cancer, a preoperative MRI contributes to accurate staging, allowing planning for the scale of surgery and preoperative counseling.
FDG PET/CT AS PROGNOSTIC TOOL IN THE PREOPERATIVE STAGING OF ENDOMETRIAL CANCER

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Aims

To investigate the prognostic role of FDG PET/CT in the preoperative assessment of patients with endometrial carcinoma (EC)

Method

18F-FDG PET/CT was performed in 57 patients for EC preoperative staging. Maximum and mean standardized uptake values (SUVmax, mean), metabolic tumour volume (MTV) and total lesion glycolysis (TLG) of primary tumours, at different thresholds of 40%, 50%, 60% were compared with histopathological features. The diagnostic performance of PET-parameters in discriminating low-risk disease from high-risk disease have been assessed

Results

Categorized TLG40-50-60 were related to FIGO stage I versus FIGO Stage II-III-IV (P=0.003); the optimal cut-off values for risk stratification were 83.69, 61.81 and 41.32, respectively, with correspondent sensitivity and specificity of 60.00% and 71.43%. Categorized SUVmax, SUVmean40-50-60 and MTV40-50-60 were not related to FIGO Stage. Categorized SUVmax and SUVmean40-50-60 could discriminate between endometrioid vs non endometrioid subtype with 14.35, 8.55, 9.8 and 10.9 threshold (P=0.01) for SUVmax and SUVmean50-60, P=0.0237 for SUVmean40). Correspondent sensitivity was 64.86% and 62.16% for SUVmax and SUVmean50-60 and 62.16% for SUVmean40; specificity was 70.00%. The mean OS rate was 79.77% ±3.34 and the mean DFS rate was 77.89±3.73. Tumour type was the only variable significantly associated with OS and TLG50 was the only variable significantly associated with DFS; specifically, TLG50>77.58 cc is associated with a higher risk of relapse according to logrank test

Conclusion

TLG40-50-60 of primary EC can predict FIGO staging; TLG40-50 can predict pathological staging. These parameters, being able to discriminating between low and high risk disease, may be useful in the preoperative assessment of EC
ENDOMETRIAL CANCER

ESGO7-1114

LONG-TERM COMPLICATIONS OF LYMPH NODE DISSECTION IN ENDOMETRIAL CANCER SURGERY

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Aims

To investigated the incidence and the potential causes of lymphadenectomy’s complications in primary surgery for endometrial cancer.

Method

Observational study in a tertiary care centre between January 2007 and March 2014. All women who underwent to pelvic and/or paraaortic lymphadenectomy for endometrial cancer were analyzed. Each patients were compared by age, comorbidity, cancer stage, BMI, surgical approach, number of resected pelvic and/or para-aortic lymph nodes and use of intraoperative devices.

Results

Of the 428 patients tested, 238 underwent to pelvic lymphadenectomy (55,6%), 36 (15,1%) of those underwent both pelvic and para-aortic lymphadenectomy. Among the 238 patients, a total of 38 (16%) developed lower-limb-lymphedema, while 10 of 238 (4,2%) lymphocele, 1 of 238 developed neurological complication due to nerve injury, none vessel injury.

The number of resected lymph nodes was found to be higher in patients with lymphedema and lymphoceles. To detect the independent developmental risk factors for lymphatic complications, we performed multivariate analysis with logistic regression for four variables (stage disease, intraoperative-haemostatic-devices, abdominal drains and number of dissected lymph nodes). Among these, we found a significant difference for only number of dissected lymph nodes.

Conclusion

lymphadenectomy continues to be an important part of the surgical staging for endometrial cancer as it can identify important prognostic information that may alter treatment decisions. Currently, it has been introduced the sentinel-lymph-node-mapping (SLNM) in endometrial cancer staging. This procedure upholds the effectiveness of standard lymphadenectomy allowing identifying node positive patients, minimizing the risk of lymphadenectomy-related morbidity.
ENDOMETRIAL CANCER

ESGO7-1204

TUMOR SIZE: AN INDEPENDENT PREDICTOR OF LOCAL RECURRENCE IN LOW RISK ENDOMETRIAL CANCER

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Aims

The purpose of this study was to analyze the correlation between tumor size (TS) and recurrence, in particular local recurrence, in patients with endometrial cancer (EC), stratified according to the new ESMO-ESGO-ESTRO classification.

Method

Data of patients with histologically proven EC who received primary surgical treatment from November 1999 to November 2014, were retrospectively retrieved from two institutions. Optimal TS cut-off was calculated using a Receiver Operating Characteristic (ROC) curve. Site of recurrence as a function of TS and group of risk was calculated using the Chi-Square test. Local recurrence-free survival (LRFS) and overall survival (OS) were calculated by Kaplan- Meier method.

Results

Data of 363 patients were analyzed. Among them 166 (45.7%) had low risk EC, 61 (16.8%) had intermediate risk EC, 37 (10.2%) had high-intermediate risk EC and 99 (27.3%) had high risk EC. A total of 47 women had (12.9%) recurrence: 13 of them had local relapse and 34 had relapse at any other site. TS >25 mm emerged as the optimal threshold for a higher rate of local recurrence (p=0.046, HR=4.699, \(p_{HR}=0.032\)) and a lower 2-years LRFS (94% vs 100%, \(p_{OS}=0.029\)) only in patients with low risk EC. There was no statistically significant correlation between TS < or >25 mm and recurrence in the other risk groups.

Conclusion

Tumor size seems to be an independent prognostic factor of local recurrence in women with low-risk EC and could be a valuable additional criterion to personalize the treatment approach to these patients.
IDENTIFICATION OF MICRO-RNA EXPRESSION PROFILES RELATED TO RECURRENCE IN WOMEN WITH ESMO LOW RISK ENDOMETRIAL CANCER

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2Creteil Intercommunal Hospital- Université Paris Est- Paris XII, Department of Obstetrics and Gynaecology, Créteil-, France

Aims

Introduction: Actual European pathological classification of early-stage endometrial cancer (EC) may show insufficient accuracy to precisely stratify recurrence risk, leading to potential over or under treatment. Micro-RNAs are post-transcriptional regulators involved in carcinogenic mechanisms, with some micro-RNA patterns of expression associated with EC characteristics and prognosis. We previously demonstrated that downregulation of micro-RNA-184 was associated with lymph node involvement in low-risk EC (LREC).

Objectives: The aim of this study was to evaluate whether micro-RNA signature in tumor tissues from LREC women can be correlated with the occurrence of recurrences.

Method

Methods: MicroRNA expression was assessed by chip analysis and qRT-PCR in 7 formalin-fixed paraffin-embedded (FFPE) LREC primary tumors from women whose follow up showed recurrences (R+) and in 14 FFPE LREC primary tumors from women whose follow up did not show any recurrence (R-), matched for grade and age. Various statistical analyses, including enrichment analysis and a minimum p-value approach, were performed.

Results

Results: The expression levels of micro-RNAs-184, -497-5p, and -196b-3p were significantly lower in R+ compared to R- women. Women with a micro-RNA-184 fold change < 0.083 were more likely to show recurrence (n=6; 66%) compared to those with a micro-RNA-184 fold change > 0.083 (n=1; 8%), p = 0.016. Women with a micro-RNA-196 fold change < 0.56 were more likely to show recurrence (n=5; 100%) compared to those with a micro-RNA-196 fold change > 0.56 (n=2; 13%), p=0.001.

Conclusion

Conclusion: These findings confirm the great interest of micro-RNA-184 as a prognostic tool to improve the management of LREC women.
ENDOMETRIAL CANCER

ESGO7-0643

FROZEN SECTION REVEALING THE ABSENCE OF LYMPHATIC TISSUE DURING SENTINEL LYMPH NODE BIOPSY IN ENDOMETRIAL CANCER STAGING.

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2University of Insubria, Obstetrics and Gynecology, Varese, Italy

Aims

To assess the role of frozen section (FS) to identify the absence of lymphatic tissue (“empty node” (EN)) during sentinel lymph node (SLN) biopsies for apparent early stage endometrial cancer (eEC) to avoid potential understaging in patients at high-risk of metastasis.

Method

All eEC patients undergoing SLN removal using cervical injection with Indocyanine Green from 06/01/2014 to 06/30/2016 were analyzed. FS was used to examine all SLNs removed. EN was defined as SLN specimen without evidence of lymphatic tissue. The association of tumor and patient’s characteristics with EN was evaluated. Trend analysis to compare the rate of EN over calendar quarters was performed using Cochrane-Armitage test.

Results

ENs were easily identified in 24/300 (8%) patients (23 cases unilateral and 1 case bilateral). No association between age, stage, histology, BMI, prior abdominopelvic surgery and presence of EN was observed. Rate of EN revealed at FS did not change over time (p=0.68 for trend) (Table1).

Table 1. Consecutive patients who underwent sentinel lymph node (SLN) biopsies with at least unilateral SLN removal for endometrial cancer staging using cervical injection of Indocyanine Green (ICG) at Mayo Clinic from June 1, 2014 to June 30, 2016.

<table>
<thead>
<tr>
<th>Analysis on 300 patients with SLN(s) removed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilateral SLN removed</td>
</tr>
<tr>
<td>251 (83.7%)</td>
</tr>
<tr>
<td>One-side SLN removed</td>
</tr>
<tr>
<td>49 (16.3%)</td>
</tr>
<tr>
<td>Empty Lymph Node (EN)</td>
</tr>
<tr>
<td>24 (8.0%)</td>
</tr>
<tr>
<td>Unilateral EN</td>
</tr>
<tr>
<td>23 (7.7%)</td>
</tr>
<tr>
<td>Bilateral EN</td>
</tr>
<tr>
<td>1 (0.3%)</td>
</tr>
</tbody>
</table>

Analysis of patients with Empty Lymph Node over time

<table>
<thead>
<tr>
<th>Quarter</th>
<th>EN (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st 12 months</td>
<td>10 (3.3%)</td>
</tr>
<tr>
<td>2nd 12 months</td>
<td>14 (4.7%)</td>
</tr>
</tbody>
</table>

Trend analysis stratified by calendar year quarters*

<table>
<thead>
<tr>
<th>Trend analysis stratified by calendar year quarters*</th>
</tr>
</thead>
<tbody>
<tr>
<td>p=0.8</td>
</tr>
</tbody>
</table>

Data are reported as absolute number and percentage (%).

*Cochrane-Armitage test for trend (after stratification by quarters from 2014Q1 to 2016Q4).

Conclusion

The presence of EN during SLN biopsies is not a rare event. The easy identification of absence of lymphatic tissue at FS is useful to reveal intraoperative EN and avoid the need of reoperation for appropriate staging in patients undergoing SLN biopsy at high-risk of lymph node metastasis. Individual institutions should examine their own EN rates and determine if this would assist them in their SLN practices for eEC.
ENDOMETRIAL CANCER

ESGO7-0247

THE PREGNANCY OUTCOME AFTER FERTILITY-SPARING TREATMENT OF EARLY ENDOMETRIAL CANCER

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Aims

Incidence of endometrial cancer has been increasing among young women since 2000. It is difficult to make a decision between fertility sparing treatment and hysterectomy for early stage endometrial cancer patients in reproductive age. The aim of this study is to evaluate the fertility and pregnancy outcome of early stage endometrial cancer patients in reproductive age.

Method

Retrospective single center study was done from 1998 to 2017. Endometrial cancer patients with presumed FIGO stage 1 & 2 with grade 1 & 2 were included. Exclusion criteria were patients with age over 45, presumed FIGO stage over 3 and any stages with FIGO grade 3. Pregnant group and non-pregnant group of early stage endometrial cancer patients after fertility sparing treatment were compared.

Results

Total 117 endometrial cancer patients were enrolled in the study. Among 117 endometrial cancer patients, 48 patients wanted to be pregnant and 20 of them were successfully pregnant (41.6%). The number of endometrial curettage was not different between two groups. However, 18 patients (18%) had not got remission within 6 month and hysterectomy was done in these patients. The age factor was different between pregnant and non-pregnant endometrial cancer patients (34±3.9 vs 36±2.7, P ≤ .05). Moreover, basophil count was different between two groups (0.34±0.91 vs 0.69±0.43, P ≤ .05).

Conclusion

The pregnancy outcome was good after fertility sparing treatment in early stage endometrial cancer patients. Endometrial curettage does not affect the pregnancy outcome. Further study of large group should be done.
PAX2 and BCL-2 EXPRESSION AS A PROGNOSTIC FACTOR IN ENDOMETRIAL ENDOMETRIOID ADENOCARCINOMA GRADE 1

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Aims

Our aim is to detect the influence of bcl2 and PAX2 expression on the prognosis of endometrial endometrioid adenocarcinoma grade 1.

Method

All endometrial endometrioid adenocarcinoma grade 1 patients detected in Kocaeli University Medical Faculty Hospital between 2009-2012 were analysed. Fiftyseven endometrium carcinoma patients were included in the study and control group was composed of 34 patients reported as benign hyperplasia. Immunoreactivity was scored half quantitavely based on bcl2 and PAX2 staining. Staining intensity of gland epiteliom was scored from 0 to 3. The extensity of the stain was evaluated also, if the tissue did not stain 0 score was given, 1-33% staining was scored as 1, 34-66% staining was scored as 2, 67-100% staining was scored as 3. Total scores were between 0 and 6. Immunohistochemical staining scores of the patients and control group were compared by MannWhitney U test. Bcl2 and PAX2 were compared with other prognostic factors including myometrial invasion, tumor size lymphovascular invasion and MELF (microcytic elongated fragmented pattern) using Mann Whitney U and Kruskal Wallis tests.

Results

Mean age of the patients was 58±8.5 (38-80). Bcl2 and PAX2 expression decreases significantly in endometrium carcinoma (p<0.01) but is not associated with myometrial invasion, tumor size and lymphovascular invasion (Tables). Bcl2 and PAX2 scores were higher in microcytic elongated fragmented pattern (p=0.05 and p=0.007 respectively).

Table PAX2 expression compared with prognostic factors in endometrioid adenocarcinoma

<table>
<thead>
<tr>
<th>Number (n)</th>
<th>Median score</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tumor size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;1 cm</td>
<td>0.55</td>
<td>0.980</td>
</tr>
<tr>
<td>≥1 cm</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Myometrial invasion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>absent</td>
<td>0.60</td>
<td></td>
</tr>
<tr>
<td>&lt; 1/2</td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>&gt;1/2</td>
<td>0.00</td>
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</tr>
<tr>
<td>LVSI*</td>
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<td></td>
</tr>
<tr>
<td>Yes</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>MELF**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>

*LVSI lymphovascular invasion. **MELF: microcytic elongated fragmented pattern

Table Bcl2 expression compared with prognostic factors in endometrioid adenocarcinoma

<table>
<thead>
<tr>
<th>Number (n)</th>
<th>Median score</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tumor size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;1 cm</td>
<td>2</td>
<td>0.59</td>
</tr>
<tr>
<td>≥1 cm</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Myometrial invasion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>absent</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>&lt; 1/2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>&gt;1/2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>LVSI*</td>
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<tr>
<td>Yes</td>
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<td></td>
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<tr>
<td>No</td>
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<tr>
<td>MELF**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>2</td>
<td>0.05</td>
</tr>
</tbody>
</table>

*LVSI lymphovascular invasion. **MELF: microcytic elongated fragmented pattern

Conclusion
Immunohistochemical evaluation of transcription factors can be useful for establishing prognosis and identification of patients that need adjuvant treatment. Bcl-2 and PAX2 can differentiate carcinoma from normal tissue but further studies are needed.

ENDOMETRIAL CANCER

ESGO7-0937

GENE PROMOTER METHYLATION IN THE DEVELOPMENT FROM NORMAL ENDOMETRIAL CANCER AND ITS RELATION TO K-RAS GENE MUTATION

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2Maastricht University Medical Center +, Pathology, Maastricht, The Netherlands
3Netherlands Cancer Institute, Diagnostic Oncology and Molecular Pathology, Amsterdam, The Netherlands
4Elisabeth Tweesteden Ziekenhuis, Pathology, Tilburg, The Netherlands
5Radboud University Medical Center, Obstetrics and Gynecology, Nijmegen, The Netherlands

Aims

Up to 60% of untreated atypical hyperplastic endometrium will develop into endometrial carcinoma (EC), and for those who underwent a hysterectomy a coexisting EC is found in up to 20%. Gene promoter methylation might be related to the EC development. The aim of this study is to determine changes in gene methylation profiles and K-Ras mutation in normal, atypical hyperplastic endometrium and EC.

Method

A retrospective study was conducted of patients diagnosed with hyperplasia based on endometrial sampling between 1996 and 2011. After hysterectomy promoter methylation was performed for APC, hMLH1, O6-MGMT, P14, P16, RASSF1, RUNX3, SFRP1, CD01 and ER are related to final histological diagnosis. For each case K-Ras mutations were analysed.

Results

A total of 98 cases were analysed. For P16, promoter methylation was significantly increased from 10% in normal endometrium (n=1) and 7.7% in atypical hyperplasia (n=2) to 38% in EC (n=13). hMLH1 methylation gradually increased from 27.3% (n=3) in normal to 36.4% (n=12) in atypical hyperplasia to 38.0% (n=1) in EC. For O6-MGMT methylation it shows 8.3% (n=1), 18.2% (n=6) and 31.4% (n=16) respectively. K-Ras mutation was only observed in 12.1% (n=4) of atypical hyperplasia, and 19.6% (n=10) in EC. No relation between K-Ras mutations and gene promoter methylation was seen.

Conclusion

hMLH1 and O6-MGMT promoter methylation are early events and already seen in atypical endometrial hyperplasia, whereas P16 promoter methylation occurs later and is especially seen in EC. K-Ras mutations are more frequently seen in EC than in atypical hyperplasia.
Aims

Diagnostic potential of the serum levels of HE4 and MMP2 in patients with endometrial cancer and benign endometrial diseases. To assess the relationship between the serum levels of HE4 and MMP2 and the typical prognostic factors in endometrial cancer patients.

Method

Included in the study was a group of 112 patients presenting with bleeding abnormalities at the Pomeranian Medical University in years 2012-2016. Serum HE4 concentrations were measured using the Elecsys ECLIA assay from Roche. MMP2 concentrations were quantified in the serum using multiplex immunoassays (Luminex Corporation, Austin, TX, USA).

Results

The diagnostic potential of HE4 and MMP 2 in differentiation of high (FIGO III i IV) vs. low (FIGO I and II) clinical stage of tumor and prediction of cellular differentiation grade (G1 vs. G3) on the basis of the analysis of the area under the curve is respectively 0.86 and 0.82 for HE4 and 0.82 and 0.74 for MMP2. The HE4 marker was significantly more specific than MMP2 in every study group and amounted to: 93% vs. 86% in all patients included in the analysis, 94% vs. 84% in pre-menopausal patients, and 84% vs. 79% in post-menopausal patients.

Conclusion

HE4 and MMP2 are characterized by high specificity and may be useful as biomarkers in the diagnostics of endometrial cancer. When determined preoperatively, HE4 is correlated with the prognostic factors of endometrial cancer and may be helpful in the planning of individual treatment of endometrial cancer patients.
A CASE OF EXTRA-UTERINE SPREAD IN NONINVASIVE SEROUS PAPILLARY ENDOMETRIAL CARCINOMA ARISING FROM A POLYP

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2General Hospital Scheibbs, Department of Gynecology and Obstetrics, Scheibbs, Austria
3University Hospital for Tumors - University Hospital Centre Sestre Milosrdnice, Department of Clinical Pathology, Zagreb, Croatia
4Clinical Hospital Centre Split, Department of Gynecology and Obstetrics, Split, Croatia
5Clinical Hospital Merkur, Department of Gynecology and Obstetrics, Zagreb, Croatia

Aims

To report a case of noninvasive serous papillary endometrial carcinoma with para-aortic lymph node metastases.

Method

A 61 years-old nulliparous woman, with history of breast carcinoma, was admitted to our department for postmenopausal bleeding. Transvaginal ultrasonography was performed and an endometrial thickness of 6 mm was found. She underwent hysteroscopy that showed small endometrial polyp arising from the anterior uterine wall. The endometrial polyp was resected and pathological examination revealed noninvasive serous papillary carcinoma arising from the polyp. The immunohistochemical staining analysis showed negative estrogen and progesterone receptors and strong p53 overexpression. She underwent hysterectomy, bilateral salpingo-oophorectomy, omentectomy and pelvic and para-aortic lymphadenectomy.

Results

The pathological finding revealed atrophic endometrium without lymphovascular space invasion and no omental or pelvic lymph node metastasis. Residual tumor was not found in the endometrium. Para-aortic lymph node metastases were present in 3 of 17 lymph nodes. Six cycles of adjuvant chemotherapy with carboplatin and paclitaxel were given. Patient is receiving radiation therapy.

Conclusion

The present case emphasizes the aggressive behavior of uterine serous papillary carcinoma, along with the need for complete surgical staging including para-aortic lymphadenectomy. Extra-uterine disease spread may frequently occur even with noninvasive disease. The performance of pelvic lymphadenectomy alone represents an incomplete surgical effort resulting in failure to identify patients who may benefit from adjuvant therapy.
ENDOMETRIAL CANCER

ESGO7-0282

FREQUENT HOMOLOGOUS RECOMBINATION DEFICIENCY IN HIGH-GRADE ENDOMETRIAL CANCER PROVIDES OPPORTUNITIES FOR NOVEL THERAPEUTIC STRATEGIES.
M. de Jonge¹, A. Auguste², P. Schouten¹, C. de Kroon³, M. Meijers⁴, N. ter Haar¹, J. van Eendenburg¹, V. Smit¹, A. Leary⁵, E. Rouleau⁶, M. Vreeswijk⁴, T. Bosse¹
¹Leiden University Medical Center, Pathology, Leiden, The Netherlands
²Gustave Roussy Cancer Center, Genetics-Medical Oncology, Villejuif, France
³Leiden University Medical Center, Gynaecology, Leiden, The Netherlands
⁴Leiden University Medical Center, Human Genetics, Leiden, The Netherlands
⁵Gustave Roussy Cancer Center, Medical Oncology, Villejuif, France
⁶Gustave Roussy Cancer Center, Genetics, Villejuif, France

Aims
High grade endometrial cancer (EC) has a poor prognosis. By assessing the incidence and molecular basis of homologous recombination deficiency (HRD) in EC, we aimed to determine whether EC patients may benefit from treatments that target homologous recombination deficiency.

Method
Fresh tumour tissue of 28 ECs was prospectively collected in the LUMC between 2015-2017 (16 endometrioid (EEC) and 12 non-endometriod endometrial cancers (NEEC). For functional analysis, the ability of replicating tumour cells to form RAD51-foci after ionizing radiation was used as a functional read out for HR-proficiency. Molecular analysis was done by copy number aberration analysis (CNA, genomic instability score, GIS) and sequencing of known HR-genes (BRCA1, BRCA2, ATM, PALB2, BRIP1, RAD51D, RAD51C, BARD1, CHEK2). Immunohistochemical staining was performed to determine p53-status and mismatch-repair deficiency (MMRd).

Results
Functional HR-analysis showed impairment of HR in 39% (n=11) of the 28 ECs. HRD was more frequently observed in NEECs (9/12, 75%) compared to EEC (2/16, 13%, p<0.01). 3 (27%) HRD cases were MMRd and 7 (64%) cases displayed a p53-mutant staining pattern. GIS derived from aCGH data showed concordant outcomes with RAD51-assay in 82%. In three HRD-EC we identified gene mutations that might explain the phenotype (two BRCA1, one BRIP1). TCGA-data showed a BRCA-like profile in 42% (81/192) of NEEC and 8% (33/404) of EEC.

Conclusion
A significant proportion of EC, mainly NEEC, are defective for homologous recombination. Assessment of HR efficacy in EC might allow identification of patients that could benefit from treatments targeting HRD.
Aims

Obesity is strongly associated with endometrial cancer (EC). The levonorgestrel intrauterine system (LNG-IUS) reduces the risk of EC and its precursor lesion, atypical hyperplasia (AH). We assessed the feasibility, acceptability and endometrial impact of the LNG-IUS for primary prevention of EC in obese women.

Method

Morbidly obese women (BMI>40kg/m²) with histologically normal endometrium were recruited to a clinical trial of the LNG-IUS for endometrial protection. Sequential blood and endometrial samples were obtained before and after LNG-IUS insertion. Quality of life and menstrual function questionnaires were completed. Endometrial samples underwent histological assessment and biomarkers of endometrial proliferation (Ki-67, pAKT) and hormone receptor status (ER, PR, AR) quantified by immunohistochemistry. Circulating biomarkers of insulin resistance and reproductive function were measured. Follow up for six months after LNG-IUS insertion will be completed in August 2017.

Results

In total, 25 women received an LNG-IUS. Their median age and BMI were 54 years (IQR 52, 57) and 46.7kg/m² (IQR 43.6, 50.8) respectively. Three women were ineligible due to EC/AH on their baseline biopsy. The LNG-IUS had a positive overall effect on bleeding patterns and quality of life. The LNG-IUS was associated with morphological, Ki-67 and PR expression changes in the endometrium but circulating biomarkers of proliferation and reproductive function were unchanged.

Conclusion

The incidence of occult endometrial neoplasia was high in morbidly obese women screened for participation (9%). The LNG-IUS was well tolerated and all completed patients chose to keep it for ongoing endometrial protection. Use of the LNG-IUS for this indication appears feasible.
ENDOMETRIAL CANCER

ESGO7-0388

SURVIVIN, BCL-2, BAD, BAX AND CASPASE-9 GENE EXPRESSIONS AFTER METFORMIN AND MEDROXYPROGESTERONE ACETATE TREATMENT ON ENDOMETRIAL HYPERPLASIA

E. Şahin1, M. Eraslan Şahin1, M. Dolanbay1, B. Özçelik1, H. Akgün2, Ç. Saatçioi
1Erciyes University, Obstetrics and Gynecology, Kayseri, Turkey
2Erciyes University, Pathology, Kayseri, Turkey
3Erciyes University, Genetics, Kayseri, Turkey

Aims

The aim of study is to determine Survivin, Bcl-2, Bad, Bax and Caspase-9 gene expressions after metformin (M) and medroxyprogesterone acetate (MPA) treatment on endometrial hyperplasia rat model.

Method

Three groups created (E, E+P, E+M). We have applied 4mg/kg 17β Estradiol hemihydrates (E) for 20 days after oophorectomy operation to all groups. In the tenth day of E treatment 50 mg/kg metformin added for E+M group and 1mg/day MPA for E+Progesterone (P) group. Only 4mg/kg 17β estradiol hemihydrates was used for 20 days in group E. Hysterectomies were performed at 20. day of treatment. RNA isolation was performed from tissues for genetic analysis. cDNA was obtained using the reverse transcriptase enzyme. Real time PCR used for detected Survivin, Bcl-2, Caspase-9, Bad and Bax gene mRNA expressions. Endometrial histopathological samples were stained with hematoxylin eosin.

Results

Metformin and progesterone have significant and similar effect on endometrial hyperplasia. Survivin, Bcl-2, Caspase-9, Bad and Bax gene expressions were not statistical significant between the groups (p>0.05). Bcl-2/Bax ratio was significantly decreased in MPA and M group compared to the control group (E) (p: 0.020).

Conclusion

We conclude that metformin and progesterone have significant and similar effect on endometrial hyperplasia. These agents stimulate the apoptotic pathway of the endometrial cells and prevent the tissue from endometrial cancer.
Aims

The aim of the study was to evaluate the effectiveness of combined surgery and brachytherapy for the local recurrences of endometrial cancer after primary surgery.

Method

41 patients with microscopy proven local recurrences of endometrial cancer were treated in years 2010-2015. The treatment of recurrences consisted of adjuvant irradiation of the pelvis (mean dose 46Gy) plus intracavitary brachytherapy HDR with dose 20-25 Gy at 0.5 cm below the surface of the mucosa. Follow-up ranged from 12-60 months (median 18 months). Survival curve was calculated with Kaplan-Meier method. The log-rank test was used to evaluate the influence of the following prognostic factors on survival: clinical stage (Ia, Ib), histological type, grading, time from the completion of primary treatment to the diagnosis of recurrence, and localisation of the relapsing tumor.

Results

The probability of survival of 3 and 5 years was 0.33 and 0.21 respectively. Both analyses prognostic factors – time to the diagnosis and localisation of the recurrence had a statistically significant influence of survival. The risk of death from the disease was significantly higher with extravaginal spread of the tumor and time delay of less than 1 year after completion of primary treatment (p<0.05).

Conclusion

The results of treatment confirmed a very serious prognosis in this particular group of patients, with the use of presently available methods of treatment. Better methods of early detection of relapses and more effective treatment may contribute to the better survival of these high risk patients.
Aims

Aim of this study was to rate the misdiagnosis between preoperative endometrial biopsy, intra-operative frozen section and final pathology in endometrial cancers. Secondary objective was to evaluate whether the failure in preoperative recognition of non-endometrioid endometrial cancers (NE-EC) impacts the surgical planning and the oncological outcomes.

Method

A multicenter retrospective study was conducted in patients with histological diagnosis of endometrial cancer who underwent surgical staging between 2011 and 2016. The concordance rate and the Kappa Cohen coefficient were calculated to assess the correlation between endometrial biopsy or frozen section and final pathology concerning the histological type.

Results

295 patients were enrolled, 226 were endometrioid carcinomas and 61 non-endometrioid at final pathology. The concordance rate between pre-operative and final pathology for NE-EC and the Kappa Cohen coefficient were 83.33% and 0.6203 (IC 95% 0.5004-0.7402), respectively. 24 out of 61 (39.34%) NE-EC were preoperatively misdiagnosed. The frozen section was performed in 86 patients (29.15%). The concordance rate between frozen section and final pathology for NE-EC was 80% and the Kappa Cohen coefficient was 0.391 (IC 95% 0.267-0.456). In patients with non-corresponding and corresponding histology, the surgical procedures were similar, and the 5-year overall survival and the disease free survival were not statistically different, (73% vs. 63.8%; p=0.9) and (32% vs. 65%; p=0.18) respectively.

Conclusion

Pre-operative and intra-operative histotype assessment do not reliably forecast final pathology in endometrial cancers and therefore may not be the optimal determinant for surgical and therapeutic planning. In our study, the failure to identify preoperatively NE-EC did not affect oncological outcomes.
ENDOMETRIAL CANCER

ESGO7-0114

CLINICAL SIGNIFICANCE OF CLASSIFICATION BETWEEN G1 AND G2, IN UTERINE BODY ENDOMETRIOID ADENOCARCINOMA

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Aims

Although uterine body endometrioid adenocarcinoma (EMA) is usually classified into three grades by the degree of differentiation; high (G1), intermediate (G2), and low (G3), recommended management for G2 is the same as G1 in both Japanese and ESGO Guidelines. The aim of this study is to evaluate the necessity to distinguish G2 from G1 in EMA.

Method

We retrospectively reviewed medical records of 365 patients with EMA (G1: 281, G2: 84) treated at our hospital from 2005 to 2013. Clinicopathological features and prognosis were analyzed.

Results

Median age of G1/G2 patients was 55/59 years-old, and stage distribution was 235/15/30/1 and 55/10/17/2 in stage I/II/III/IV (FIGO 2008), respectively. G2 patients had higher risk for recurrence (high risk in Japanese Guideline or high/advanced/metastatic in ESGO Guideline) (34.5% vs. 16.4%, p=0.0006), and thus underwent adjuvant treatment more frequently (58.3% vs. 35.9%, p=0.0004) compared to G1. The median follow-up period of all patients was 61 months. Overall survival (OS) in G2 was significantly worse than G1 (p=0.0086, 5Y-OS: 89.9% vs. 97.1%). Among the pathological risk factors, significant differences in frequency between G2 and G1 were observed in deep muscular invasion (>1/2), lymphovascular space invasion, cervical involvement, and lymph node metastasis. On multivariate analysis, positive peritoneal cytology and to be high-risk for recurrence were the only independent predictors of unfavorable OS.

Conclusion

Although G2 had poor prognosis compared to G1, the grade itself may not be the cause of worse prognosis. We could not find the reason to distinguish G2 from G1 in management.
ENDOMETRIAL CANCER

ESGO7-1058

ACCURACY OF 2D AND 3D ULTRASOUND IMAGING IN THE ANATOMICAL EVALUATION OF TUMOR INVASION IN ENDOMETRIAL CANCER

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Aims

Prognosis in early stages endometrial cancer depends on histological type and grading, depth of myometrial invasion, cervical involvement and lymph-node metastases. Prognostic factors are acquired by surgical staging with hysterectomy and bilateral salpingo-oophorectomy. Pelvic and para-aortic lymphadenectomy are recommended for patients at risk for lymphatic dissemination on the basis of intraoperative findings, in particular the depth of myometrial invasion. Performing a lymphadenectomy has specific risks such as lymphedema, lymphocele or urinary complications. Thus the need of performing lymphadenectomy only when strictly necessary.

To evaluate if the use of a standardized diagnostic protocol adopting 2D and 3D ultrasound imaging could improve the accuracy of intraoperative frozen section of the uterine sampling detecting the depth of myometrial invasion

Method

2D ultrasound and frozen section performance was prospectively evaluated on 50 consecutive patients diagnosed with endometrial cancer (tumor dimension, depth of myometrial invasion and tumor free margin) Then 2D - 3D US examination performed by a gynecologic oncologist with expertise in ultrasounds was applied in a protocol designed to guide the anatomopathologist to the best cut on frozen section. This procedure aimed to improve the sensitivity and specificity of the pre and intraoperative examination

Results

A preoperative standardised protocol adopting 2D-3D US giving accurate information on anatomical localization of the tumour to anatomopathologist results in improving the performance of the intraoperative frozen section (sensitivity from 67% to 100%, specificity 93% to 100%, PPV from 83% to 100%, VPN from 83% to 100%).

Conclusion

This leads to a better management of patients with endometrial cancer.
ENDOMETRIAL CANCER

ESGO7-1297

ENDOMETRIAL CANCER: IS THERE A BETTER WAY TO EVALUATE MYOMETRIAL INVASION WITH TVUS 2D?
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Aims

To compare the diagnostic performance of four different TVUS 2D methods to study the myometrial invasion in endometrial cancer.

Method

This prospective single Institution study was performed on 42 endometrial cancer patients between Jan/2015 and Dec/2016. Myometrial invasion (<50% vs > or = 50%) was estimated in each patient, using four TVUS 2D different methods: IETA d/D, subjective assessment, endometrial thickness (considered positive if > or = 18 mm) and myometrial-endometrial junction (considered positive if interrupted or not defined). The concordance between the TVUS 2D and pathological findings has been calculated and reported as sensitivity, specificity, PPV, NPV and k Cohen’s.

Results

Median age was 66 years, 38 patients had EC, 4 had NEC; 13/42 patients had myometrial invasion > or = 50% at histopathology. The results are shown in Table 1.

Table 1: sensitivity, specificity, PPV, NPV and k Cohen’s of four different TVUS 2D methods

<table>
<thead>
<tr>
<th>Method</th>
<th>Sensitivity (95% C.I.)</th>
<th>Specificity (95% C.I.)</th>
<th>PPV (95% C.I.)</th>
<th>NPV (95% C.I.)</th>
<th>k Cohen’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>IETA d/D</td>
<td>67% (0.41-0.93)</td>
<td>66% (0.48-0.83)</td>
<td>44% (0.2-0.67)</td>
<td>83% (0.67-0.98)</td>
<td>0.29 (0.007-0.57)</td>
</tr>
<tr>
<td>Subjective assessment</td>
<td>69% (0.44-0.94)</td>
<td>69% (0.52-0.86)</td>
<td>50% (0.27-0.73)</td>
<td>83% (0.68-0.98)</td>
<td>0.34 (0.064-0.63)</td>
</tr>
<tr>
<td>Endometrial thickness</td>
<td>54% (0.27-0.81)</td>
<td>68% (0.51-0.85)</td>
<td>44% (0.19-0.68)</td>
<td>76% (0.59-0.93)</td>
<td>0.21 (0-0.51)</td>
</tr>
<tr>
<td>Myometrial-endometrial junction</td>
<td>80% (0.55-1)</td>
<td>71% (0.52-0.91)</td>
<td>57% (0.31-0.83)</td>
<td>88% (0.73-1)</td>
<td>0.46 (0.19-0.72)</td>
</tr>
</tbody>
</table>

Conclusion

The evaluation of the myometrial-endometrial junction interruption has shown the best diagnostic performance and could be an interesting modality to foresee the depth of myometrial invasion. The study is ongoing to increase the sample size and to substantiate this preliminary observation.
ENDOMETRIAL CANCER

ESGO7-0189

ENDOMETRIAL CARCINOMA IN A SINGLE HORN OF A BICORNUATE UTERUS: A CASE REPORT

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Aims

In the presence of bicornuate uterus, a bilateral endometrial biopsy should be performed in order to reduce the risk of delayed or missed diagnosis.

The possibility of existence of a separate uterine cavity should always be considered when endometrial cancer is clinically suspected but pathology fails to confirm the diagnosis.

Method

we discuss the diagnosis and the management of endometrial carcinoma in a single horn of bicornuate uterus in a 64 years old woman as a case report

Results

The gross examination of the uterus revealed a bicornuate uterus with a greater horn of 12x9x8 cm and a smaller horn of 10x3 cm (Figure 2). The cavity of the greater horn showed a neoplastic growth of 10 cm with infiltration of about 1.8 cm of the myometrium from whole thickness of thickness of 1.9 cm. while the other horn was free of tumor tissue

The microscopic examination of the uterus revealed G2 endometrioid adenocarcinoma of the endometrium of the greater horn with infiltration of more than 50% of the myometrium.

Conclusion

The management of a case of bicornuate unicollis uterus with endometrial carcinoma in only one horn is the same as patients with endometrial cancer in single uterus and depends mainly on stage and histological grade of the tumor.

The possibility of existence of a separate uterine cavity should always be considered when endometrial cancer is clinically suspected but pathology fails to confirm the diagnosis. This points out the importance of a careful physical examination and radiographic evaluation in such cases.
FERTILITY-PRESERVING MANAGEMENT OF EARLY STAGE ENDOMETRIAL CANCER: ONCOLOGICAL AND REPRODUCTIVE OUTCOME

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Aims

Assess efficacy of progestins as fertility-sparing treatment of early endometrial cancer and to evaluate the oncological and reproductive outcome in a South East Asian population.

Method

This is a retrospective cohort study in a large tertiary institution in Singapore. We identified women below 40 years, with clinically presumed stage IA grade 1 and selected grade 2 endometrial cancer (The two patients were keen to try fertility preservation treatment and were adequately counseled) who were offered progestin therapy for fertility-sparing management at our center between 2010 and 2015. We retrieved their medical record and ran analyses for association of patient characteristics with treatment outcome.

Results

Forty-three patients with grade 1 tumors and two patients with grade 2 tumors were identified. Fourteen were either lost to follow up, sought treatment elsewhere, or requested for definitive treatment. Thirty-one were included in the analysis. Twenty-one (67%) achieved complete remission at median time of 5 months (2-25). Nine patients (29%) did not respond to treatment and underwent hysterectomy (median time: 9 months). Both patients with grade 2 tumors achieved remission. The overall probability of remission increases steeply for the first 9 months, then plateaus and gradually increases after 15 months. Three patients had subsequent pregnancies. Ten patients (45%) patients recurred at a median time of 17 months (6-64) after remission. Morbidly high BMI was associated with increased recurrence risk (p<0.05).

Conclusion

With aggressive monitoring, high dose progestin appears to be a safe therapy for early endometrial adenocarcinoma in women 40 years old or younger wishing to preserve fertility.
MOLECULAR AND CLINICOPATHOLOGICAL CLASSIFICATION OF HIGH RISK ENDOMETRIAL CANCER (EC) TREATED WITH CONCURRENT CHEMORADIATION THERAPY (CCT)


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Aims

To evaluate the outcome of high risk EC treated with CCT and its correlation with a surrogated molecular classification.

Method

Forty-nine patients (pts) treated from 2011 to 2016 were included in a prospective database. Pts were treated with cisplatin with pelvic external beam radiotherapy (RT), plus brachytherapy; followed by paclitaxel and carboplatin. The molecular classification into the 4 TCGA groups (POLE mut, MSI, CN-low, CN-high/serous-like) was performed in 38 pts using a surrogate classification: POLE mutations (detected by Sanger), and immunohistochemistry for p53 and MMR (as surrogate markers for TP53 mutations and MSI).

Results

Pts median age was 67yo; Endometrioid pathology in 59%, serous 20%; up to 73% grade 3; and FIGO Stage III in 82%. With a median follow-up of 39 months, 30% of pts experienced metastatic relapse. 3-year overall survival (OS) was 80%, and 3-year progression free survival was 74%.

Pts were molecularly classified as: 0% POLE mut, 13% CN-low, 37% MSI and 50% CN-high. CN-low present an 3-y OS of 100%, MSI of 82% and CN-high of 67%. No statistically significant differences were found (low number of events and pts). It is remarkable the survival difference between endometrioid and serous tumors in the CN-high group (86% vs 50%, respectively).

Conclusion

CCT followed by CT is an effective adjuvant therapy in high risk EC pts with an acceptable toxicity. Molecular prognostic classification has shown a big proportion of patients in MSI and CN-high groups, with known worse prognosis. Morphologic differentiation between endometrioid and serous carcinomas in CN-high hold prognostic implications.
ENDOMETRIAL CANCER

ESGO7-0996

ROBOT-ASSISTED MANAGEMENT OF APPARENT EARLY-STAGE ENDOMETRIAL CANCER: THE BELGIAN EXPERIENCE
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Aims

We report the Belgian experience of endometrial cancer management with robotic-assisted laparoscopy.

Method

A retrospective, multicenter, descriptive study including patients with presumed early stage endometrial cancer surgically treated by robot-assisted laparoscopy between 2007 and 2016. All patients were treated according to local policies and had a total hysterectomy with bilateral salpingo-oophorectomy with or without lymph node dissection. Operative and postoperative variables were measured to assess the feasibility and safety of the procedure. Follow-up data and oncological outcomes were collected.

Results

Four hundred sixty-five patients were included. The median age was 68 years and the median BMI was 30 kg/m². Histology types were endometrioid (78%), serous (11%), carcinosarcoma (3%), mixed (6%) and mucinous (1%). Nodal staging was performed in 274 patients (58%). The median nodal counts were 21 for pelvic and 10 for para-aortic areas. The median estimated blood loss was 75 ml. Median operative times were 170 min (skin to skin) and 122 min (console time). We report 3 conversions to laparotomy (0.6%). Sixteen % of the patients developed at least one post-operative complication graded according to Clavien (Clavien I-II: 17%, Clavien III: 4.7%, Clavien IV-V: 0.8%). There was one perioperative death (necrotizing fasciitis). The median hospital stay was 3 days. After a median follow-up of 21 months, the disease-free survival was 88.8%.

Conclusion

This large series supports the feasibility and safety of robotic surgery in apparent early stage endometrial cancer patients. The low complication and conversion rates associated with the favorable oncological outcomes support its use in this indication.
Aims

A third of woman died for endometrial cancer were initially considered with low risk for relapse. This implies clinical classification as type I and type II is sub-optimal. Hence, more improved means are needed, to precisely identify high-risk patients from low-risk ones. Many studies associated the negativity of estrogen receptor (ER) and progesterone receptor (PR) with poor survival in endometrial carcinoma. However, their roles in low-risk endometrial cancer are unclear. This study was to investigate the prognostic value of double negative ER and PR (ER/PR loss) in low-grade endometriod endometrial adenocarcinoma (EEA).

Method

ER and PR expression were assessed by immunohistochemical staining on formalin-fixed paraffin-embedded tumor samples for 903 patients with grade I-II EEA. ER and PR negativity were determined if none of tumor cell nuclei was stained. The results were correlated with clinicopathologic parameters and survivals.

Results

Thirty-five of 903 patients were confirmed with ER/PR loss. They had deeper myometrial infiltration ($P=0.006$), severer FIGO stage ($P=0.005$), and higher rate for pelvic lymph node metastasis ($P=0.016$), vascular invasion ($P=0.015$) and relapse ($P=0.001$), when compared with other 868 of 903 patients who had positive ER and/or PR. In univariate analysis, ER/PR loss was associated with a shorter progression-free survival (PFS, $P=0.0002$) and overall survival (OS, $P=0.0003$). ER/PR loss also predicted poor PFS (HR=4.04, $P=0.003$) and OS (HR=5.56, $P=0.016$) in multivariate analysis.

Conclusion

In low-grade EEA, ER/PR loss seemed to correlate with a more aggressive subtype with poorer survivals. Implementing ER/PR evaluation into clinical algorithms may improve the risk stratification for tailored therapeutic strategy.
Aims

There is a host immune response to the tumor cells by tumor infiltrating lymphocytes (TILs). These cells infiltrate many solid tumors like in melanoma or lung cancer, with different prognosis impact and development of new therapies. The aim of this study was to describe the TILs in endometrial cancer (EC) from a quantitative and functional point of view.

Method

We studied a prospective cohort of patients with endometrial cancer. All FIGO stage and histological type were included. Tumoral and normal endometrium was sampled from surgical hysterectomy, prior to any treatment. A peripheral blood was also obtained for each patient and mononuclear cells were extracted (PBMC). All samples were analyzed in flow cytometry.

Results

The CD45+ cells infiltrate significantly higher tumor tissue than in normal endometrium (p=0.0195). The tumor immune microenvironment presents more Treg cells (p=0.002), but less Natural Killer (NK) cells (p<0.001) than normal endometrium. In comparison to PBMC from the same patients, TILS have a different activation profile with higher PD1, TIM3 and OX40 surface expression.

Conclusion

Our study highlights more TILs in EC than in normal endometrial tissue. In term of functional activity, the immune response of TILs against tumor cells appears to decrease. An inversion of the TILs function, by immunotherapy, could be a new treatment for EC.
ENDOMETRIAL CANCER

ESG07-1388

ENDOTHELIAL PROGENITOR CELLS (EPCs) AND CIRCULATING ENDOTHELIAL CELLS (CECs) IN PERIPHERAL BLOOD OF WOMEN WITH ENDOMETRIAL CANCER

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Aims

To analyze the number of endothelial progenitor cells (EPCs) and circulating endothelial cells (CECs) – as potential new markers of neoangiogenesis – in peripheral blood from endometrial carcinoma patients regarding the stage and grade of the malignancy.

Method

We studied 30 patients with endometrial cancer compared to control group of 28 women with non malignant diseases. The blood samples were taken perioperatively and labeled with monoclonal antibodies: anti CD31, anti CD45 for CECs and anti CD34, anti VEGFR2/KDR for EPCs. After incubation with fluorescent CytoCount beads all samples were calculated by flow cytometry. Analysis was supported by CellQuest software with the use of debris gates.

Results

The CECs numbers (CD31⁺, CD45⁻) were similar in both groups but EPCs numbers (CD34⁺, VEGFR2/KDR⁺) in the peripheral blood of women with endometrial carcinoma were significantly augmented as compared with those of control healthy women (Fig. 1). When patients were divided, according the grading, into G1 and G2 groups it appeared that augmented EPC numbers may be demonstrated only in G1 stage patients (Fig.2). When patients were divided, according to the stage into FIGO I and FIGO II groups difference in EPC number was found in patients with FIGO I (Fig.3).

Conclusion

We demonstrated that the general number of EPCs is significantly increased in peripheral blood from women with endometrial cancer what may be related with tumor neoangiogenesis. However we could not show such result referring to CECs and the correlation with tumor stage and grade. Further studies could clarify the subject.
PELVIC LYMPHADENECTOMY IN THE MANAGEMENT OF ENDOMETRIAL CANCER: A SERVICE REVIEW OF WALES’ LARGEST TERTIARY CENTRE

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Aims

The 2015 Cochrane review which concluded the role of Pelvic lymphadenectomy (PLA) in intermediate & high risk early stage endometrial cancer (EC) is unclear means PLA in the management of endometrial cancer remains controversial. Standard practice includes external beam radiotherapy (EBRT) +/- brachytherapy (BT) in these cases. The South East Wales Gynaecological Oncology Centre (SEWGOC) guidelines include PLA for high risk EC, avoiding EBRT if nodes negative. Our aim was to undertake a service evaluation of PLA in high risk EC patients and whether EBRT was avoided in node negative patients.

Method

We conducted a retrospective review of patients referred to the SEWGOC whose treatment included surgery from 01/04/2013-31/03/2015 with SEWGOC guidelines on patient selection for PLA as the standard.

Results

292 patients had surgery for EC, 123 had PLA indicated, 113 underwent PLA. 2 year disease free survival was 76% with 2 year mortality 15%.

Post-operatively 77 patients had ≤ stage 2 disease and 36 ≥ stage 3 disease. Following PLA, 16 patients were up-staged & 9 were down-staged altering their management accordingly.

After PLA, 68 patients were intermediate/high risk of recurrence; 7 received EBRT & BT, 59 BT alone & 2 were not fit for adjuvant therapy. In the follow-up period there were no recurrences in the EBRT & BT group, 6 in the BT group & 1 in the patients who were unfit for adjuvant treatment group.

Conclusion

Adherence to the local SEWGOC guidelines is high and 90% of patients avoided EBRT as a result of having PLA.
ENDEMETRICAL CANCER
ESGO7-1347

VENOUS THROMBOEMBOLIC COMPLICATIONS IN PATIENTS WITH CANCER CORPUS UTERI

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Aims

To estimate the risk of venous thromboembolism (VTE) in uterine cancer considering possible risk factors. We aim to clarify if minimally invasive surgery (MIS) is correlated with a lower risk of VTE compared to open surgery which thromboprophylactic recommendations are mainly based on.

Method

In a registry based nationwide cohort study data on patients with uterine cancer was retrieved from the nationwide Danish Gynaecological Cancer Database (DGCD). Data on VTE was extracted from the Danish National Patient Register. The National Population Register and the National Causes of Death Register hold information on vital status, date of birth and death including cause of death.

Time to VTE was examined with cox proportional hazard models.

Results

We identified 7,067 patients with uterine cancer in DGCD diagnosed in the period 2005-2014.

Focusing on patients undergoing surgical treatment for uterine cancer (n=6330) we found a 30-day VTE incidence of 0.49% with open surgery (23/4651) and 0.48% (8/1679) with MIS (P=0.918). In a multivariable cox regression model we identified advanced disease and previous VTE as significant predictors of 30-day VTE risk. The 30-day hazard ratio for VTE following MIS did not show any significant difference compared to open surgery (HR 0.92, CI 0.41-2.05, P= 0.833).

Conclusion

The 30-day incidence of venous thromboembolism after surgery for uterine cancer was low overall (0.49%) and there was no difference in hazard ratios between MIS and open surgery.
ENDOMETRIAL CANCER

ESG07-1022

SURGICAL OUTCOME OF FLUORESCENT IMAGE GUIDED SENTINEL LYMPH NODE (SLN) DISSECTION WITH INDOCYANINE GREEN (ICG) IN ENDOMETRIAL CANCER PATIENTS

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Aims

The purpose of this study was to review the current performance of sentinel lymph node biopsy (SLNB) in terms of success rate, bilateral detection rate, location, and number of nodes per level. Through subgroup analyses of node positive patients, the clinical pre-operative risk factors that warrant full lymphadenectomy are outlined.

Method

We performed a retrospective review of 112 endometrial cancer patients who underwent laparoscopic or robotic lymphadenectomy after fluorescent SLNB with ICG from May 2014 to March 2017.

Results

SLN detection rate was 94.6% (106/112 patients) and bilateral detection rate was 74.6% (88/112 patients). The median number of harvested SLN was 5 (ranging from 1 to 24) and harvested total lymph node was 20 (ranging from 1 to 94). SLN metastasis was found in 6.25% (7/112 patients). Out of seven patients who were positive for SLN metastasis (3 with SLN only, 4 with both SLN and non-SLN metastasis), one patient 0.94% (1/106) had isolated non-SLN metastasis in para-aortic lymph node. This patient had serous carcinoma, r/o carcinosarcoma with >5cm tumor size and suspicious para-aortic lymph node on PET-CT. There was no pelvic non-SLN metastasis. Percentage of metastatic node of all harvested node was 1.86% (12/645) for SLN and 0.73% (16/2220) of non-SLN. Sensitivity for SLN detection was 87.5% and negative predictive value was 99.1%.

Conclusion

SLN detection with ICG was feasible and useful for its high specificity and negative predictive value. However, in high risk endometrial cancer patients, full lymphadenectomy should be done.
ENDOMETRIAL CANCER

ESG07-1212

THE MSKCC NOMOGRAM IS MORE ACCURATE IN THE PREDICTION OF OVERALL SURVIVAL IN A GERMAN ENDOMETRIAL CANCER PATIENT POPULATION THAN THE FIGO STAGING SYSTEM.

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Aims

Nomograms have shown better discrimination and calibration values to predict overall survival (OS) compared to conventional staging systems for a number of tumours. We tested the Memorial Sloan Kettering Cancer Center (MSKCC) nomogram for the prediction of OS in endometrial cancer (EC) patients in our patient cancer population.

Method

493 (322 type I and 171 type II) EC patients who received primary surgical treatment at the Universitaetsfrauenklinik Freiburg between 1991 and 2011 were included and a dataset of 50 covariates was created. Cox regression analyses were performed to identify independent predictors of survival. Predicted survival was calculated using the nomogram calculator on https://www.mskcc.org/nomograms. Receiver operating characteristic (ROC) curves were created for the FIGO 1988, FIGO 2009 staging classification and for the MSKCC 1, 3 and 5 year-survival prediction models. The calculated area under the curve (AUC) values of predicted versus actual OS were compared.

Results

After a mean follow-up time of 100 months, 232 patients were reported dead (47 %). Independent predictors of survival in our population of EC patients were FIGO stage (1988 and 2009), positive cytology and positive resection margins (p < .01). The AUC values of the ROC curves were 0.66 (FIGO 1988), 0.64 (FIGO 2009), 0.79 (predicted 1-year OS), 0.79 (predicted 3-year OS) and 0.8 (predicted 5-year OS).

Conclusion

In this external validation, the FIGO classification showed a moderate and the MSKCC models showed a good accuracy in predicting OS in endometrial cancer patients. The MSKCC nomogram may be useful for a better patient stratification in clinical trials.
L1CAM AS RISK FACTOR FOR RECURRENCE IN STAGE I ENDOMETRIAL CANCER PATIENTS

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Aims

Endometrial cancer is the most common gynecologic cancer in developed countries and the second most common gynecologic cancer worldwide. From clinical and epidemiological studies, a dualistic classification of endometrial cancers was proposed, namely type I and type II tumors, which have different patterns of molecular alterations that underlie their pathogenesis and clinical outcome. In general, prognosis of early-stage type I endometrial cancer is excellent, with a 10-year overall survival rate exceeding 80%. L1 cell adhesion molecule (L1CAM) expression has been implicated as risk factor for disease recurrence and risk of death in endometrial cancer type I.

Method

We conducted a retrospective single center study to determine expression of L1CAM by immunohistochemistry in 273 FIGO stage I endometrial cancer patients. All tumor specimens were endometroid adenocarcinoma.

Results

Total number of 273 patients with endometroid adenocarcinomas were included in the study. 84 women (30.8%) were rated as L1CAM-positive and 189 women (69.2%) were related a L1CAM-negative. Of these L1CAM-positive cancer patients 11.9% recurred during follow-up compared with 4.23% L1CAM-negative cancers (p-value = 0.03632).

Conclusion

L1CAM has been shown to be strong prognostic factor in FIGO stage I endometrial adenocarcinoma for disease recurrence.
NOVEL ALGORITHM FOR DIAGNOSIS OF ENDOMETRIAL CANCER

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⁵Department of Pathology, Division of Obstetrics and Gynecology, University Medical Centre, Ljubljana, Slovenia

Aims

To evaluate the diagnostic and prognostic potential of preoperative serum levels of CA-125 and HE4 in endometrial cancer patients and control group of patients.

Method

Prospective case-control study of 133 women that underwent surgical treatment at the University Medical Centre Ljubljana (64 endometrial cancer patients, 69 control patients with prolapsed uterus or myoma). Serum levels of CA-125 and HE4 were determined with electrochemiluminescent specific assays.

Results

Concentrations of CA-125 and HE4 were significantly increased in case compared to control groups with p values of 2.67×10⁻⁴ and 1.36×10⁻⁷, respectively. With logistic regression analysis we built a diagnostic model that combines CA-125, HE4 and BMI with an AUC of 0.804, sensitivity of 66.7% and specificity of 84.6%. Serum levels of HE4 significantly differed when patients were stratified according to presence/absence of deep myometrial invasion (p = 3.39×10⁻⁴). The median values of HE4 were higher in patients with lymphovascular invasion (p = 0.06) but this difference was not significant.

Conclusion

A model including preoperative levels of CA-125, HE4 and BMI has good diagnostic characteristics, while serum levels of HE4 have prognostic potential to stratify patients according to myometrial and lymphovascular invasion.
Aims

Since 66.8% of patients with leiomyosarcoma (LMS) receive an inadequate surgery, the development of a preoperative LMS-risk-score is an imperative.

Method

We calculated the LMS-risk in presumed LM by a logistic regression model for a binary response variable based on clinical findings from 670 LM and 231 LMS from the German Clinical Competence Centre for Genital Sarcomas and Mixed Tumours and cooperating departments.

Results

Table 1. LMS-risk-points calculated by a logistic regression model

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Points</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional bleeding premenopause</td>
<td>1</td>
<td>1.19</td>
</tr>
<tr>
<td>Postmenopause</td>
<td>5</td>
<td>4.70</td>
</tr>
<tr>
<td>Suspicious sonography</td>
<td>3</td>
<td>3.07</td>
</tr>
<tr>
<td>Rapid growth of uterus/tumor</td>
<td>1</td>
<td>0.83</td>
</tr>
<tr>
<td>Tumor Ø ≥ 5 - &lt; 7 cm</td>
<td>2</td>
<td>1.01</td>
</tr>
<tr>
<td>Tumor Ø ≥ 7 - &lt; 9 cm</td>
<td>2</td>
<td>1.85</td>
</tr>
<tr>
<td>Tumor Ø ≥ 9 - &lt; 11 cm</td>
<td>3</td>
<td>2.17</td>
</tr>
<tr>
<td>Tumor Ø ≥ 11</td>
<td>3</td>
<td>3.21</td>
</tr>
<tr>
<td>Postmenopause ≥ 52 - &lt; 62 years</td>
<td>-1</td>
<td>-1.40</td>
</tr>
<tr>
<td>Tumor related symptoms without bleeding disturbances</td>
<td>-1</td>
<td>-0.58</td>
</tr>
</tbody>
</table>

The presence of sonographic examination is essential for the score. Maximum of 12 points can be reached.

Table 2. Cumulative risk-points and LMS risk.

<table>
<thead>
<tr>
<th>LMS-risk-points LMS-risk %</th>
<th>&lt;1</th>
<th>&lt;1</th>
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<tbody>
<tr>
<td>1</td>
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<tr>
<td>2</td>
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<td>3</td>
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<tr>
<td>9</td>
<td>98</td>
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</tr>
<tr>
<td>&gt;9</td>
<td>&gt;99</td>
<td></td>
</tr>
</tbody>
</table>
The AUC in the Receiver−Operating−Characteristic Curve was 0.962, giving an excellent result.

Conclusion

Based on just six clinical criteria an easy-to-use preoperative LMS-risk-score for prevention of inadequate LMS-surgery was established and should be used prior of LM-surgery. Our score provides a personalized decision working tool.
ENDOMETRIAL CANCER

ESGO7-0600

EVALUATION AND SELECTION OF QUALITY INDICATORS FOR THE MANAGEMENT OF ENDOMETRIAL CANCER

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Aims

To evaluate 36 quality indicators (QI) for monitoring the quality of care of uterine cancer to be implemented in the EFFECT (EFFectiveness of Endometrial Cancer Treatment) project.

Method

The 36 QI were evaluated in the first ten patients diagnosed with endometrial cancer and managed in fourteen French hospitals in 2011. To assess the status of each QI, a questionnaire detailing the 36 QI was sent to each hospital, and the information was cross-checked with information from the multidisciplinary staff meeting, surgical and pathological reports. The QI were evaluated in terms of measurability and improvability. The remaining QI were evaluated with a multiple correspondence analysis (MCA) to highlight the interrelationships between qualitative variables describing a population.

Results

Thirteen of the 14 institutions responded to the survey for a total of 130 patients. Twenty-five of the 36 QI affected less than 80% of the patients. Thirteen QI were found not to be improvable because they reached >95% of the theoretical target. Finally, five QI concerning more than 80% of the patients were found to be improvable. The MCA finally identified three dimensions—outcome, safety and perioperative management—that included the five QI.

Conclusion

In the present study, five of the 36 QI suggested by the EFFECT project appear to be sufficient to report on the quality of endometrial cancer management. Further studies are needed to correlate the information provided by those five questions and the relevant outcomes reflecting quality of care in endometrial cancer.
ENDEMETRIAL CANCER

ESGO7-0935

OVARIAN PROTECTION AND FERTILITY PRESERVATION IN WOMEN WITH CANCER: A FRENCH REGISTRY ANALYSIS BETWEEN 2005 AND 2014.

M. Koskas\textsuperscript{1}, J. Phelippeau\textsuperscript{1}
\textsuperscript{1}Hôpital Bichat-Claude Bernard, Gynecology, PARIS, France

Aims

The aim of the study was to describe the practices concerning ovarian protection and fertility preservation in young women treated for cancer over the last decade in France.

Method

The study population comprised women between 15 and 49 years old diagnosed with cancer between 2005 and 2014 abstracted from the Echantillon Généraliste des Bénéficiaires database, a 1/97th random sample of the French population covered by the national healthcare insurance system. To assess practices concerning ovarian protection, gonadotropin-releasing hormone (GnRH) agonists consumption and ovarian transposition were analyzed. For fertility preservation, GnRH agonists consumption, ovarian cryopreservation and oocyte cryopreservation within 6 months after cancer treatment were analyzed. Explanatory variables were analyzed using a multilevel model.

Results

2447 women were identified. Among the 553 patients exposed to ovarian failure, 74 (13%) had ovarian protection (67 received GnRH agonists and 7 underwent ovarian transposition). Among the 227 women exposed to fertility alteration, 53 (23%) had fertility preservation (37 received GnRH agonists and 16 had ovarian or oocyte cryopreservation). Factors associated with ovarian protection were the age under 40 years old, diagnosis of breast cancer and the type of health institution. Fertility preservation was more frequently performed in patients with breast cancer. The five years probability of pregnancy was 3.8\% and 9.8\% (p=0.26) for women with fertility preservation and without fertility preservation respectively.

Conclusion

Over the last decade, ovarian protection and fertility preservation concerned respectively 13\% and 23\% of French women treated for cancer (mainly breast cancer).

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ENDOMETRIAL CANCER

ESG07-0215

LAPAROSCOPIC SURGERY FOR LOW, INTERMEDIATE AND HIGH-RISK ENDOMETRIAL CANCER: A RETROSPECTIVE ANALYSIS OF LONG-TERM OUTCOMES

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3Cukurova University School of Medicine, Biostatistics, Adana, Turkey

Aims

The aim of the present study was to compare the long-term outcomes of laparoscopic and laparotomic surgeries and to evaluate the results according to low, intermediate, and high-risk groups of endometrial cancer.

Method

Data of endometrial cancers were collected retrospectively from a single gynecologic oncology department between the January 2005 and January 2016. Patients were divided into 2 groups as laparotomic surgery (group 1, n=515) and laparoscopic surgery (group 2, n=286) groups. Patients’ demographics, clinical characteristics such as stage, grade, histopathologic type, lymphovascular space invasion (LVSI), myometrial invasion, lymph node involvement, and risk groups, peri- and post-operative outcomes, and survival outcomes were compared between the groups.

Results

The demographic characteristics of both groups were similar except age. Shorter hospital stay and fewer complications were observed in group 2. The overall survival (OS) was similar in the low and intermediate risk groups but higher in the high-risk patients for laparoscopy compared to laparotomy. The covariate analysis revealed that the death and recurrence risks were approximately twice higher in the laparotomy group than in the laparoscopy group (OR: 1.9, 95%CI: 1.2-3.1 for overall survival; OR: 2, 95%CI: 1.2-3.3 for disease-free survival). Age, stage, histopathological type, and operation type were determined as independent prognostic factors in the multivariate analysis for both of DFS and OS.

Conclusion

The results of our study support the well known positive aspects of laparoscopy as well as safe and effective use in cases of intermediate and high risk endometrial cancer.
ENDOMETRIAL CANCER

ESGO7-0218

IS IT REALLY UTERINE GRADE 3 ENDOMETRIOID ADENOCARCINOMA AND CARCINOSARCOMA CLINICALLY SIMILAR?

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Aims

Was to compare the clinical characteristics and outcomes of the cases with uterine high grade (grade 3) endometrioid adenocarcinoma (HGEAC) and uterine carcinosarcoma (CS).

Method

A total of 141 patients recruited from the Gynecologic Oncology Unit of Cukurova University, Faculty of Medicine were included in this study; 61 cases with uterine HGEAC (group 1) and 80 cases with CS (group 2) followed between January 1996-2016. Clinical and pathological characteristics including age, stage, initial symptom, operation type, myometrial invasion, lymphovascular invasion, lymph node invasion, adjuvant therapy and survival were compared between the groups.

Results

There are no statistically significant differences between the groups according to age, nulliparity, menopausal status, medical history of patients, family history of cancer, complication rate. PPALND was performed 85% of the group 2 and 67% of the group 1 (p<0.001). Stage, myometrial invasion degree, lymph node metastasis were similar between the groups. Lymphovascular space invasion was more present in group 1 than group 2 (p=0.032). But positive cytology was more common in group 2 (p=0.008). Adjuvant RT was given more in group 1 (p=0.001) and KT was applied more in group 2 than 1 (p=0.008). There is no difference between the group according to DFS (p=0.316) but OS was found better in group 1 (p=0.02).

Conclusion

Patients in both groups had similar stage. KT was used more frequently in patients with carcinosarcoma, RT was used more in patients with HGEAC for the main adjuvant therapy modality. The survival was found better in patients with HGEAC.
ENDOMETRIAL CANCER

ESGO7-0285

CLINICAL AND PROGNOSTIC EFFECTS OF OBESITY ON ENDOMETRIAL CANCER

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Aims

To determine the association of body mass index (BMI) on operative outcomes, clinicopathologic characteristics and prognosis in endometrial cancer.

Method

Three hundred ninety two patients with endometrial carcinoma who were operated and followed up in our clinic were evaluated according to the BMI groups. Patients' demographics, clinical characteristics such as stage, grade, histopathologic type, lymphovascular space invasion (LVSI), myometrial invasion, lymph node involvement, and risk groups, peri- and post-operative outcomes, and survival outcomes were compared according to BMI stratifications.

Results

BMI groups were <30 (n= 104, 26.5%), 30–34 (n=85, 21.7%), 35–39 (n=96, 24.5%), and≥40 (n=107, 27.3%). Laparotomy was performed to 186 cases, and laparoscopy to 206 cases. The medians of age, comorbidity status, surgical type (laparotomy or laparoscopy) were not different among the groups (p=0.057, 0.065, 0.263, respectively). The medians of operation time (p=0.224), postoperative hospitalization time (p=0.212), estimated blood loss (p=0.077), drop in hb level (p=0.387) were similar. High BMI increased intra- and postoperative complication rates (p= 0.049). Stage (p= 0.481), grade (p=0.756), myometrial invasion (p=0.190), risk groups (low, moderate and high; p=0.638), nodal involvement (p=0.334) and histologic type (p= 0.919) were not differed according to groups of BMI. Median of overall survival and disease free survival were found similar (p=0.551, 0.534, respectively).

Conclusion

We demonstrated that BMI did not alter the patient's clinicopathologic characteristics and did not affect the prognosis negatively but increased the operative complications.
PROGRAMMED DEATH-1 (PD-1), PROGRAMMED DEATH-LIGAND 1 (PD-L1) EXPRESSION IN UTERINE CARCINOSARCOMAS

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Aims

Programmed death-1 (PD-1) and programmed death-ligand 1 (PD-L1) are new targets in cancer immunotherapy. PD-1 protein is an immune checkpoint expressed in many tumors. The aim of this study is to evaluate the clinical and prognostic importance of PD-1 and/or PD-L1 in uterine carcinosarcomas (UCS).

Method

Formalin fixed, paraffin-embedded tissue samples from 59 cases with UCS were analyzed in this study. Immunohistochemical staining was performed to detect the PD-1 and PD-L1 expressions in tumor tissue and microenvironment, separately.

Results

PD-1 expression in tumor tissue and microenvironment was detected in 15 (25 %) and 18 (30 %) cases, respectively. PD-L1 expression in tumor tissue and microenvironment was detected in 15 (25 %) and 12 cases (20 %), respectively. It has been found that expression of PD-L1 in tumor was associated with longer survival although PD-1 expressions were not found to be related with survival. Median survival in cases with and without PD-L1 expression were 38 and 15 months, respectively (p=0.019). Lymphovascular space invasion (LVSI) (p=0.014), myometrial invasion (p=0.008) and PD-L1 expression were found prognostic factors. Cox regression analysis showed that expression of PD-L1 was found to be an independent risk factor for prognosis (OR 3.9; 95 % CI 1.4–11.0).

Conclusion

Targeting PD-1 and/or PD-L1 meaningful due to the 25 % expression of each in UCS, and we found an important association between PD-L1 expression and prognosis in UCS. Programmed death pathway is involved in UCS development/biology and larger studies will be more informative for targeted treatment and/or checkpoint blocking therapies.
ENDOMETRIAL CANCER

ESG07-1355

PROGRAMMED DEATH-1 (PD-1), PROGRAMMED DEATH-LIGAND 1 (PD-L1) EXPRESSION IN TYPE 2 ENDOMETRIAL CANCER

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2Cukurova University School of Medicine, Pathology, Adana, Turkey
3Cukurova University School of Medicine, Medical Oncology, Adana, Turkey
4Cukurova University School of Medicine, Biostatistics, Adana, Turkey

Aims

Programmed death-1 (PD-1) and programmed death-ligand 1 (PD-L1) are new targets in cancer immunotherapy. PD-1 protein is an immune checkpoint expressed in many tumors. The aim of this study is to evaluate the clinical and prognostic importance of PD-1 and/or PD-L1 in type 2 endometrial cancer.

Method

Formalin fixed, paraffin-embedded tissue samples from 67 cases with type 2 endometrial cancer were analyzed in this study. Serous adenocancer (n=21, 31%), clear cell (n=14, 21%) and mixed type adenocancer (n=32, 48%) were consisted the study cohort. Immunohistochemical staining was performed to detect the PD-1 and PD-L1 expressions in tumor tissue and microenvironment, separately.

Results

PD-1 expression in tumor tissue and microenvironment was detected in 26 (39 %) and 34 (51 %) cases, respectively. PD-L1 expression in tumor tissue and microenvironment was detected in 11 (16 %) and 19 cases (28 %), respectively. It has been found that expression of PD-1 and PD-L1 in tumor was associated with shorter survival although PD-1 and PD-L1 in microenvironment expressions were not found to be related with survival. Median survival in cases with and without PD-1 expression were 48 and 21 months, respectively (p=0.004). Median survival in cases with and without PD-L1 expression were 48 and 15 months, respectively (p=0.0001).

Conclusion

This study demonstrated an important association between PD-1 and PD-L1 expression and prognosis in type 2 endometrial cancers. Larger studies will be more informative for targeted treatment and/or checkpoint blocking therapies in type 2 endometrial cancer.
ENDOMETRIAL CANCER

ESGO7-0860

IMPACT OF GYNECOLOGIC SCREENING IN LYNCH SYNDROME
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Aims

Lifetime risk of developing endometrial cancer in Lynch syndrome is higher than in the general population and gynecologic screen appears interesting, although unproven until now. The aim of our study was to determine the diagnostic value of gynecologic screening for the diagnostic of endometrial cancer in patients with Lynch syndrome.

Method

We conducted a prospective study in patients with Lynch syndrome and identified mutation from 1998 to 2016 at the European Georges-Pompidou Hospital in Paris. All patients had an annual screening including clinical examination, pelvic ultrasound, endometrial biopsy, and hysteroscopy. Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of each test and of the global screening strategy were described.

Results

One hundred and ninety one patients, with 620 surveillance visits, were included in the study. The median age of patients was 51 years. Identified mutation were MLH1 (49.4%), MSH2 (48.4%), MSH6 (23.17%), and PMS2 (4.7%). Sensitivity, specificity, PPV, and NPV of pelvic ultrasound were respectively 84.6%, 92.8%, 40.7%, and 99.0%. For endometrial biopsy, they were respectively 89.5%, 99.8%, 94.4%, and 99.5%, and for hysteroscopy, they were 84.6%, 99.7%, 88.9% and 98.8% in all cases. Sensitivity of the global screening strategy was 100%. Five cases of endometrial cancers (ECs) were diagnosed through the screening. One case of EC was associated with an ovarian cancer (endometrioid carcinoma), which was detected by pelvic ultrasound.

Conclusion

A screening strategy including pelvic ultrasound, endometrial biopsy, and hysteroscopy appears efficient for the diagnosis of gynecologic cancers in Lynch syndrome.
REDEFINING THE PRE-MALIGNANT LANDSCAPE OF GYNAECOLOGIC CANCERS: GENOMIC ANALYSIS OF UTERINE LAVAGE FLUID DETECTS BOTH EARLY STAGE CANCERS AND PRECANCEROUS CELLS OF UNKNOWN POTENTIAL.

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3Swift Biosciences, - Ann Arbor- MI, USA

Aims

The holy grail of cancer treatment remains detecting and eliminating cancers at their earliest. Endometrial cancer is the most common gynecologic malignancy and its incidence and associated mortality are increasing. Strikingly, there is no effective screening methodology. We hypothesized that ultra-deep, targeted gene sequencing of uterine lavage fluid could detect even microscopic endometrial cancer.

Method

Uterine lavage and paired blood samples were analyzed from 107 consecutive patients undergoing hysteroscopy and curettage for diagnostic evaluation. Cellular and cell-free DNA were isolated from each lavage fluid sample. Ultra-deep sequencing, coverage in excess of 5,000x, was performed using a targeted 12 gene endometrial cancer panel.

Results

Seven patients were diagnosed with endometrial cancer based on classic histopathology. Six were stage IA cancers and several were microscopic. Despite their microscopic size and demonstrating the extreme sensitivity of the molecular assay, all seven patients had significant cancer-associated gene mutations detected in their lavage fluid. Unexpectedly, nearly half of the study population without histopathologic evidence of cancer also possessed high levels of lavage fluid cancer driver-gene mutations. One returned 10 months later with stage IA cancer. Mutations in these women were age and menopausal status associated.

Conclusion

Given that a uterine lavage can be easily and quickly performed in a physician's office-based setting, our findings suggest the future possibility for screening women for the earliest stages of endometrial cancer. However, our findings further demonstrate the unprecedented opportunity and clinical necessity to gain additional insight into the genetic basis of endometrial cancer development and its possible interruption.
ENDOMETRIAL CANCER

ESGO7-0865

COMBINING CA-125 AND COMPUTED TOMOGRAPHY IMPROVES SELECTION OF ADVANCED STAGE ENDOMETRIAL CARCINOMA

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3RadboudUMC, Radiology and Nuclear Medicine, Nijmegen, The Netherlands

Aims

To investigate the predictive value of preoperative CA-125 and computed tomography (CT) for advanced FIGO stage in the work-up for endometrial carcinoma (EC).

Method

The Pipelle Prospective ENDometrial carcinoma (PIPENDO) study cohort comprised all consecutive patients treated for endometrial carcinoma at nine hospitals in the Netherlands between September 2011 and December 2013. Patient characteristics, preoperative CA-125 and CT-scan results, histology, and follow-up data were collected. CT-scan results were classified as: suspected or unsuspected for extra-uterine disease, or inconclusive. Serum levels of CA-125 > 35 Ku/L were considered as elevated. Primary outcome was advanced FIGO III-IV stage, determined for low-(grade 1-2), and high (grade 3) tumor grade.

Results

A total of 432 EC patients were included: 25.9% with high-grade, and 74.1% with low-grade EC. Overall, 29.0% of the patients had an elevated CA-125, and 14.1% of the patients were suspected for extra-uterine disease based on CT-scan. Elevated CA-125 had a positive predictive value for advanced stage in of 8.8% in low-grade EC, compared to 47.5% in high-grade EC. Abnormal CT-scan had a positive predictive value for advanced stage of 30.0% in low grade EC, compared to 53.3% in high grade EC. Combined elevated CA-125 and abnormal CT-scan resulted in a positive predictive value of 28.6% in low-grade EC and 66.7% in high grade EC.

Conclusion

Combining Ca-125 and CT-scan increases the positive predictive value for advanced FIGO stage in high-grade EC.
ENDOMETRIAL CANCER

ESGO7-0968

RISK FACTORS FOR PARA-AORTIC LYMPH NODE METASTASIS IN ENDOMETRIAL CANCER
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¹Zekai Tahir Burak Women's Health Training and Research Hospital- Faculty of Medicine- University of Health Sciences, Gynecologic Oncology, Ankara, Turkey

Aims

The purpose of this study was to determine the risk factors for para-aortic LN metastasis in EC patients that underwent comprehensive surgical staging.

Method

A total of 641 women with EC (endometrioid, non-endometrioid, or mixed histology) who underwent comprehensive surgical staging including pelvic and para-aortic LN dissection between 2008 and 2016 were included in this retrospective study. Patient data were analyzed with respect to para-aortic LN involvement and predictive factors for para-aortic LN metastasis were investigated.

Results

Lymph node metastasis was detected in 90 (14%) patients; isolated pelvic LN metastasis in 28 (4.3 %), isolated para-aortic LN metastasis in 15 (2.3 %), and both pelvic and para-aortic LN metastasis in 47 (7.3 %) women, respectively. Univariate analysis revealed that the risk of para-aortic LN metastasis significantly increased in patients with non-endometrioid histology, >60 years of age, grade 3 tumor, deep myometrial invasion, lymphovascular space invasion (LVSI), primary tumor diameter (≥2 cm), cervical stromal invasion, adnexal involvement, serosal invasion, pelvic LN involvement, ≥2 positive pelvic LNs and positive peritoneal cytology (p<0.05). At the end of multivariate analysis, presence of LVSI (odds ratio [OR]: 4.8, 95% confidence interval [CI] 1.25 - 18.2, p= 0.022) and pelvic LN metastasis (OR: 18.8, 95% CI 5.7-61.6, p<0.001) remained as independent risk factors for para-aortic LN involvement in women with EC.

Conclusion

Presence of LVSI and pelvic LN involvement appear to be independent risk factors for para-aortic LN metastasis in patients with EC. LVSI may be considered as a routine pathological parameter during frozen section analysis in women with EC undergoing surgery.
Univariate and multivariate analysis of women with endometrial cancer with regard to para-aortic LN metastasis

<table>
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<tr>
<th>Cases</th>
<th>Univariate Analyses</th>
<th>Multivariate Analyses</th>
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<tbody>
<tr>
<td></td>
<td>p</td>
<td>OR</td>
</tr>
<tr>
<td>Age, y</td>
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</tr>
<tr>
<td>&lt;50</td>
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</tr>
<tr>
<td>&gt;50</td>
<td>34/260 (13.1%)</td>
<td>0.023</td>
</tr>
<tr>
<td>Histopathology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endometrioid</td>
<td>29/90 (3.2%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Non-endometrioid</td>
<td>23/93 (24.7%)</td>
<td></td>
</tr>
<tr>
<td>Others*</td>
<td>10/47 (21.2%)</td>
<td></td>
</tr>
<tr>
<td>Grade of endometrioid type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 1</td>
<td>4/228 (1.8%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Grade 2</td>
<td>12/121 (9.9%)</td>
<td></td>
</tr>
<tr>
<td>Grade 3</td>
<td>13/122 (10.7%)</td>
<td></td>
</tr>
<tr>
<td>Peritoneal Cytology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>32/580 (5.5%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Positive</td>
<td>26/668 (39.8%)</td>
<td></td>
</tr>
<tr>
<td>Cervical stromal invasion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>4/1558 (0.2%)</td>
<td></td>
</tr>
<tr>
<td>Present</td>
<td>10/62 (16.1%)</td>
<td>0.001</td>
</tr>
<tr>
<td>Myometrial invasion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;4/3</td>
<td>12/426 (2.9%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>≥4/3</td>
<td>56/215 (25.9%)</td>
<td></td>
</tr>
<tr>
<td>Serosal invasion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>42/680 (6.1%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Present</td>
<td>15/22 (66.8%)</td>
<td></td>
</tr>
<tr>
<td>Adnexal involvement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>37/587 (6.3%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Present</td>
<td>23/51 (45.1%)</td>
<td></td>
</tr>
<tr>
<td>Number of metastatic pelvic LNs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-1</td>
<td>28/593 (4.7%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2-3</td>
<td>34/484 (7.1%)</td>
<td></td>
</tr>
<tr>
<td>Primary tumor diameter (cm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤2</td>
<td>3/118 (2.5%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>&gt;2</td>
<td>26/271 (9.5%)</td>
<td></td>
</tr>
<tr>
<td>LVI 0-2</td>
<td>33/172 (25.1%)</td>
<td></td>
</tr>
<tr>
<td>LVIAbsent</td>
<td>4/467 (0.8%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>LIPII 0-present</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>50/171 (30.5%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Pelvic LN metastasis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>15/561 (2.6%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Present</td>
<td>47/755 (6.2%)</td>
<td></td>
</tr>
</tbody>
</table>

* Endometrioid histopathology with other subtypes
Abbreviations:
LVI: Lymphovascular space invasion
LN: Lymph node

The rate of para-aortic lymph node metastasis according to the presence of LVI and/or positive pelvic LNs

<table>
<thead>
<tr>
<th>LVI</th>
<th>Positive Pelvic LNs</th>
<th>Rate</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>1/0.65 (0.15%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>Yes</td>
<td>14/410 (3.4%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>3/39 (7.7%)</td>
<td></td>
</tr>
</tbody>
</table>

* Number of patients with para-aortic metastasis - number of total patients
Abbreviations:
LVI: Lymphovascular space invasion
LN: Lymph node
ENDOMETRIAL CANCER

ESGO7-0181

PREOPERATIVE IMAGING MARKERS AND PDZ-BINDING KINASE TISSUE EXPRESSION PREDICT LOW-RISK DISEASE IN ENDOMETRIAL HYPERPLASIAS AND LOW GRADE CANCERS

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¹University of Bergen, Departement of Clinical Science, Bergen, Norway
²Haukeland University Hospital, Department of Gynecology and Obstetrics, Bergen, Norway
³University of Bergen, Departement of Clinical Medicine, Bergen, Norway

Aims

Distinguishing complex atypical hyperplasia (CAH) from grade 1 endometrioid endometrial cancer (EECG1) has clinical value, particularly in patients who wish to preserve their fertility or in patients with increased risk of perioperative complications due to obesity or co-morbidities. Surgical overtreatment of patients with CAH seems to exist, and this study search to identify imaging and tissue biomarkers to individualize treatment strategies.

Method

Clinicopathological data was available for 277 patients with CAH and EECG1. Preoperative histological diagnosis and radiological evaluation were compared with final histological diagnosis. Imaging characteristics by preoperative magnetic resonance imaging (MRI) and fluorodeoxyglucose positron emission tomography/computer tomography (FDG-PET/CT) were compared with tumor DNA oligonucleotide microarray data, immunohistochemistry findings and clinicopathological annotations.

Results

MRI assessed tumor volume was higher in EECG1 than in CAH (p=0.004) whereas apparent diffusion coefficient value was lower in EECG1 (p=0.005). EECG1 had increased metabolism with higher maximum and mean standard uptake values than CAH (p≤0.002). Unsupervised clustering of EECG1 and CAH revealed differentially expressed genes within the clusters, and identified PDZ-binding kinase (PBK) as a potential marker for selecting endometrial lesions with less aggressive biological behavior.

Conclusion

Both PBK expression and preoperative imaging markers at MRI and PET/CT are promising biomarkers that may aid in the differentiation between suspected EECG1 and CAH preoperatively. These biomarkers should be explored in larger patient series to define the potential role of these markers to accurately identify CAH patients having low risk of concomitant cancer or cancer progression, where conservative treatment might be the preferred treatment.
LYMPHATIC MAPPING AND SENTINEL-LYMPH-NODE BIOPSY IN ENDOMETRIAL CANCER: A PROSPECTIVE STUDY

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1La Paz University Hospital, Gynaecology Oncology, Madrid, Spain
2MD Anderson Cancer Center, Gynaecology Oncology, Madrid, Spain

Aims

We aimed to assess if the detection rate and diagnostic accuracy by ultrastaging can improve the surgical staging.

Method

A prospective study of incident cases with clinical early-stage EC scheduled for laparoscopic staging surgery at La Paz University Hospital. Patients underwent preoperative SLN mapping with an intracervical injection of radiotracer-Tc-99m the day before surgery and intraoperative dye during surgery.

Results

From February 2012 to February 2017, 143 patients were enrolled. Overall detection rate for the dual technique was 94.4% (n=135), bilaterally of 86.6%. 431 SLNs were obtained, mean of 3.2 SLNs per patient, usually in an iliac and obturator location (77%). Diagnostic rates were sensitivity 100%, specificity 95.16%, and NPV 100%.

Twenty-eight (6.5%) metastatic nodes: 8 (1.9%) macrometastases, 17 (4%) micrometastases, 3 (0.7%) ITC. Node metastases were identified in 25 (18.5%) patients, 20 (80%) were confined to SLNs, 65% of which had low tumor burden. In 13 cases (65%) the SLN was the only affected. Diagnostic rates (per patient) of SLN mapping to detect metastases after SLN-ultrastaging were sensitivity 50%, specificity 88.24%, NPV 90.91% and false-negative rate of 7.5%.

Mean follow-up of 55 months, 84.4% disease-free survival, and 93.3% overall survival. 28.6% of relapses had metastatic SLNs (p = 0.03); 65% of the patients with macrometastatic-SLN relapsed (p=0.001). Mean time to relapse of 14.8 months.

Conclusion

Though multicentre studies are underway, the high NPV of the SLN-technique accurately predicts nodal status, which could be considered as an alternative standard for staging early-stage endometrial cancer.
FERTILITY / PREGNANCY
ESGO7-1047

FERTILITY AND SURVIVAL OUTCOME IN A LARGE COHORT OF BORDERLINE OVARIAN TUMORS: A SINGLE CENTER EXPERIENCE

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2San Gerardo Hospital, Clinic of Obstetrics and Gynecology, Via Pergolesi 33- 20900 Monza, Italy
3IRCCS - Istituto di Ricerche Farmacologiche “Mario Negri”, Laboratory of Methodology for Clinical Research - Department of Oncology, Via La Masa 19- 20156 Milan, Italy

Aims

Borderline ovarian tumors have excellent oncologic outcome and fertility sparing treatment in young women is indicated. However, pregnancy rate success is affected by multiple gonadal surgeries for relapse and it may be influenced by type of surgery (oophorectomy v. cystectomy). We investigated the effect of surgical fertility-sparing approach on fertility and survival.

Method

borderline ovarian tumor patients treated at San Gerardo Hospital, Monza between 1978 and 2013 were considered. The effect of type of surgery on recurrence and death was analyzed. A Cox model was used to investigate the association between clinical variables and time to first post-surgical pregnancy, as well as the association between time to first recurrence

Results

Among a larger cohort, 252 patients had desire of pregnancy and were included in the analysis: 121 patients underwent oophorectomy, 131 cystectomy, with comparable clinicopathological characteristics. Median follow-up time from date of diagnosis was 13.5 years.

Results of the Cox model investigating factors potentially associated with recurrence showed: Advanced stage disease as significantly associated with the risk of recurrence (p<0.001), with bilateral cysts patients with higher risk of recurrence (HR= 2.20, IC95%= 1.41-3.44). The inverse weighted probability Cox model showed no effect of type of ovarian surgery on first recurrence (HR0.95; p=0.83), and on fertility (HR0.96; p=0.79). No detrimental effect on pregnancy rates was associated with histology, stage, laterality of the tumor or with a relapsing disease.

Conclusion

Type of surgery was observed not affecting recurrence risk and pregnancy success rate. These reassuring data can aid clinicians and patients tailoring the best treatment strategies 

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REPRODUCTIVE OUTCOMES AFTER GESTATIONAL TROPHOBLASTIC NEOPLASIA: A COMPARISON BETWEEN SINGLE-AGENT AND MULTIAGENT CHEMOTHERAPY. RETROSPECTIVE ANALYSIS FROM THE MITO-9 GROUP

P. Cioffi1, A. Bergamini1, A. Gadducci2, G. Cormio3, V. Giorgione1, M. Petrone1, E. Rabaiotti1, F. Pella1, M. Candiani1, G. Mangili1
1IRCCS San Raffaele Hospital, Gynaecology and Obstetrics, Milan, Italy
2University of Pisa, Gynaecology and Obstetrics, Pisa, Italy
3University of Bari, Gynaecology and Obstetrics, Bari, Italy

Aims

Gestational trophoblastic neoplasia (GTN) affects young women and is treated by chemotherapy. Possible concerns are the risk of infertility, early menopause, and teratogenic effects. Present study’s aim is to analyze menstrual and reproductive outcomes of women treated with single-agent versus multi-agent chemotherapy for GTN.

Method

One-hundred fifty-one patients were treated. Patients older than 45 years, with placental site/epithelioid trophoblastic tumor, undergoing hysterectomy by patient choice or hCG follow-up coinciding with analysis were excluded. Seventy-five patients were divided into subgroups according to FIGO score: patients scoring <7, receiving single-agent chemotherapy (group A, n=42); patients scoring ≥7, receiving combination treatment (group B, n=33). Patients’ outcomes were compared by univariate and multivariate analyses.

Results

Temporary amenorrhea occurred in 33% of A patients and 66.7% of B (p=0.01). Premature menopause occurred in 3 B patients (0% vs 9%, p=0.02).

Ten B patients underwent salvage hysterectomy.

Pregnancy desire did not differ between the two groups (p=0.555). In A, 57.1% became pregnant; in B, 36.4% did (p=0.060). Instead, pregnancy rate was 52.2% among high-risk patients not undergoing hysterectomy (57.1% vs 52.2%, p=0.449).

There was no difference in miscarriage (p=0.479) and premature birth (p=0.615) rates.

In a multivariate analysis including age, FIGO score, chemotherapy type, Assisted Reproductive Technologies, previous pregnancies and pregnancy desire, only age (p=0.006) and pregnancy desire (p=0.002) were independent factors.

Conclusion

Excluding the risk of premature menopause, a rare side-effect of combined treatments, single-agent and multi-agent chemotherapy can be safely administered to patients with childbearing desire. High-risk patients have worse reproductive outcomes because they undergo hysterectomy more frequently than low-risk patients.
Epidemiology of malignancies diagnosed in pregnancy in Czech Republic

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¹3rd Medical Faculty- Charles University and Faculty hospital Kralovske Vinohrady, Dept. of OB/GYN, Prague, Czech Republic
²3rd Medical Faculty Charles University and Faculty hospital Kralovske Vinohrady, Dept. of OB/GYN, Prague, Czech Republic

Aims

Malignancy diagnosed during pregnancy represents a rare diagnosis, but the incidence of such a disease has sharply increased in recent decades. The reason for this tendency is the increased age of women becoming pregnant. Today, 21.9% of women in the EU are older than 35 years at delivery. Exact data on the incidence of malignant disease is sparse and in most cases inaccurate. However, there is a clear trend in coincidence of malignancy and pregnancy and there are some obvious differences between countries and races. Only a few reports are available that used a linkage of national oncological and birth registries to detect patients diagnosed with cancer during pregnancy. The aim of the work was to evaluate the incidence of malignancies diagnosed in pregnancy in Czech Republic.

Method

The desired data were obtained by linking the National oncological register with Birth and abortion register between 1996-2010.

Results

Malignant diseases in pregnancy occur approximately in 20-40 / 100,000 pregnant women. The most common diagnoses in Czech Republic include cervical cancer (5.5 / 100,000), breast cancer (2.58 / 100,000), melanoma (3.05 / 100,000) and haematological malignancies (2.78 / 100,000) and they account for 60-75% of all malignancies detected during pregnancy.

Conclusion

20-40 pregnancies per 100,000 pregnant women is complicated by malignant disease, most often cervical cancer, breast cancer, melanoma and hematologic malignancies.

This work was supported by the Charles University research program PROGRES Q 28 (Oncology).
ONCOLOGIC AND OBSTETRIC OUTCOME AFTER VAGINAL SIMPLE TRACHELECTOMY OR LEEP FOR CERVICAL CANCER

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1Istanbul University Cerrahpasa School of Medicine, Obstetrics and Gynecology, ISTANBUL, Turkey

Aims

The purpose of our study is to evaluate oncologic and obstetric outcomes after vaginal simple trachelectomy or the loop electrosurgical excisional procedure (LEEP) for cervical cancer.

Method

The medical records of patients who underwent vaginal simple trachelectomy or LEEP with or without pelvic lymphadnectomy were retrospectively reviewed.

Results

The summary of the patients were presented in Table 1. The median age of patients was 31.1 years, and the median follow-up time was 22.2 months. There was no recurrence during follow-up and none died after treatment. A total of 7 patients attempted conceive after surgery, and 4 pregnancies were achieved in 4 women. Hence, the the pregnancy rate among patients who attempted to onceive was 57.1%. Two babies were delivered by cesarean section at 24 and 37 weeks. Two cases of miscarriage occured in the second trimester.

Conclusion

Our data indicate that LEEP and vaginal simple trachelectomy in stage IA1-IB1 cervical cancer are effective procedures in patients who wish to preserve fertility. However, miscarriage was frequently observed. Thus, future studies should focus on prevention of complications during pregnancy.
TAILORED THERAPY FOR FERTILE WOMEN WITH ENDOMETRIAL CANCER: THE DUTCH EXPERIENCE

M. van Gent¹, M. Kagie², T. Bosse³, B. Trimbos⁴, C. de Kroon⁴

¹Center of Gynaecological Cancer Amsterdam, Antoni van Leeuwenhoek, Amsterdam, The Netherlands
²Haaglanden Medical Center, Gynaecology, The Hague, The Netherlands
³Leiden University Medical Center, Pathology, Leiden, The Netherlands
⁴Leiden University Medical Center, Gynaecology-K6-P, Leiden, The Netherlands

Aims

To evaluate the oncological and obstetrical outcomes after the introduction of a nationwide protocol for tailoring therapy in young women with endometrial cancer (EC) with the wish to preserve fertility.

Method

Patients with low-grade, stage I endometrioid EC were treated with progesterones. Staging was done by physical examination, ultrasound and contrast enhanced MRI. Strict follow-up rules were defined. Complete response (CR) was defined as two subsequent endometrial biopsies with normal histo-pathological findings.

Results

33 patients were treated since the introduction of the protocol. Mean age: 33 yr. Mean BMI: 28 kg/m². The majority (n = 23, 70 %) was treated with medroxyprogesterone 200 mg/day. Mean follow-up: 44 months (median 33 months). CR was obtained in 61% (20/33). Mean time to CR was 8 months (median 7.5 months). Recurrence rate was 65% (13/20). Mean time to recurrence after end of therapy was 13.4 months (median 11 months). CR after re-treatment for recurrence was 67 % (6/9). Recurrence after second course: 50 % (3/6). Mean time to recurrence: 23.3 months (median 15 months). 17 pregnancies resulted in 7 deliveries and 2 current third trimester pregnancies in 7 patients. Five out of 15 patients undergoing hysterectomy had no residual disease, 10 had grade 1 disease (9 stage 1A, 1 stage III). One patient suffered from ovarian recurrence after hysterectomy with USO (18 months after hysterectomy).

Conclusion

The results confirm previous findings in literature on efficacy and safety of fertility preserving therapy in endometrial cancer. Women should be informed about recurrence rates after complete response.
MISCELLANEOUS

ESGO7-0293

CAN TUMOR MARKERS HE4 AND CA125 BE USEFUL IN DIFFERENTIATION INTRA-PELVIC FROM EXTRA-PELVIC ENDOMETRIOSIS?

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¹Medical University of Warsaw, Chair and Department of Obstetrics- Gynecology and Oncology, Warsaw, Poland

Aims

The aim of the study was to compare the serum level of tumor markers HE4 and CA125 between group of patients with intra-pelvic endometriosis (IPE) and group of patients with features of extra-pelvic endometriosis (EPE).

Method

A total of 67 patients were included in the retrospective study. The serum level of HE4 and CA125 was measured for each patient before surgical intervention. The final diagnosis of endometriosis was established according to histological examination of endometriosis foci. Patients were divided into two groups according to anatomic localization of endometriosis. The first group included patients with only features of intra-pelvic endometriosis. The second group include patients with features of extra-pelvic endometriosis with or without intra-pelvic endometriosis. U Mann-Whitney test was used in statistical analysis.

Results

The age range was 20-59, with a mean of 36.1 years, standard deviation (SD) = 8.7 years. A total of 52 (77.61%) patients had only intrapelvic endometriosis while 15 (23.39%) had extra-pelvic endometriosis. The mean of serum level of HE4 in IPE and EPE group was 48.21 (SD 14.29) pmol/L and 47.41 (SD 10.81) pmol/L, respectively. The mean of serum level of CA125 in IPE and EPE groups was 64.14 (SD 63.51) U/ml and 62.75 (SD 41.64) U/ml, respectively. The serum level of HE4 and CA125 didn’t differ significantly between IPE and EPE groups (p level 0.875 and 0.718, respectively).

Conclusion

Both tumor markers HE4 and CA125 were not useful for differentiation the main localization of endometriosis whether intra-pelvic or extra-pelvic.
Aims

In 1983, 1993, and 2002 results of studies identifying patient perceptions and individual ranking of chemotherapy side effects (CSE) were reported. We aimed to update this survey and evaluate changes in patient perceptions a further decade later.

Method

Patients with breast (BC) and ovarian cancer (OC) planned for chemotherapy were recruited in this prospective study. At week 12 +/- 3 weeks after chemotherapy initiation patients were asked to identify from 72 cards displaying potential physical and non-physical CSE the ten most burdensome and ranking them finally to top five by severity. Results are reported for the entire group and in comparison to published data. Additionally, socio-demographic and clinical characteristics were evaluated.

Results

In total, 126 patients (85 BC and 41 OC) were interviewed. The most severe CSE reported was “difficulty sleeping” compared to “vomiting” in 1983, “nausea” in 1993, and “affects my family/partner” in 2002 (table 1). “Loss of hair” remained a top concern over all studies. The most severe CSE in BC patients was “loss of hair” in contrast to “difficulty sleeping” in OC patients.

Conclusion

Conclusions

Patient perceptions of CSE have changed markedly compared with previous studies. Especially taxane related CSE are reported more frequently. However, “loss of hair” has remained an unsolved problem over decades. Ranking the most severe CSE by cancer type demonstrated clinically relevant differences.
Aims

Fibrinogen plays an important pathophysiological role in tumor cell progression and development of metastases in different types of cancer. The aim of the present study was to evaluate the value of pre-treatment fibrinogen plasma levels as a prognostic biomarker in patients with uterine leiomyosarcoma (ULMS).

Method

Data of women with ULMS were extracted from a multi-center database. Pre-treatment fibrinogen plasma levels were measured. The association between fibrinogen plasma levels and clinico-pathological parameters was investigated and univariate and multivariable survival analyses were performed.

Results

A total of 70 patients with ULMS was included into this analysis. Mean (SD) pre-therapeutic fibrinogen plasma level was 480.2 (172.3) mg/dL. Patients with advanced tumor stage had higher fibrinogen levels (p=0.02). Five-year overall survival (OS) rates in ULMS patients with increased fibrinogen levels were 25.0% compared to 52.9% in ULMS patients with normal fibrinogen. Univariate survival analyses revealed that elevated fibrinogen plasma levels (p<0.003), advanced tumor stage (p<0.001) and high histological grade (p=0.004) were associated with unfavorable OS. In multivariable analysis, only histological grade (p=0.07) was independently associated with survival.

Conclusion

Elevated fibrinogen plasma levels were associated with advanced disease and unfavorable prognosis in women with ULMS in univariate survival analysis. After validation in future studies fibrinogen might be a useful biomarker for tumor stage and prognosis in ULMS patients.
IS SURGICAL TUMOR FRAGMENTATION AN INDEPENDENT PROGNOSIS FACTOR IN THE OVERALL SURVIVAL OF UTERINE SARCOMAS?
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2Complejo hospitalario universitario insular-materno-infantil, pathology, las palmas de gran canaria, Spain
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5Complejo hospitalario universitario insular-materno-infantil, Medical Oncology, las palmas de gran canaria, Spain

Aims
To evaluate clinicopathologic data and prognostic factors for patients with uterine sarcomas (US), with special emphasis on uterine fragmentation during surgery.

Method
Retrospective analysis of all consecutive patients with US treated between 1990-2016. During this period 1,863 patients with uterine malignancies were diagnosed, of which 1,681 were excluded for endometrial carcinoma and 85 for carcinosarcomas, so finally the study sample included 97 patients (5.2% incidence). Survival-rates were analysed using the Kaplan-Meier method.

Results
The distribution by histological-type was: 46.4% leiomyosarcoma; 23.7% high-grade ESS; 17.5% low-grade ESS; 11.3% adenosarcomas and 1% liposarcoma. Median age was 52 years (25-90) and 49.5% were premenopausal. The most frequent preoperative diagnosis was uterine fibroids in 49.5%. Tumor surgical rupture occurred in 25.9% of cases. FIGO stages I-II and III-IV were identified in 74% and 26% of patients, respectively. Median tumor size was 8 cm (2-40). EFS rates after 2, 5, and 10-years were 71%, 57%, and 53% respectively, with a median time of 63 months (95%CI, 35.5-90.4). OS rates after 2, 5, and 10-years were 66%, 53%, and 38% respectively, with a median time of 19 months (95%CI, 1-43.7). Multivariate analysis showed that stage; histological type and surgical tumor rupture were independent prognostic factors [(OR7.9; CI95% 1.6-38.2; p=0.01); (OR5.3; CI95% 2.1-13; p<0.0001) and (OR2.6; CI95% 1.1-6.5; p=0.03)].

Conclusion
US are rare but aggressive tumors whose prognosis is strongly influenced by FIGO-stage, histological-type and tumor surgical rupture. Efforts should be made to avoid any type of uterine fragmentation during surgery since it seriously compromises the prognosis of this pathology.
MISCELLANEOUS

ESG07-0750

INCIDENCE AND SURVIVAL OF GYNECOLOGIC CARCINOSARCOMAS IN ISRAEL

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2Israel Ministry of Health, Israel National Cancer Registry, Ramat Gan, Israel

Aims

Gynecologic carcinosarcoma is a rare and aggressive tumor. Following latest immunohistochemically studies the carcinosarcomas are considered subtypes of carcinomas but seem to have a distinct natural history and presumably worse prognosis. The aim of this study is to report the incidence and outcome of gynecologic carcinosarcomas in Israel.

Method

Records of gynecologic carcinosarcomas diagnosed between 1980-2014 were extracted from the Israeli National Cancer Registry and classified according to ICD-03. Age-standardized incidence rates (ASRs), 1&5 year and overall survival rates were calculated according to anatomical site, population group, stage and grade at diagnosis.

Results

935 new gynecologic carcinosarcomas were diagnosed in Israel between 1980-2014. During the last 15 years there was a substantial increase in ASR from 8 to 11 per million females with a significantly higher incidence in Jewish compared to Arabic population (13 vs 4 per million females respectively). Incidence was highest in women 55-75 years old and extremely low in women younger than 30 years old. The most common anatomical site was uterus (83%) followed by ovary (11%). The survival rates increased significantly between 1985-1990 and 2010-2014 but were lower than the survival rates for sarcomas. There was no significant difference in survival rates between the populations.

Conclusion

Gynecologic carcinosarcomas seem to have a distinct behaviour in regard to incidence, age at presentation and survival rates compared to gynecological sarcomas. This is to our best knowledge the first study evaluating this rare histologic subtype in Israeli population and provides important information for clinical practice and further research.
MISCELLANEOUS INCIDENCE AND SURVIVAL OF GYNECOLOGIC SARCOMAS IN ISRAEL

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Aims

Survival after gynecologic sarcomas is known to be poor, although limited data are available on the subject. A recent British report showed a substantial survival increase, explained perhaps by improved therapies. The aim of this study is to report the incidence and outcome of gynecologic sarcomas in Israel.

Method

Records of gynecologic sarcomas diagnosed between 1980-2014 were extracted from the National Israeli Cancer Registry and classified according to ICD-03. Age-standardized incidence rates (ASRs), 1&5 year and overall survival rates were calculated according to anatomical site, morphology subtype, population group, stage and grade at diagnosis.

Results

1271 new gynecologic sarcomas were diagnosed in Israel during 1980-2014, with incidence increasing between 1980-2010 years up to ASR of 15.7 per million females in 2010. ASR was significantly lower in the Arab compared to Jewish population (7.7 vs. 16.4 per million females in 2010 respectively), with a more substantial increase during the years. Incidence was highest in women 40-65 years old. The most common histologic diagnosis was leiomyosarcoma (47%) and most common anatomical site was uterus (89%). The observed survival rates were comparable to previous reports in literature, with no difference between the Jewish and Arabic populations.

Conclusion

Although the incidence of gynecologic sarcomas in the Israeli population is higher than in European populations, the distribution of histologic types and anatomic sites is similar. We found no significant difference in survival rates between Arabic and Jewish population through the years. These results provide important information regarding gynecologic sarcoma incidence and survival in Israel.
Aims

To review the outcomes of different urinary diversion techniques following post radiotherapy pelvic exenteration for recurrent/persistent gynaecological cancers.

Method

The current study pertains to those patients undergoing urinary diversion following pelvic exenteration between August 1993 to December 2013. These diversions were performed by a urological consultant. Data regarding age, type of cancer, previous treatment, time and site of recurrence, surgical details and complications as well as follow-up and long term sequelae were collected.

Results

There were a total of 86 patients who underwent pelvic exenteration between the study dates. Of these 60 underwent a urinary diversion procedure (69.7%). 31 had cervical cancer (51.7%), 12 vaginal cancer (20%), 9 endometrial cancer (15%) and 8 were vulval cancer (13.3%). Of these 60 cases 13 (21.6%) had a Mitrofanoff continent urinary diversions, 45 (75%) had an ileal conduit, 1 (1.7%) had a transverse colonic conduit and 1 (1.7%) had a Mainz-Sigma II procedure. Common early complications included UTI and stenosis of the Mitrofanoff. Later complications included revision of Mitrofanoff (5), and stones requiring percutaneous removal (1). There was one anastomotic leak [from an ileal conduit], treated conservatively. 41 (68%) patients have since died of disease [median time to death after exenteration being 18 months (3 months to 13 years)], and 18 (30%) are alive with 1 lost to follow up. Median follow up was 10 years (7 months to 20 years).

Conclusion

In our cohort of 60 patients undergoing pelvic exenteration over a 20-year period, there was a very acceptable rate of complications related to urinary diversion.
MISCELLANEOUS

ESG07-1033

ROBOT-ASSISTED SURGERY IN ELDERLY AND VERY ELDERLY WOMEN AFFECTED BY GYNECOLOGICAL MALIGNANCIES: OUR SINGLE INSTITUTION EXPERIENCE ABOUT INTRAOPERATIVE AND POSTOPERATIVE OUTCOMES

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Aims

To assess the role of robotic surgery for the management of elderly patients with gynecological malignancies.

Method

Between December 2015 and March 2017, 112 patients underwent robotic-assisted laparoscopic surgery procedure for gynecological malignancies were retrospectively evaluated. 41 patients age> 75 years (very elderly group) were compared with 71 patients age from 65 to 74 years (elderly group). Demographic, operative and perioperative outcomes were analyzed retrospectively.

Results

The mean age was 68 years (range, 65-74 years) in the elderly group and 77.0 years (range, 75-87 years) in the very elderly group. There were no differences between two groups in body mass index, preoperative comorbidities and ASA (p 0.247).

Patients underwent surgery for different gynecologic oncological disease: 12 (11%) cervical cancer, 2 (1%) ovarian cancer, 98 (88%) endometrial cancer.

The types of surgical procedures performed were: 112(100%) radical hysterectomies with bilateral salpingo-oophorectomy, 44 (39%) pelvic lymphadenectomy, 11 (10%) aortic lymphadenectomy, 5 (4.5%) total omentectomy, and 2 (1.8%) pelvectomy. No difference were revealed between the two groups in terms of estimated blood loss, median operative time, median hospital stay and conversion rate. Rate of pulmonary failure was higher in elderly group (4% vs 0%). There were no between-group differences in postoperative infectious morbidity, cardiovascular complications, reoperation and intensive care unit admission.

Conclusion

The perioperative complication rate of robotic-assisted surgery are comparable in very elderly women and elderly women. This study support the feasibility and the role of robotic surgery in elderly and very elderly patients affected by gynecological cancers.
INCISSIONAL NEGATIVE PRESSURE WOUND THERAPY IN ONCOLOGICAL PATIENTS.
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Aims

This study evaluates the efficacy of negative – pressure therapy in prevention of complicaciones in the surgical site in surgical oncologic patients.

Method

All major oncologic procedure performed with a laparotomy incision performed in two years. We performed a retrospective descriptive cohort study. We evaluated two cohorts, patients undergoing surgery in 2014 and cohort in 2016. The goals of the statitical analyses were to assess the wound complications and days of hospitalization were distributed differently between the incisional negative pressure wound therapy group (INPWT) and the NON-INPWT group.

Results

We included 147 patients. Of the total of patients, 39.6% of the patients used this dispositive. (mean of days to use it was 3 days). The total complication rate in our sample was 21.1%.

Rates of surgical complications in patients treated with INPWT was 2.7% compared with patients which no use INPWT was 18.4% (p=0.000) Performing a stratified analysis of complications; Infection (p=0.001), seroma (p=0.005), dehiscence (p=0.001) and were observed significant differences with a lower incidence of complications in INPWT group, an exception hematoma which no significant difference was found.(p=0.063).

Evaluating the hospital stay, we obtain a decrease in two days of admission, with statistically significant differences. (p=0.048)

Conclusion

Prophylactic use of closed-wound negative pressure therapy may decrease wound complications in oncological patients.
Cost utility analysis of methotrexate versus actinomycin-D in low risk gestational trophoblastic neoplasia

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Aims

To determine the most cost effective first line regimen for women with low risk gestational trophoblastic neoplasia (GTN) (WHO risk score 0-4 and no choriocarcinoma).

Method

Markov decision model (1000 patients) was used to analyze published data GOG 174. Arm 1 was weekly methotrexate at 30 mg/m2 weekly while arm 2 was actinomycin-D 1.25mg/m2 biweekly. Costs were based on average sale price (ASP) +6%. Utility values were determined by rating scale.

Results

The mean cost of therapy for methotrexate arm was $11,970/quality adjusted cure (95%CI $11,149-$12,791). The mean cost of the actinomycin-D arm was $26,865/quality adjusted cure ($26,780-$26,950). Weekly methotrexate dominated actinomycin-D as first line therapy.

Conclusion

First line therapy of low risk GTN should be weekly methotrexate.
ONCOLOGICAL OUTCOME OF SURGICAL TREATMENT IN PATIENTS WITH RECURRENT UTERINE CANCER—A MULTICENTER RETROSPECTIVE COHORT STUDY


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Aims

To assess survival impact of salvage surgery in recurrent cervical or endometrial cancer and to determine prognostic variables for improved oncological outcome

Method

Retrospective multicenter analysis of medical records of 518 patients with cervical (N=288) or endometrial cancer (N=230) who underwent surgical treatment for disease recurrence and who had available at least one year follow-up

Results

Median survival reached 57 and 112 months after surgical treatment of recurrence in patients with cervical and endometrial cancer (p=0.036). Histological subtype had significant impact on overall survival, with the best outcome in endometrial-endometroid cancer (120 months) followed by cervical squamous-cell carcinoma, cervical adenocarcinoma or other types of endometrial cancer (81 vs. 35 vs. 35 months; p<0.001). Site of recurrence did not significantly influence survival in cervical cancer (81, 45, 35, and 45 months for vagina, pelvis, lymph nodes, abdomen) nor in endometrial cancer (56, 48, 120, 112 months for vagina, pelvis, lymph nodes, abdomen). Stage at the first diagnosis, tumor grade, lymph node status at recurrence, PFI after first diagnosis, free resection margins were associated with improved OS on univariate analysis. On multivariate analysis, stage at first diagnosis and resection margins were significant independent predictive parameters of improved oncological outcome

Conclusion

Long-term survival can be achieved after surgical treatment in selected patients with recurrent cervical and endometrial cancer. Excellent results can be obtained, especially in patients with endometrial cancer, even if site of recurrence is in lymph nodes or in abdomen. Achieving free resection margins is the most significant prognostic factor in both types of cancer
MISCELLANEOUS

ESGO7-0319

VASCULAR INJURIES DURING PELVIC AND PARAORTAL LYMPH NODE DISSECTION – LAPAROSCOPIC MANAGEMENT

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Aims

Major vessels injury during laparoscopic surgery is rare but very dramatic complication. Almost always it required conversion to laparotomy for completion of hemostasis. We represent our experience in performing laparoscopic hemostasis after vascular injuries during pelvic (PLND) and paraaortal (PALND) lymph node dissection.

Method

In 2010-2017 we performed 267 PLND and 396 PALND. Among them 581 single-region dissection: 226 PLND and 355 PALND, while 41 - both regions. Indications: cervical – 130(20,9%), endometrial – 122(19,6%), ovarian – 15(2,4%), colorectal – 343(55,1%), other malignancies – 12(1,9%). We obtained 7 major vascular injuries (1,1%): 2 – aorta, 2 - vena cava inferior, 2 – v.iliaca, 1 – a.iliaca. All vascular injuries occurred in patients with history of chemoradiotherapy, and there weren’t any in primary treated patients. In all cases we performed laparoscopic hemostasis. To achieve hemostasis we used next steps: 1) pressure of vascular wound; 2) round dissection of vessel and applying of vascular clamps for injuries longer than 2mm; 3) suturing the vascular damage (prolene 5/0).

Results

Size of vascular damage: up to 2mm in 5, 5 and 8mm in 2 cases of vena cava injury. Average time from injury to completion of hemostasis - 17min (11-34). The estimated blood loss – 150ml (45-700). There was no need for transfusion. Median hospital stay in case of vascular injury was 4,9 days versus main group (4,5). No thrombotic complications and death occurred.

Conclusion

Vascular injury of major vessels during lymphadenectomy is rare but very serious complication that can be successfully treated laparoscopically by experienced surgeon.
CHARACTERISTICS OF OVARIAN CANCER IN WOMEN WITH LYNCH SYNDROME

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Aims

To describe clinical characteristics of ovarian cancer diagnosed in women with Lynch syndrome (LS) and the role of surveillance in the early detection of these cancers.

Method

All women with LS identified in the Dutch Lynch syndrome registry or from the cohort at our University Medical Center Groningen (UMCG) who developed ovarian cancer were included. Clinical data on age at diagnosis, mutation type, histological type, FIGO stage, treatment, follow-up and gynaecological surveillance were collected.

Results

In the Dutch LS registry, 46/785 women (6%) with ovarian cancer were identified and 7/80 (9%) from the UMCG. The mean age of 53 patients at ovarian cancer diagnosis was 46.1 years (range 20-75 years). MSH2 (32%) and MSH6 (28%) were the most frequent gene mutations. The most frequently reported histological type was endometrioid adenocarcinoma (40%) and most tumours (87%; n=46) were detected at an early stage (FIGO I/II). Forty-one of 53 (77%) patients were diagnosed with ovarian cancer before LS was known. In 12/53 (23%) women ovarian cancer developed after starting annual gynaecological surveillance. Three ovarian cancers were diagnosed during surveillance in asymptomatic women, (two FIGO stage 1A, one stage IIC). Six ovarian cancers were detected together with a (pre)malignancy of the endometrial tissue, (four FIGO stage IA, one stage IB, one stage IIA)

Conclusion

Ovarian cancer in women with LS has a wide age-range of onset, is most often diagnosed at an early stage with an endometrioid type histology. The early stage at diagnosis could not be attributed to annual gynaecological surveillance.
GESTATIONAL TROPHOBLASTIC DISEASE: ALTERNATIVE TREATMENT OPTIONS?

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Aims

Gestational trophoblastic neoplasia (GTN) usually has high cure rates. However, in patients presenting with advanced disease, only 60-70% achieve complete remission with current chemotherapies. We present a case of choriocarcinoma and introduce a novel treatment option.

Method

Case X medical records were reviewed and treatment history summarized. Molecular genomic testing was performed to identify potential targetable pathways.

Results

Ms X is a 26 y.o presenting with stage IV choriocarcinoma with a WHO score of 18 initiating treatment with multi-agent EMA-CO every 2 weeks. Patient developed brain metastasis on treatment, received gamma knife therapy and changed to EMA-EP regimen. Treatment was complicated by grade 3 thrombocytopenia requiring treatment delays resulting in rising beta HCG levels (Table 1). Molecular testing demonstrated PD-L1 IHC positive, 2+ (90%), TP53 exon 7, G245S mutation, Her2/Neu IHC positive 3+ (30%), TOP2A IHC positive 1+ (90%) and RRM1 IHC negative 2+ (10%). Based on results, treatment with PD1 inhibitor was given with normalization of BHCG following two cycles and near complete response.

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Conclusion

Targeted therapy with PD-1 receptor blockade may be a more efficacious and tolerable treatment option than current standard multi-agent chemotherapies. Prospective clinical trials should explore this therapy.
MISCELLANEOUS

ESGO7-0286

FIRST RESULTS OF THE GERMAN PROSPECTIVE REGISTRY FOR GYNECOLOGICAL SARCOMAS (REGSA): A COLLABORATION OF NOGGO, AGO STUDY GROUP, AGO KOMMISSION OVAR, AGO KOMMISSION UTERUS, ARO


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Aims

The aim of this register is to prospectively collect data of patients with gynecological sarcomas to describe their course of disease, diagnostics and therapies.

Method

An electronic case report was designed to register clinical data from patients in Germany such as disease, surgery, therapy and success of therapy after informed consent.

Results

Within 20 months 170 patients from 87 sites have been included into the study. 152 of the patients are evaluable. Patients were between 24 and 87 years old (mean 56 years), 106 of them with primary diagnosis and 46 with recurrent disease. There were 74 leiomyosarcomas, 33 endometrial stromal sarcomas (high grade 11, low grade 22), 6 undifferentiated uterine sarcomas, 9 adenosarcomas and 23 others (e.g. rhabdomyosarcoma among others). 15 patients presented with distant metastases at primary diagnosis. Vaginal bleeding was the most common symptom for diagnosis followed by stomach pain. 18 patients showed no symptoms at the time of initial diagnosis. 49 women had myoma diagnosed in advance to the initial diagnosis of sarcoma. In 88 patients with primary diagnosis (43 leiomyosarcomas, 22 endometrial stromal sarcomas, 3 undifferentiated uterine sarcomas, 6 adenosarcomas and 14 others) surgery has been performed - in 13 cases (14.8%) with morcellation. Morcellation was conducted in 8 leiomyosarcomas, 4 endometrial stromal sarcomas and 1 STUMP.

Conclusion

Due to a first analysis of the patients’ data there has been insight into characteristics of gynecological sarcoma patients and their treatment. Morcellation was performed in a non-neglectable number of patients with sarcoma. Further follow up is ongoing.
LATERALLY EXTENDED ENDOPELVIC RESECTION FOR THE PELVIC SIDE WALL TUMORS: EXPERIENCE FROM A PROSPECTIVE COHORT STUDY

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Aims
To evaluate the efficacy and safety of laterally extended endopelvic resection (LEER) for removing the pelvic side wall tumors in a prospective cohort study.

Method
We enrolled patient with primary (n=12) and recurrent (n=10) diseases between March 2014 and April 2017. All patients showed tumor invasion to the pelvic side wall by gynecologic examination and preoperative imaging studies. We evaluated the feasibility of LEER by using the learning curve related with surgical outcomes. Furthermore, we investigated survival after LEER, and relevant complications.

Results
Among a total of 22 patients, 16 (72.9%), 3 (13.6%), 1 (4.5%), 1 (4.5%) and 1 (4.5%) showed cervical cancer, ovarian cancer, endometrial stromal sarcoma, Müllerian adenosarcoma and malignant melanoma. Among all patients, 16 patients (72.7%) showed negative resection margin and 18 (81.8%) preserved at least one pelvic organ after LEER. Perioperative outcomes improved as our experience of LEER increased in recurrent diseases despite no change in primary diseases. After LEER, grade 2 or 3 neuropathy, hydronephrosis, infected lymphocele, grade 3 lymphedema developed in 7 (35%), 1 (5%), 4 (20%), 2 (10%) and 2 (10%) patients without no treatment-related death. In locally advanced cervical cancer, LEER showed similar survival outcomes to primary chemoradiation, and response to neoadjuvant chemotherapy was related with better survival.

Conclusion
LEER may require a training period for improving surgical outcomes. It can be considered to be feasible and safe for patients with the pelvic side wall tumors if no effective alternative to control local tumors (No. NCT02986568).
The clinicopathological study of 21 cases with uterine smooth muscle tumors of uncertain malignant potential: centralized review can purify the diagnosis.


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Aims

To investigate the clinicopathological features and factors associated with recurrence in patients with uterine smooth muscle tumor of uncertain malignant potential (STUMP).

Method

Forty-six cases diagnosed between 2000 and 2014 from two tertiary centers underwent blind slide review. Initial diagnosis included smooth muscle tumors with equivocal diagnosis, STUMPs and cases that were named as leiomyosarcomas (LMS) or low grade LMS despite not fulfilling the Stanford criteria. (Figure-1)

Results

In total, 21 patients with a final diagnosis of STUMP were available. 15/22 of (68.1%) patients with an initial diagnosis of STUMP, 4/18 (22.2%) of cases with an equivocal smooth muscle tumor diagnosis and 2/6 of (33.3%) cases with an initial diagnosis of LMS were interpreted as STUMP after slide review (Table 1). The mean age at diagnosis was 43 years (range: 20-64 years). The mean follow-up time was 65.9 months (range 10-154 months). Four (19.0%) patients developed recurrent disease. Recurrent tumors were LMS in 3 (75%) patients. One (4.8%) patient with recurrence succumbed to disease (Table 2). There was no difference in patients’ age (p=1.0) or type of initial surgery (uterus conserving versus hysterectomy) (p=0.57) between patients who recurred and did not recur.

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Conclusion

Most cases with uterine STUMPs have favorable oncological outcomes, however; some may have a more aggressive clinical course associated with recurrence and death. Uterine mesenchymal tumors other than ordinary myomas and overt sarcomas deserve a second opinion in centers with experience because the real diagnosis may vary significantly.
ENDOARTERIAL CHEMOTHERAPY AND TRANS-ARTERIAL CHEMOEMBOLIZATION IN GYN CANCER PATIENTS WITH PELVIC RELAPSES IN PREVIOUSLY IRRADIATED ZONES.

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2. Russian scientific center of roentgenradiology, Endovascular Technologies, Moscow, Russia

Aims

Pelvic relapse is a fatal outcome for majority of GYN cancer patients, with severe complications of tumor progression, low life quality, ≤10-20% significant response to conventional therapy. Endovascular chemotherapy can overcome tissue and vessel changes for tumors in previously irradiated zones.

Method

8 pelvic relapsed patients after 40-84Gy irradiation were included, 4 (50%) - with cervical, 1 (12.5%) – uterine, 2 (25%) – vulvar, 1 (12.5%) - ovarian cancer recurrences, localised centrally in 2 (25%) pts, lateral or centro-lateral with pelvic wall involvement – in 6 (75%). All relapses were symptomatic, with severe pain in 6 (75%), bleeding – in 4 (50%), severe lymphedema in low extremities – 3 (37.5%). Endoarterial prolonged infusions of Cisplatin 75-100mg/m2 were performed in all 8 (100%) pts., twice - in 6 (75%) pts with 18–21 day intermission, chemoembolization (Hepasphere®) with Carboplatinum AUC3-4 – in 2 (25%).

Results

Clinical response RECIST 2.0 was achieved in 7 (87.5 %) pts., no complete response, PR >50% – in 3 (37.5%) pts, 25–45% of tumor volume reduction – in 4 (50%) pts. Local progression with bladder and rectal fistulas was diagnosed in 1 (12.5 %). Salvage surgery was performed successfully in 2 (25%) pts in 6-10 weeks, interstitial brachytherapy or hypofractioned IMRT – in 5 (62.5%) pts in 2–6 weeks after endovascular procedures.

Conclusion

Endoarterial chemotherapy and trans-arterial chemoembolization are the perspective ways to improve overall results and life quality for GYN cancer patients with loco-regional relapses in previously irradiated zones, opening new treatment options for salvage therapy.
IMPLEMENTATION OF AN ENHANCED RECOVERY PROGRAM IN GYNAECOLOGIC SURGERY: PRELIMINARY RESULTS FOR ONCOLOGICAL INDICATIONS.


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2 Institut Paoli Calmettes, Département d’Anesthésie Réanimation, Marseille, France
3 Institut Paoli Calmettes, Département Biostatistique, Marseille, France

Aims

Enhanced Recovery Program (ERP) is a multimodal approach of perioperative patient’s clinical pathways that results in a faster recovery after surgery and decreased length of stay (LOS).

The objective of this study is to evaluate the results of the implementation of ERP in gyn oncological indications on LOS, morbidity and readmissions.

Method

A prospective observational study was performed at Paoli-Calmettes Institute Cancer Center (Marseille, FRANCE) between December 2015 and June 2016. All the patients referred for hysterectomy and/or pelvic or para-aortic lymphadenectomy for gynaecological cancer were managed with a standardized ERP. Our results were compared to a control group including 100 patients, previously managed in our center between April 2015 and November 2015, without ERP.

Results

A total of 100 patients were included. 87% of the procedures were performed by conventional or robotic assisted laparoscopy. The readmission rate was 6% and the total complication rate was 25% (2% intraoperative, 3% major (grade III, IV) and 20% minor (grade I, II) according to Clavien Dindo classification). After ERP implementation, median length of stay of our cohort was significantly reduced (3.15 days vs. 3.89 days; p=0.002), particularly for laparoscopic approaches (2.67 days vs 3.33 days; p=0.0005). The percentage of patients discharged before 2 days increased (45% vs. 24%; p=0.002) without increasing major complications rates.

Conclusion

ERP in gynaecological surgery is safe and feasible. We demonstrate the interest of patient centered clinical pathway to standardize outcomes and reduce length of stay in respect with patients’ safety, particularly in gyn oncological indications.
MISCELLANEOUS
ESGO7-1271

THE RESULTS OF TREATMENT WITH HIGH-DOSE CHEMOTHERAPY AND PERIPHERAL BLOOD STEM CELL SUPPORT FOR GESTATIONAL TROPHOBLASTIC NEOPLASIA

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Aims

Most women with gestational trophoblastic neoplasia (GTN) are cured, but a small number become refractory to all standard chemotherapy regimens. The value of high-dose chemotherapy (HDC) with peripheral blood stem cell support (PBSCS) and the optimal number of courses (1 or 2) for refractory choriocarcinomas and poor prognosis PSTT/ETTs is unclear.

Method

Databases of two referral centers for GTN were searched. All patients treated with HDC between 1994 and 2015 were eligible for the study. Patient files were analyzed and tissue samples were retrieved for genetic evaluation. In total 32 patients were identified.

Results

The majority of the patients were initially high-risk according to their FIGO score and had multiple lines of chemotherapy and surgery. Twenty-two patients were treated with 1 course HDC and 10 patients with 2 courses. An hCG response occurred in 44% (14/32), and overall, 41% (13/32) of the patients remained disease free after HDC. Thirty-two percent of the patients treated with 1 course HDC survived compared to 60% of the patients treated with 2 courses, (p=0.244).

Conclusion

HDC with PBSCS appears to be active in salvaging selected patients with poor prognosis PSTT/ETTs and drug resistant choriocarcinomas. Whilst two courses of HDC seem more beneficial for survival, this may be explained by tumour stage, clinical performance status and toleration of the first course of treatment. HDC should only be given in centers with adequate experience, both in treatment of patients with GTN and in administration of HDC.
Aims

Are there any significant differences between LMS and LM clinical findings allowing the creation of a preoperative LMS-Risk-Score to prevent an inadequate LMS surgery?

Method

Matched data analysis of 235 LMS and 669 LM from the German Clinical Competence Centre for Genital Sarcomas and Mixed Tumours and cooperating departments was performed.

Results

There was a statistical significant difference (p < 0.01) in regard to the mean age of patients with LM vs. LMS (43.3 vs. 54 years) and in mean tumor diameter (5.2 vs. 10.1 cm), respectively. Further significant different findings are presented in table 1. Tamoxifen exposition, failure of prior pharmacological therapy of LM, and prior surgery of atypical smooth muscle tumor were higher in LMS group, but differences not reached significant levels. Tumor related symptoms without bleeding disturbances were slightly higher in LM. Despite these differences 60 % of the 235 LMS were operated under the diagnosis of LM and 66.8 % underwent an inadequate surgery.

Table 1. Significant (p < 0.01) different findings in LM and LMS

<table>
<thead>
<tr>
<th>Findings</th>
<th>LM %</th>
<th>LMS %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postmenopause</td>
<td>3.4</td>
<td>60.9</td>
</tr>
<tr>
<td>Additional uterine bleeding</td>
<td>10.5</td>
<td>42.4</td>
</tr>
<tr>
<td>Bleeding postmenopause</td>
<td>30.4</td>
<td>42.6</td>
</tr>
<tr>
<td>Rapid growth tumor/uterus</td>
<td>17.0</td>
<td>51.1</td>
</tr>
<tr>
<td>Suspicious sonography</td>
<td>6.9</td>
<td>82.6</td>
</tr>
<tr>
<td>Solitary tumor</td>
<td>37.8</td>
<td>51.5</td>
</tr>
</tbody>
</table>

Conclusion

Age, tumor diameter, menopausal status, additional bleedings in premenopause, bleedings in postmenopause, sonographic findings, rapid growth of tumor or uterus, and solitary tumor are suitable to generate a preoperative LMS-Score for prevention of inadequate LMS-surgery.
OVARIAN CANCER

ESGO7-1202

A SINGLE INSTITUTION QUALITY ASSURANCE PROGRAM FOR PRIMARY DEBULKING SURGERY IN ADVANCED OVARIAN/TUBAL/PRIMARY PERITONEAL CANCER

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Aims

To report initial results following the implementation of prospective registration of surgical procedures and completeness, postoperative complications and postoperative mortality, as part of a single institution quality assurance program in advanced ovarian/tubal/primary peritoneal cancer.

Method

Prospective data from 01.01.2014 to 31.12.2016. Details on surgical procedures categorized into surgical complexity scores (SCS). 3 surgical outcome categories: no gross residual tumor (NGR), gross residual tumor ≤ 1 cm (GR-1) and gross residual tumor > 1 cm (bulky) (GR-B). 30 days postoperative complications according to the Clavien Dindo Classification (CD) and 30 days' postoperative mortality. Finally, rate of chemotherapy omission and time to initiation of chemotherapy was registered together with recurrences for the calculation of progression-free survival.

Results

Among 153 patients diagnosed, 103 (70%) had stages 3 or 4 of whom 96 underwent primary debulking surgery (PDS). A trend of increasing surgical complexity was observed. The NGR rate was 46 %, 57 % and 73 % in 2014, 2015 and 2016, respectively. Corresponding rates for GR-1 were 18 %, 20 % and 18 %; and for GR-B 36 %, 23 % and 9 %. Corresponding rates of clinically significant complications (CD III-IV) were 29 %, 20 % and 33 %. The rate of postoperative mortality (CD V) for the whole period was 5 %. Median PFS was 16.5 months increasing from 9.9 months for patients with GR-B to 24.0 months for patients with NGR.

Conclusion

Implementation of prospective registration of surgery may improve the surgical outcome in advanced ovarian cancer.
TP53 DOMAINS’ MUTATIONS ALTER GLYCOLYSIS IN EPITHELIAL OVARIAN CARCINOMA: EX-VIVO AND IN VITRO STUDY

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Aims

To investigate the effect of TP53 different domain mutations on its transcriptional activity, its ability to induce apoptosis and to regulate glucose consumption and lactate production in epithelial ovarian cancer.

Method

30 ovarian cancer biopsies were characterized. Immunohistochemistry for p53 expression and PCR for exons 2 till 11 were performed, followed by the Single Strand Conformation Polymorphism (SSCP) technique and sequencing. The transcriptional activity of p53 was studied by a qPCR for its target genes p21 and MDM2. Viability and Annexin V tests were performed to study the ability of mutant p53 to induce apoptosis. The expression of the glycolytic enzymes regulated by p53 was quantified by qPCR. SK-OV-3 cell line was transfected by different p53 mutated plasmids, and the same experiments performed on the biopsies were done on transfected cells.

Results

The immunohistochemistry and qPCR showed an approximately 2 folds increase in p53 expression between wild type and mutated cases. The expression of p21 and MDM2 decreased only in DNA binding domain mutated cases and transfected cells, which indicates a decreased transcriptional activity with this type of mutation. The highest increase in apoptosis induction was clear in Sk-Ov-3 cells transfected with WT p53, and p53 proline rich domain mutations decreased the protein’s apoptotic function. Glucose consumption and lactate production increased by mutated cells compared to wild type.

Conclusion

Mutant p53 is overexpressed in ovarian cancer cells. DNA binding domain mutations modify the protein’s transcriptional activity, whereas proline rich domain mutations decrease the protein’s apoptotic activity. Glycolysis is affected differently in both types.
OVARIAN CANCER

ESGO7-0815

MHC I DOWN-REGULATION AND PD-L1 EXPRESSION ARE MUTUALLY EXCLUSIVE IN SEROUS OVARIAN CANCER

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³Medical University of Vienna, Center for Medical Statistics- Informatics- and Intelligent Systems & Dept. of Surgery, Vienna, Austria

Aims

The importance of the tumor immune microenvironment in epithelial ovarian cancer (EOC) has been demonstrated and evokes high expectations for tumor specific immunotherapy. Currently, promising activity of antibodies targeting programmed cell death receptor ligand 1 (PD-L1) across multiple malignancies raise expectations on their role also in EOC. Our aim was to determine the clinical role of PD-L1 as mechanism to escape immune recognition in EOC.

Method

We analyzed PD-L1 expression of primary ovarian and peritoneal tumor tissues together with several other parameters (whole transcriptomes of isolated tumor cells, local and systemic immune cells, systemic cytokines and metabolites) and compared PD-L1 expression between primary tumor and tumor recurrences.

Results

All expressed major histocompatibility complex (MHC) I genes were negatively correlated to PD-L1 abundances on tumor tissues, indicating two mutually exclusive immune-evasion mechanisms in EOC: either down-regulation of T-cell mediated immunity by PD-L1 expression or silencing of self-antigen presentation by down-regulation of the MHC I complex. In our cohort, low PD-L1 expression is associated with unfavorable outcome. Differences in immune cell populations, cytokines, and metabolites suggest the existence of concurrent pathways for progression of this disease. Furthermore, recurrences showed significantly increased PD-L1 expression compared to the primary tumors, supporting trials of checkpoint inhibition in the recurrent setting.

Conclusion

This data shows that targeting immune-escape mechanisms is complex and various pathways have to be considered simultaneously. As data obtained within different cancer types might not apply for all tumor entities we still need to define criteria to guide patient selection for PD-L1 therapy in EOC.
THE IMPORTANCE OF DNA PLOIDY MEASUREMENT IN FOLLOW UP OF PATIENT WITH MALIGNANT EPITHELIAL OVARIAN TUMORS

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³National University of Athens, Department of Cytolpathology- University Hospital Atticon, Athens, Greece

Aims

The aim of our study was to evaluate the importance of different of DNA ploidy parameters in analysis of survival rate in patients with malignant epithelial ovarian cancer.

Material: Our study was carried out on 105 patients with malignant common epithelial tumors of the ovary in the age ranged from 22 to 70 years (Mean value 45,2, SD=18,35 years)

Method

DNA ploidy measurement in cytological and histological material of tumors was performed. To determine the prognostic significance of various ploidy parameters one-dimensional and multivariate statistical Cox analysis were performed.

Results

Analysis of hyperploidy index (DH) showed that patients with a degree of hyperploidy corresponding to >3% have a roughly 7-fold greater risk of fatal outcome (Hazard ratio-7.20, p <0.001, CI- 2.99-17.32) in comparison to patients with degree of hyperploidy below <3%. Analyzing the results of the ploidy balance (PB) shows, that patients with a ploidy balance <70% have a roughly 5 times higher risk of unfavorable prognosis (Hazard ratio-5.16) compared to patients with a balance of ploidy corresponded to > 70%. The result demonstrate that degree of ploidy parameters and aneuploidy in malignant epithelial tumor has important prognostic value.

Conclusion

Cox statistical analysis showed the measurement importance of different ploidy parameters in the overall survival of patients with malignant epithelial ovarian tumors (p <0.001). According to the one-dimensional and multivariate statistical analysis degree of aneuploidy (DA), degree of hyperploidy (DH) and ploidy balance (PB) are important indicators for the general survival rate of patients with malignant epithelial tumours of ovaries (p <0.001).
OVARIAN CANCER

ESGO7-1147

Adult-type ovarian granulosa cell tumors (OGCTs): Treatment Outcomes from a Single Institutional Experience

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7Lecturer of clinical oncology- Suez canal faculty of medicine, clinical oncology, eskandera, Egypt
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9King Faisal Specialist Hospital- oncology research data analyst, oncology, riyadh, Saudi Arabia

Aims

To report clinical characteristics and long-term outcomes of adult-type OGCTs at our center and to determine prognostic factors affecting relapse and survival

Method

From 1988 to 2014, we retrospectively reviewed patients with adult-type OGCTs. Baseline characteristics, pathological findings and outcomes were analyzed

Results

61 patients with adult-type OGCTs were identified with median age of 49 years. Median follow-up was 5.0 years. 74% of patients had FIGO stage I, 7% had stage II, 5% had stage III and unknown in 14%. Most common presenting symptoms included abdominal pain (43%) and vaginal bleeding (43%). Majority of patients (37 patients, 60.7%) were treated with TAH and BSO. 5 (8%) patients received adjuvant chemotherapy. Sixteen patients (26%) relapsed with a median time to relapse of 5.5 years. Half of recurrence (8 patients) occurred after 5 years of diagnosis. Five-year overall survival and disease-free survival were 93% and 84%, respectively. Factors associated with high risk of recurrence were ascites (p=0.000) and elevated preoperative CA 125 (0.048). Overall survival was significantly influenced by menopausal status (premenopausal 100% vs. postmenopausal 84%; p=0.02), preoperative CA 125 (normal 100% vs. elevated 64%; p=0.005), Ascites (present 33% vs. absent 100%; p=0.000), and age (<55 years 100% vs. ≥ 55 years 77%; p=0.002)

Conclusion

This confirms a good outcome of patients with OGCTs. They require long-time follow-up because recurrence can occur many years after primary therapy. Presence of ascites and elevated preoperative CA 125 were associated with higher risk of recurrence and poor prognosis. Outcome seems not to be affected by fertility-sparing surgery
OVARIAN CANCER

ESGO7-0279

EXPRESSION PATTERN OF p53, BAX PROTEIN AND CANCER STEM CELL MARKERS CD133 AND NOTCH IN OVARIAN CANCERS

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3Wrocław Medical University, Department of Pathomorphology and Clinical Oncology, Wroclaw, Poland

Aims

Biological heterogeneity of ovarian carcinoma is well documented. Up to now several biological parameters have been analyzed to describe the biological behavior of ovarian carcinoma cells. The aim of the study was to evaluate the expression of stem cells proteins (CD133, Notch1) and p53, Bax protein in ovarian carcinomas in order to establish the biological behavior of ovarian carcinoma.

Method

Stem cells proteins (CD133, Notch1) and p53, Bax proteins expression was analyzed on 104 malignant ovarian tumors using immunohistochemistry (IHC).

Results

P53 protein was found in 39% of ovarian carcinomas and was observed more frequently in advanced stage of disease (FIGO III/IV) (P = 0.04), and poorly differentiated tumors (G3) (P = 0.01). Nuclear accumulation of p53 protein dominated in serous ovarian carcinomas (P = 0.02). Bax protein expression occurred in 42% of ovarian carcinomas and was associated with low stage of disease (FIGO I/II) (P = 0.03). CD133 and Notch expression was observed in 38.0% and 33.0% of ovarian carcinomas respectively. The association between poorly differentiated tumor and Notch1 expression (P = .002) was found. CD133 molecule did not correlate with clinicopathological parameters of ovarian carcinomas. Positive correlation between CD133 and Notch 1 was revealed in ovarian carcinomas (P = 0.02). CD133+/Notch1+ immunophenotype dominated in poorly (G3) differentiated ovarian carcinomas.

Conclusion

Our results suggest that parallel expression of CD133 and Notch1 molecules on tumor cells identified subgroup of ovarian carcinomas with high morphological malignancy. Co-expression of CD133 and Notch1 might be associated with redifferentiation of tumor cells.
Aims

To evaluate the benefit of hormonal therapy (HT) in advanced ovarian cancer (AOC).

Method

We reviewed the data of patients with AOC who underwent HT between 2009 and 2016. Primary endpoint was clinical benefit (CB). Secondary endpoints were overall survival (OS), progression-free survival (PFS) and toxicity. Descriptive analysis of the main demographic and clinical characteristics was performed. PFS and OS were evaluated using the Kaplan-Meier method.

Results

We identified 47 patients. Median age was 61 years. Serous carcinoma was the main histologic subtype (70%). Clinical stages at presentation were FIGO IIIB (13%), IIIC (55%) and IV (21%). Hormone receptor expression (HRE) was positive in most of the tested patients. Previous to HT, 36% were treated with one regimen of chemotherapy (CT) and 60% with ≥2 regimens. HT was initiated in 34% due to disease progression and the remaining as maintenance therapy. The majority had ECOG ≤1 (70%). Letrozole was the most commonly used (77%), followed by tamoxifen (17%) and megestrol (6%). No relevant toxicity was reported. PFS was 6 months (CI 95% 2.1-9.9) and OS was 22 months (CI 95% 13.0-31.0). Based on imaging response criteria, one patient had complete response, 70% had stable disease and 19% progressed on the first evaluation. Overall CB was 72%.

Conclusion

CB was superior to the reported in the literature, probably related to its maintenance use between CT treatments. More prospective studies are needed to determine the real advantage of HT in AOC vs clinical surveillance in the maintenance setting, as well as its correlation with HRE.
OVARIAN CANCER

ESGO7-0436

COMPARISON OF SYMPTOMS AND QUALITY OF LIFE IN RECURRENT OVARIAN CANCER BY RURAL/URBAN RESIDENCE: ANCILLARY ANALYSIS OF GOG-0259

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²University of Virginia School of Nursing, Acute and Specialty Care, Charlottesville, USA
³Massachusetts General Hospital, Harvard Medical School, Boston, USA

Aims

Women with recurrent ovarian cancer (OC) experience a wide range of cancer- and treatment-related symptoms that negatively impact their quality of life (QOL). Research demonstrates that geographic differences in access to high-quality care are associated with healthcare disparities. Our objectives were to evaluate whether rural (versus urban) residence is associated with worse symptoms and poorer QOL in a nationwide sample of women with recurrent OC.

Method

Baseline GOG-0259 data were analyzed. We mapped zip codes to Rural Urban Continuum Code approximations and compared sociodemographic and clinical variables between rural and urban groups using two-sample t and chi-square tests. We used multivariate analysis of covariance to test for associations between residence and symptoms and QOL (FACT-O), controlling for known personal, social, and health risk factors.

Results

Rural (n=75, 15.1%) and urban (n=422, 84.9%) women differed by marital status (83% vs. 70% married), number of concurrent symptoms (16 vs. 14), and overall QOL (107.5 vs. 111) (p<.05). In omnibus multivariate analyses, geographical residence was not associated with either symptoms or QOL. Higher anxiety and lower optimism were associated with worse symptoms. Higher social support, lower depressive symptoms, lower anxiety, and fewer comorbidities were associated with better QOL.

Conclusion

Despite differences in symptoms and QOL by rural/urban residence in bivariate relationships, multi-variate analyses suggest that social and psychological factors may be more important predictors of these outcomes. Future large sample studies should evaluate the interactions between place of residence and social/psychological factors in influencing symptoms and QOL among women with OC.
OPEN VERSUS MINIMALLY INVASIVE SURGERY FOR THE TREATMENT OF GRANULOSA CELL TUMORS OF THE OVARY: RESULTS FROM THE MITO 9 STUDY

Aims

To compare oncological outcomes between laparoscopic and open surgery in the treatment of stage I granulosa cell tumors of the ovary (GCT).

Method

Data from 240 patients with stage I GCT were retrospectively collected among MITO centers (Multicenter Italian Trials in Ovarian cancer and gynecologic malignancies) and analyzed.

Results

19 patients were affected by juvenile GCT (7.5%), 222 (92.5%) by adult type GCT. Stage 1A, 1B and 1C were 68%, 2% and 30% respectively. 138 patients (57.5%) underwent open surgery while 102 (42.5%) laparoscopic surgery. No differences in residual tumor or postoperative complications were detected between the two groups. Five year disease free survival (DFS) rates in the laparoscopic and open-surgery cohorts were 84% and 80% respectively (p=0.3). Median DFS were 228 ± 29 months and 161± 18 months, respectively.

Conclusion

In the present study laparoscopy did not affect the oncological outcome of patients affected by GCT, with comparable postoperative outcomes.
OVARIAN CANCER

ESGO7-1304

TP53 MUTATIONAL ANALYSIS IN OVARIAN CANCER
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Aims

p53 is the most frequently mutated gene in cancer. There are conflicting results in literature regarding TP53 mutations and survival in ovarian cancer (OC) patients. Therefore we analyzed the TP53 mutational status in a well-defined patient-cohort.

Method

Samples from 199 ovarian cancer patients diagnosed at our Department between 1989 and 2014 were analysed. After DNA extraction the TP53 mutational status was determined by Next generation sequencing using the TruSight Cancer Sequencing Panel. Results were correlated with clinicopathologic features using the chi-square test. Survival probabilities were calculated according to the Kaplan Meier method and the multivariate Cox regression model.

Results

TP53 mutations were detected in 59% (118/199) and unclassified TP53 variants (UVs) in 15% (29/199) of ovarian carcinomas. TP53 mutant tumours were significantly associated with adverse tumour grade and high-grade serous OC (HGSOC; p<0.001). Patients with TP53 mutant OC showed a significantly impaired overall survival (OS; 3.4 vs 8.2 years; p=0.004) as did the subgroup of 127 HGSOC patients (3.3 vs. 5.8 years; p=0.005). Interestingly all the TP53 UVs identified in this study were also associated with poor OS in the whole cohort (p=0.001) and the subgroup of HGSOC patients (p=0.002).

In the multivariate analysis the TP53 mutational status was confirmed as a prognostic marker in all OC patients (p=0.019) and the subgroup of HGSOC patients (p=0.001).

Conclusion

We demonstrated that the TP53 mutational status is an independent marker for poor OS in HGSOC. TP53 UVs identified within this study showed the same prognostic relevance as the verified mutations.
CIRCULATING MIRNA LANDSCAPE IDENTIFIES MIR-1246 AS PROMISING DIAGNOSTIC BIOMARKER IN HIGH-GRADE SEROUS OVARIAN CARCINOMA: A VALIDATION ACROSS TWO INDEPENDENT COHORTS

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Aims

High-grade serous ovarian carcinoma (HGSOC) is the most lethal gynecologic neoplasm, with five-year survival rate below 30%. Early disease detection is of utmost importance to improve HGSOC cure rate. The focus of this study was the detection of the levels of circulating miRNAs in tissues and sera from patients with HGSOC as a first step in the evaluation process of their role as diagnostic biomarkers.

Method

Sera from 168 HGSOC patients and 65 healthy controls were gathered together from two independent collections and stratified into a training set, for miRNA marker identification, and a validation set, for data validation. An innovative statistical approach for microarray data normalization was developed to identify differentially expressed miRNAs. Signature validation in both the training and validation sets was performed by quantitative Real Time PCR (RT-qPCR) and droplet digital PCR (ddPCR).

Results

In both the training and validation sets, miR-1246, miR-595 and miR-2278 emerged significantly over expressed in the sera of HGSOC patients compared to healthy controls. Receiver Operating Characteristic curve analysis revealed miR-1246 as the best diagnostic biomarker, with a sensitivity of 87%, a specificity of 77% and an accuracy of 84%.

Conclusion

This study is the first step in the identification of circulating miRNAs with diagnostic relevance for HGSOC. According to its specificity and sensitivity, circulating miR-1246 levels are worthy to be further investigated as potential diagnostic biomarker for HGSOC.
DEVELOPMENT OF AN ANTIBODY MEDIATED OPTICAL IMAGING METHODOLOGY IN MOUSE MODELS OF HIGH-GRADE SEROUS OVARIAN CARCINOMA

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Aims

Epithelial ovarian carcinoma remains the deadliest of all gynecological malignancies with high-grade serous ovarian carcinoma (HGSOC) being the most common subtype. Due to late stage diagnosis with peritoneal tumour spread, complete surgical debulking is often difficult to achieve. It is essential, that preclinical models are relevant and permit the analysis of tumour manifestations, treatment responses and the development of new treatment strategies.

Method

Through a series of immunophenotyping experiments, we screened a panel of biomarkers for the cell lines OV90 and CaOV3, and identified CD24 as a homogeneous biomarker of several HGSOC cell lines. Orthotopic xenograft models were subsequently generated by injecting stably transfected OV90 and CaOV3 cells into the ovarian bursa of immunodeficient mice. Further, we established patient derived xenografts (PDX) by orthotopical implantation of unprocessed cancer cells after immediate mechanical tumour dissociation. After conjugation of a specific monoclonal antibody directed against CD24 to the near-infrared dye Alexa680, we studied detection of primary tumour and metastasis by non-invasive optical imaging in parallel with the more established method of bioluminescence.

Results

We identify the cell surface receptor CD24 to be a suitable target for fluorochrome-conjugated antibodies in time-domain optical imaging of HGSOC and find this novel methodology to be comparable to bioluminescence.

Conclusion

We introduce a noninvasive fluorophore mediated optical imaging protocol for HGSOC that facilitates the study of orthotopic models without the need for genetic alteration of tumour cells. Exploration if this original technique is applicable in the established PDX models is ongoing.
OVARIAN CANCER

ESG07-1059

HIGH LEVELS OF FOLLICLE STIMULATING HORMONE DURING AGING IS ASSOCIATED WITH CHRONIC OVARIAN STRESS AND MALIGNANT TRANSFORMATION

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2University of Chicago, Pathology, Chicago, USA
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4Rush University Medical Center, Pathology, Chicago, USA

Aims

The lack of information on the molecular etiology of ovarian cancer (OVCA) makes it a lethal malignancy. Longstanding unresolved stress and persistent high levels of circulating follicle stimulating hormone (FSH) are characteristic features in the postmenopausal ovary. The goal of this study was to examine whether chronic unresolved stress is associated with malignant development and if high levels of FSH is associated with ovarian chronic stress in postmenopausal women.

Method

Ovarian tissues from healthy per- and post-menopausal subjects, BRCA1+ subjects and patients with early and late stage OVCA were examined for the expression of markers of chronic stress including glucose regulator protein 78 (GRP78, a maker of endoplasmic reticular stress), OGG1 (a marker of DNA-damage repair mechanism) and FSH receptor (FSHR) using immunohistochemistry, proteomics and gene expression studies. Changes in the intensity of expression of markers by ovarian surface epithelium (OSE) and inclusion cysts as well as malignant cells were determined and compared among normal and different pathological groups.

Results

Compared with OSE, the intensity of GRP78, OGG1 and FSHR expression was significantly higher in ovarian malignant cells. Similarly, inclusion cysts (potential premalignant lesions) in postmenopausal ovaries and fimbrial epithelium of the fallopian tube in BRCA1+ showed significantly higher intensities than the OSE. The expression of these markers were positively associated with FSHR expression.

Conclusion

The results of this study suggest that increased expression of FSHR is associated with ovarian chronic stress in postmenopausal subjects, and may be involved in malignant transformation in the ovary. Support: NIHR01 CA210370-01
OVARIAN CANCER

ESGO7-0880

SPLENECTOMY IN CYTOREDUCTIVE SURGERY FOR ADVANCED OVARIAN CANCER: HIGHER INVOLVEMENT RATE THAN EXPECTED?

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Aims

Complete surgical resection (CSR) to no macroscopic residual disease (RD) is the most important prognostic factor in advanced ovarian cancer (AOC). To achieve CSR it is often necessary to perform a splenectomy. The aim of this study is to correlate intraoperative and histological findings of patients with AOC undergoing splenectomy.

Method

All consecutive patients with AOC undergoing primary, interval or secondary cytoreductive surgery and who underwent splenectomy between 01/2010 and 03/2017 at the NGOC (Gateshead, UK) were included. Demographic and surgico-pathological data were extracted from medical records.

Results

Of 129 patients, 73 (56.6%) underwent primary, 44 (34.1%) interval and 12 (9.3%) secondary cytoreductive surgery. Median age was 65 years (24-91) and median Surgical Complexity Score (Aletti) 8 (4-15). Cytoreduction to RD<1cm was obtained in 116 (89.9%). Indication for splenectomy was: direct involvement by tumor in 97 (75.2%), preoperative radiological involvement of spleen in 4 (3.1%), intraoperative splenic capsule injury in 15 (11.6%), to facilitate en-bloc resection of peri-splenic disease in 13 (10.1%). Histologically, 84 (65.1%) had hilum, 80 (62.0%) had capsule and 27 (20.9%) had parenchyma involvement. 10/15 (66.7%) spleens removed for intraoperative injury had positive histological involvement (60% hilum, 60% capsule and 10% parenchyma).

Conclusion

Splenectomy is an important procedure in the surgical management of AOC. Intra-operative detection of spleen involvement is not always reliable and this may be due to adhesions/poor access preventing adequate assessment. A low threshold for removal is required if there is suspicion of splenic disease in a patient where CSR is to be achieved.
Aims

The process of epithelial-mesenchymal transition (EMT) has been implicated in many cancers, including ovarian, enabling epithelial cells to acquire motile and invasive characteristics which are essential for metastatic spread. We aimed to investigate the role of caldesmon (CALD1) gene, which encodes an important regulator protein of microfilament network, in epithelial ovarian cancer (EOC) pathogenesis.

Method

Reverse transcription quantitative real-time PCR (RT-qPCR) was used to determine CALD1 expression levels in 48 EOC and 19 benign ovarian formalin fixed paraffin embedded (FFPE) specimens. The median patients’ age in both groups was 57 years. The differences in CALD1 gene expression between these two subgroups and its association with various clinicopathological features were assessed by Mann-Whitney test and Spearman’s rank correlation test. P value <0.05 was considered significant.

Results

We found that CALD1 expression levels were lower in malignant compared to benign ovarian tissue (p<0.0001), while CALD1 gene was also significantly lower expressed in high vs. low-grade ovarian carcinomas (p=0.0440). Lower CALD1 expression was observed in higher FIGO stage, tumors with metastases and ascites, as well as in tumors from patients who relapsed, although without statistical significance.

Conclusion

Study findings suggest that CALD1 gene, an important regulator of cell motility, could be a potential biomarker in the prognosis of ovarian tumors.
DOES BREAST CANCER AFFECT PROGNOSIS IN A BRCA-MUTATED OVARIAN CANCER COHORT? THE MITO 21 STUDY - A SUBGROUP ANALYSIS


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Aims

MITO (multicenter-Italian-trials-in-ovarian-cancer) 21 is a retrospective observational study aimed at exploring genotype-phenotype correlations in a cohort of BRCA mutation-carrying ovarian cancer (OC) patients. We present an ad interim analysis that characterizes the breast and ovarian cancer (BOC) subgroup and investigates if breast cancer (BC) co-occurrence affects prognosis compared to OC alone.

Method

Fifteen Italian centers participated in the study. Retrospective chart review was used to identify patients carrying a BRCA mutation who were diagnosed with OC between 1995 and 2016 and to collect relating clinical data.

Results

Of the 319 patients included in the study, 72 (23%) were diagnosed with BOC and 247 (77%) with OC only. In the BOC sub-cohort, BC and OC were the first malignancy in 56 (78%) and 16 (22%) cases, respectively. Median age at diagnosis was 50yr (range 32-81yr) for BC and 57yr (range 42-84yr) for OC. The median interval between first and second primary cancer was shorter when BC followed OC than when it preceded it (31m vs. 100m). Forty-seven (65%) patients carried a BRCA1 mutation and 25 (35%) a BRCA2 mutation—mostly frameshift mutations causing a premature stop. Overall survival (OS) did not depend on the mutated gene and was longer in the BOC group compared to the OC only group (168m vs. 65m, p<0.00001).

Conclusion

We describe the largest Italian cohort of BRCA mutation carriers with BOC. Most patients carried a BRCA1 mutation. BC more often preceded OC diagnosis. OS analysis suggests that patients with BOC live longer.
OVARIAN CANCER

ESGO7-0804

PERFORMANCE OF HE4, CA-125, ROMA, IOTA-LR2, ANDEX, RMI AND COPENHAGEN INDEX TO DETERMINE RISK OF MALIGNANCY OF ADNEXAL MASSES

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Aims

To study the diagnostic accuracy of several models (ROMA, IOTA-LR2, ADNEX, RMI, Copenhagen) and biomarkers (CA-125, HE4) to assess the risk of malignancy of adnexal masses.

Method

Retrospective study including a cohort of women who underwent surgery for adnexal masses in our centre. Patient data (age, menopausal status, ultrasound features, serum markers) was collected to calculate studied indexes. According to histological findings, the main outcome was defined as presence of malignant tissue in removed masses. We plotted ROC curves and AUC for CA-125, HE4, ROMA, IOTA-LR2, ADNEX, RMI and Copenhagen. Sensitivity and specificity for such indexes were calculated for different cutoff points, as for a combination of ROMA and IOTA-LR2 models (considering high risk of malignancy patients with ROMA>15 or IOTA-LR2>15).

Results

835 patients were included: 674 women had benign or borderline masses, while 161 had malignant disease. Isolated ADNEX and IOTA-LR2 models showed higher AUC (table 1) and sensitivity (92.5%, 95%CI: 87.1-95.8% and 94.5%, 95%CI: 89.5-97.2% respectively), but higher specificity was found for RMI (96.3%, 95%CI: 94.3-97.5%) and HE4 (95.5%, 95%CI: 93.4-96.9%, at cutoff 120). When combining IOTA-LR2 and ROMA, maximum sensitivity was achieved (96.2%, 95%CI: 91.9-98.2%).

Table 1. AUC of studied indexes

<table>
<thead>
<tr>
<th>Diagnostic test</th>
<th>AUC(95%CI)</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>HE4</td>
<td>0.894(0.857-0.930)</td>
<td>688</td>
</tr>
<tr>
<td>CA-125</td>
<td>0.836(0.795-0.876)</td>
<td>802</td>
</tr>
<tr>
<td>ROMA</td>
<td>0.910(0.875-0.945)</td>
<td>686</td>
</tr>
<tr>
<td>IOTA-LR2</td>
<td>0.936(0.913-0.960)</td>
<td>792</td>
</tr>
<tr>
<td>ADNEX</td>
<td>0.952(0.930-0.973)</td>
<td>751</td>
</tr>
<tr>
<td>RMI</td>
<td>0.924(0.898-0.949)</td>
<td>797</td>
</tr>
<tr>
<td>RMI-2</td>
<td>0.924(0.898-0.950)</td>
<td>797</td>
</tr>
<tr>
<td>CPH-I</td>
<td>0.907(0.872-0.941)</td>
<td>687</td>
</tr>
</tbody>
</table>

Conclusion

Considering the objective of ruling out malignancy, ADNEX and IOTA-LR2 perform better in women with adnexal masses. Sensitivity increases up to 96.2% by combining IOTA-LR2 and ROMA.
OVARIAN CANCER

ESGO7-0947

MIRNA181A-5P EXPRESSION AS A BIOMARKER OF TGFβ PATHWAY ACTIVATION ASSOCIATED WITH ONCOLOGIC OUTCOME AND TUMOR DIFFUSION IN HIGH GRADE SEROUS EPITHELIAL OVARIAN CANCER

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Aims

Activation of TGFβ pathway in advanced epithelial ovarian cancer has been found to be a predictor of residual tumor and survival. miRNA181a-5p expression in EOC has been identified as a stable readout of TGFβ activation, here further analyzed as outcome biomarker.

Method

A consecutive series of high grade serous EOC (HGSEOC) from the snap-frozen ‘Pandora’ tumor tissue biorepository (2004-2012) has been included for miRNA analysis with relative real time-PCR. Tumor diffusion was categorized using an established semi-quantitative disease score (DS). The prognostic value of miRNA181a-5p was analyzed using a Cox proportional-hazards regression model; non-parametric tests to analyze the association between mRNA 181a-5p and clinical features were used.

Results

84 HGSEOC patients with a median follow-up of 50.7 months entered the study. Using Cox proportional-hazards regression model an optimized threshold of miR181a-5p expression to group patients according to their prognosis was identified (miR-low and miR-high), with progression free survival (PFS) of 20.9 v. 9.6months[Hazard Ratio(HR)=2.451(1.454-4.133), p=0.0008] and overall survival (OS) of 60.3 v. 23.3months[HHR= 2.812 (1.632 - 4.847), p=0.0008], respectively. High DS grouped the highest miRNA181a-5p expressors. Residual tumor >1cm was significantly related to high miRNA181a-5p expression (p=0.041, p=0.029).

In multivariate Cox proportional-hazards regression models DS high and miR-high were related to worse PFS[HR=2.95(95%CI1.65-5.29), p=0.0002];[HR=2.31(95%CI1.05-5.13), p=0.036]; miR-high also negatively affected OS [HR=2.18 (95%CI1.22-3.89), p=0.007].

Conclusion

miR181a-5p confirms to be a reliable prognostic biomarker associated to PFS and OS in HGSEOC. Thus, a prospective validation of its role is urgently needed. A translational ancillary study has been designed to the TRUST trial (NCT # 02828618).
OVARIAN CANCER

ESG07-0671

THE ROLE OF USP10 IN EPITHELIAL OVARIAN TUMORS

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Aims

Ubiquitin-specific protease 10 (USP10), a deubiquitinating enzyme, has been pronounced in malignancies. However, the role of USP10 in epithelial ovarian cancer has not been elucidated yet. Here, we investigated the expression and clinical significance of USP10 in ovarian cancer.

Method

Immunohistochemical analyses of USP10 and p14ARF were performed using tissue microarray analysis of 336 ovarian tumors and compared the data with clinicopathologic variables, including the survival of ovarian cancer patients. We also examined USP10 and p14ARF methylation near the putative transcriptional start site (TSS) in the 5' CpG islands of the genes in ovarian cancer cells and fresh frozen tissues.

Results

USP10 and p14ARF expression was significantly decreased in ovarian cancer than normal ovarian epithelium (both p<0.001). Immunoreactivity significantly correlated with tumor stage (USP10, p=0.001) and tumor grade (p14ARF, p=0.007). USP10 expression showed strong positive correlation with that of p14ARF (Spearman's rho = 0.430, p < 0.001) in cancer patients. Using cox proportional hazards model, low USP10 expression [HR=3.77 (95% CI, 1.65–8.60), p=0.002] and a combined USP10/p14ARF expression [HR=4.35 (95% CI, 1.58–11.90), p = 0.005] were the independent prognostic factors. Methylation specific PCR analysis showed that the USP10 and p14ARF CpG island was highly methylated in cancer tissues (62% and 87%, respectively) and cells (both 95%) and at lower percentages in normal tissues (3% and 13%, respectively).

Conclusion

Low expression of USP10 or combined USP10/p14ARF is an indicator of bad prognosis in ovarian cancer, suggesting their potential utility as prognostic tests in clinical assessment.
EXPRESSION PATTERNS OF Nrf2 AND Keap1 IN OVARIAN CANCER CELLS AND THEIR PROGNOSTIC ROLE IN DISEASE RECURRENCE AND PATIENT SURVIVAL

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Aims

This study evaluated the expression patterns of nuclear factor erythroid 2-related factor 2 (Nrf2) and Kelch-like ECH-associated protein 1 (Keap1), and assessed their clinical value as prognostic indicators in ovarian cancer.

Method

The expression patterns of Nrf2 and Keap1 were determined in 100 epithelial ovarian cancers by immunohistochemistry analyses. The associations of Nrf2 and Keap1 expression with clinicopathological characteristics of patients were evaluated. All patients received platinum-based chemotherapy. Chemoresistance was defined as recurrence within 6 months of first-line chemotherapy.

Results

Cytoplasmic expression of Nrf2 and Keap1 was observed in 95% and 72%, respectively, of all 100 epithelial ovarian cancers examined. Low Keap1 expression (intensity<1) was strongly associated with disease recurrence ($P=0.046$) and death ($P=0.002$). Chemoresistance was associated with high Nrf2 expression (intensity=3) ($P=0.833$, HR 1.202, 95% CI 0.217-6.667) and low Keap1 expression ($P=0.862$, HR 0.899, 95% CI 0.270-2.994). However, these associations were not statistically significant. Survival analysis indicated that high Keap1 expression (intensity≥1) was strongly predictive of better overall survival ($P=0.049$) and disease-free survival ($P=0.004$). Cox's regression analysis indicated that Keap1 expression was an independent prognostic factor for overall survival ($P=0.012$, HR 0.349, 95% CI 0.153-0.797). Although patients with high Nrf2 expression displayed better overall survival and disease-free survival, the association was not statistically significant.

Conclusion

High cytoplasmic Keap1 expression, which might prevent nuclear translocation of Nrf2 in ovarian cancer cells, was associated with lower disease recurrence and death rate. Survival analysis suggested a probable role of Keap1 expression in predicting the prognosis of ovarian cancer.
OVARIAN CANCER

ESGO7-0195

A TAILORED STRATEGY USING CA125 AND HE4 STRATIFIED BY MENOPAUSAL STATUS FOR DIFFERENTIATING BENIGN AND MALIGNANT ADNEXAL TUMORS

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Aims

This study aimed to compare the diagnostic performances between CA125 alone and a combination of CA125 and HE4, and to tailor the combination method using CA125 and HE4 for Korean women with ovarian tumors.

Method

We enrolled 327 epithelial ovarian cancer (EOC) patients and 322 benign ovarian tumor patients. In this study, we used the risk of ovarian malignancy algorithm (ROMA) and the simple dual-marker method (DualM) as combination methods. DualM identified a result as positive when either CA125 or HE4 was higher than the cut-off. Optimized cut-off values for tumor markers were evaluated according to patient menopausal status.

Results

The optimized cut-off values of CA125, HE4, and ROMA were 89.6 U/ml, 53.7 pmol/L, and 11.1% in premenopausal women (PreMP) respectively. In PreMP, DualM and ROMA yielded higher sensitivity (SN) than CA125, but the opposite trend was seen for specificity (SP) (CA125: SN=61.3% and SP=94.7%, DualM: SN=78.7% and SP=88.9%, ROMA: SN=70.7% and SP=92.2%). In PostMP patients, the optimized cut-off values for CA125, HE4, and ROMA were 23.4 U/ml, 64.3 pmol/L, and 25.3%, respectively. DualM yielded improved SN without decreasing SP in PostMP compared with CA125 alone. ROMA did not yield improved performance compared with CA125 alone (CA125: SN=85.3% and SP=94.9%, DualM: SN=90.5% and SP=88.5%, ROMA: SN=85.3% and SP=97.4%).

Conclusion

DualM performed better than CA125 alone in PostMP patients by increasing sensitivity via optimized cut-off values.
OVARIAN CANCER

ESGO7-0499

GENOMIC LANDSCAPE OF BRAIN METASTASIS FROM OVARIAN/ PERITONEAL CANCER

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Aims

Brain metastasis from ovarian cancer is a rare disease entity which leads to dismal prognosis. However, the genomic alterations of primary ovarian/ peritoneal cancer and the brain metastasis have not been fully elucidated.

Method

We performed whole-exome sequencing of three matched brain metastases and ovarian/peritoneal cancers.

Results

We detected increased number of genomic alterations from brain metastases when compared to ovarian/ peritoneal cancers (range: 88-155 and 52-74, respectively). All the ovarian/ peritoneal and brain tissues encompassed TP53 non-silent mutations and SEC16B non-silent mutations were harbored in two of the three cases. In addition, genetic alterations of ADGRB1, a tumor suppressor gene that is known to be related to glioblastomas, were detected only in brain metastases (two of the three cases).

Conclusion

Our data revealed that brain metastasis from ovarian/ peritoneal cancer harbors a somatic mutation known to be associated with glioblastomas, suggesting that brain-specific genetic alterations may exist.
OVARIAN CANCER

ESGO7-0059

RANDOMIZED, NON-COMPARATIVE, PHASE II TRIAL OF BEVACIZUMAB AND TRAJECTEDIN WITH OR WITHOUT CARBOPLATIN IN PARTIALLY PLATINUM-SENSITIVE OVARIAN CANCER (ROC) WOMEN

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Aims

Trabectedin interferes with cancer cells division and decreases the number/function of tumor-associated macrophages (TAMs). Since TAMs produce several angiogenic factors, trabectedin might be synergistic with bevacizumab.

Method

Women with disease progression between 6-12 months since the last 1st/2nd line platinum-based therapy were randomized to Arm-A (trabectedin 1.1 mg/m² and bevacizumab 15 mg/kg q3w) or Arm-B (carboplatin AUC-4 plus trabectedin 0.8 mg/m² and bevacizumab 10 mg/kg q4w). In both arms responding patients from Cycle 7 onward could continue with trabectedin and bevacizumab until progression as in Arm-A. The study would open to the second-stage accrual if 7 and 13 of the first 17 patients in Arm-A and 8 and 13 patients in Arm-B remain progression-free at 6 months and without severe toxicities (primary end-points), respectively.

Results

In Arm-A and Arm-B, 11/17 and 14/17 patients remained progression-free at 6 months and achieved a median PFS of 9.4 and 23.1 months, respectively. At 6 months, 14 patients in Arm-A and 11 patients in Arm-B remain without severe toxicities. In Arm-B, 4 patients had grade 4 thrombocytopenia, 2 had grade 4 neutropenia, and 5 had hypersensitivity reaction to carboplatin. Despite this severe myelotoxicity, 11/12 patients without hypersensitivity reaction were able to complete 6 cycles after dose adjustment.

Conclusion

The combination of trabectedin/bevacizumab±carboplatin is highly effective in ROC. Arm-A completed second-stage accrual and the mature results on safety and efficacy will be presented. Arm-B did not meet the toxicity criteria to access second-stage accrual, but its remarkable median PFS of 23.1 months warrants further study with adapted schedules.
SURVIVAL IMPACT OF SURGICAL STRATEGY IN STAGE III OR IV EPITHELIAL OVARIAN CANCER

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Aims

To evaluate the evolution of practices and the influence of surgical strategy on survival for patients with stage III or IV epithelial ovarian cancer (EOC).

Method

Prospective data collection in two french national cancer centers. Our analysis concerned clinicals information, completeness of surgery, definitive pathology, Overall Survival (OS) and Disease Free Survival (DFS). Three surgicals strategies were compared: Primary Debulking Surgery (PDS), Interval Debulking Surgery (IDS) after 3 courses of neoadjuvant chemotherapy and Final Debulking Surgery (FDS) after at least 6 chemotherapy’s courses. We analysed 4 periods: <2000, 2000-2004, 2005-2009 and >2009.

Results

Median age at diagnosis was 61 (17-94). 1473 patients managed for FIGO stage III (80%) or IV (20%) EOC between 1985 and 2015 were included. We compared the 4 periods: The rate of non-operated patients increased (10,1% vs 22,6% p<0,001) between first and last period. Neoadjuvant chemotherapy increased from 20,1% to 52,2% (p<0,001). Complete resection rate increased from 37% to 66,2% (p<0,001).

For patients who underwent surgery, OS increased in case of complete resection (HR=2,123 CI95% [1,816-2,481] p<0,001) but time of surgery didn’t impact median OS (month): PDS 44,9; IDS 50,3; FDS 42 (p=0,410).

For patients with complete surgery, DFS was significantly shorter of 3 months in case of FDS compared to PDS (p<0,001).

Conclusion

A significative improvement of OS and DFS has been observed during our study in relation with complete resection rate. We did not observe any difference between PDS, IDS and FDS in term of OS but a reduction of DFS for FDS.
OVARIAN CANCER

ESGO7-0621

CARCINOID TUMOR OF THE OVARY: A CLINICOPATHOLOGIC STUDY OF 67 CASES

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Aims

To correlate tumors' pathological characteristics with clinical behavior and survival of patients diagnosed with ovarian carcinoid tumors, a rare group of ovarian neoplasms.

Method

Histologic slides of 67 cases of ovarian carcinoid tumors diagnosed at the Mount Sinai Hospital between 1994 and 2015, were reviewed and correlated with clinical outcomes.

Results

Of 67 patients, 29 had primary and 38 had metastatic carcinoids to the ovary. Primary tumors were unilateral in 93% cases, 66% were associated with ovarian teratoma, 22% were malignant (3 mucinous, 1 insular, 2 undifferentiated). Mean age was 48.7 years, overall survival was 86%. Carcinoid syndrome was present in one patient with malignant tumor. Metastatic tumors were bilateral in 72% cases, 82% were of gastrointestinal primary, of which 52% were from small bowel. Mean age was 53, overall survival was 50%. Carcinoid syndrome was present in 45%. Surgery was performed in 95% cases and 74% had adjuvant treatments. For the entire cohort, histologically severe cellular atypia was present in only 6 cases; immunoreactivity was positive for neurosecretory granules in all cases, p53 positive in one metastatic tumor, and Ki67 was relatively low in most cases.

Conclusion

The natural history of ovarian carcinoid (neuroendocrine tumors) is different, being more indolent than the common ovarian carcinomas. Carcinoid syndrome was far more common in the metastatic cases. The rather low-grade histologic features of carcinoid do not always correlate with the metastatic potential of the tumors and patients’ survival, requiring personalized therapeutic strategies.
Aims

It has now been established that low grade serous carcinoma of the ovary is a distinct entity by itself distancing itself from the high grade serous carcinomas in many aspects. Being in a unique heterogenous Southeast Asian country where the population comprises of 4 different races namely, Chinese, Malay, Indian and Eurasian, we examined the characteristics of the low grade serous ovarian carcinomas in our institution.

Method

Data was collected retrospectively from the KK Gynaecologic oncologic database from the KK Women's and Children's hospital, the biggest women's tertiary hospital in Singapore. The data of 34 patients with confirmed low grade serous carcinoma of the ovar y was collected from 1991 – 2015. The data analysed using SPSS system software.

Results

A total of 34 patients were analysed with low grade serous carcinoma. The patients’ ages ranged from 23 – 84.8 years. The mean age was 47.9 years. Majority (55.9%) of patients presented as stage 3 disease, 29.4% of patients presented as stage 1 disease, 8.8% as stage 3 disease and 2.9 % as stage 2 and unstaged. Overall survival was 182 months for all stages. The 5 years survival rate was 68.8% and 10 years survival rate, 62.3%. There was no significant difference between patients receiving chemotherapy and overall survival, p = 0.58.

Conclusion

Similar to the Caucasian population, low grade serous carcinoma in a heterogenous Asian population also appears to present earlier, are fairly resistant to conventional chemotherapy. Hence, more needs to be done to elucidate this distinct entity of ovarian serous carcinoma.
OVARIAN CANCER

ESGO7-1376

RE-APPRAISAL OF THE ROLE OF DELAYED DEBULKING SURGERY IN PATIENTS WITH STAGE 3C/4 EPITHELIAL OVARIAN CANCER AFTER 6 CYCLES OF UPFRONT CHEMOTHERAPY

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Aims

The aim of the study is to evaluate the feasibility and the outcomes of cytoreductive surgery in a particular group of stage 3C/4 Epithelial ovarian cancer patients who received up to 6 cycles of chemotherapy rather than the traditional 3-4 cycles of neoadjuvant chemotherapy.

Method

This is a retrospective service evaluation (observational) study that included 182 patients who received their treatment in Oxford University hospital NHS trust from 2009 till 2015. 88 patients had 6 cycles of chemotherapy followed by delayed debulking surgery (group 1) and 94 patients had only 6 cycles of chemotherapy (group 2). Patients who had <6 cycles of chemotherapy due to progressive disease were excluded from the study.

Results

Group 1 had significantly higher overall survival compared to Group 2; 34 months (95% CI: 21m-46m) and 17 months (95% CI: 15-19m) respectively. Progression free survival was also significantly higher in group 1; 16 months (95% CI: 10.7m-17m) and 10 months (95% CI: 9 m-11m) respectively. Complete cytoreduction was feasible in 75% of the patients eligible for surgery and residual disease of <1cm was achievable in 88.6% of those patients. The main reason for not proceeding with surgery was unresectable disease by CT scan +/- diagnostic laparoscopy. Diagnostic laparoscopy in patients with stable disease by CT scan improved the selection of patients for surgery.

Conclusion

Surgery still provides significant survival benefit and should still be offered to all suitable candidates. Diagnostic laparoscopy improved the selection of patients for surgery and reduced the number of futile laparotomies.

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IMMUNONUTRITION: A NEW TOOL IN THE MANAGEMENT OF OVARIAN CANCER?

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Aims

Immunonutrition has been proved to stimulate the immunological, inflammatory and nutritional response in different tumours, decreasing postoperative mortality and morbidity. Alterations in lymphocyte subpopulations, particularly the Treg cell subpopulation and the expression of PD1, could be a key factor in determining the status of tumour microenvironment. Patients with ovarian cancer are most effectively treated by radical surgery, that carries a high risk of postoperative complications. The aim of this study is to evaluate the effects of preoperative immunonutrition on patients with ovarian cancer undergoing surgery.

Method

Our pilot study involved 11 patients with ovarian cancer who underwent primary debulking surgery between 2016 and 2017. Enteral immunonutrition was prescribed for 5 to 7 days preoperatively. The following parameters were evaluated before and after immunonutrition: monocytes, granulocytes, lymphocyte subpopulations (CD3+/4+/5+/8+/19+/20+/25+/56+), prealbumin, serum total protein, C-reactive protein (CRP), creatinine, length of hospital stay (LOS) and postoperative complications. The expression of PD1 was assessed on CD4+, CD8+ and Treg cell subpopulations.

Results

After immunonutrition, granulocytes and lymphocytes B CD19+ were significantly increased (p<0.05). CD3+ and CD8+ T cell showed an increasing trend (p>0.05). The expression of PD1 on CD8+ cell subpopulation decreased (p>0.05). CRP and creatinine significantly decreased (p<0.05), while prealbumin significantly increased (p<0.05). In comparison with patients with ovarian cancer who underwent surgery between 2013 and 2016 without preoperative immunonutrition, LOS and the G2-G3 postoperative complications were reduced, (8 vs 6.9 p>0.05) and (40.0% vs 9.1%, p=0.04) respectively.

Conclusion

Preoperative immunonutrition may represent a promising approach in the management of ovarian cancer.
Aims

To compare the diagnostic accuracy of ultrasound, CT, and MRI in ovarian cancer staging.

Method

Patients planned for ovarian cancer surgery were enrolled. They underwent preoperative staging with ultrasound, CT, and MRI, following evaluation form. Findings were compared to intraoperative and histopathological evaluation forms. The evaluation assessed peritoneal spread in 17 sites and metastatic lymph nodes in 7 sites.

Results

Twenty-one patients were enrolled between March and August 2016. Ultrasound showed the best results in detection of pelvic carcinomatosis and depth of rectosigmoid infiltration, followed by MRI and CT (AUC 0.85, 0.79, and 0.72). In the abdomen, ultrasound had the best results in the detection of peritoneal carcinomatosis in the upper abdomen (spleen, liver, lesser omentum) and in greater omentum (AUC of 0.82 and 1.00), in contrast with MRI (AUC 0.73 and 0.93) and CT (AUC 0.71 and 0.88). Ultrasound also reached the highest AUC in the detection of bowel mesentery (AUC 0.78) compared to MRI and CT (AUC 0.66 and 0.62) and was comparable to MRI in the assessment of bowel surface (AUC 0.76), followed by CT (0.73). Ultrasound had the lowest AUC in detection of parietal carcinomatosis (diaphragm, paracolic gutters, anterior abdominal wall) in comparison to MRI and CT (AUC 0.72, 0.86, and 0.78). In the assessment of retroperitoneal lymph nodes, all three methods showed similar results (AUC of 0.80).

Conclusion

This is the first prospective study to date documenting the potential role of ultrasound in ovarian cancer staging, compared to the method of choice (CT) and a novel technique (WB-DWI/MRI).
OVARIAN CANCER

ESGO7-1061

COMPLETE GROSS RESECTION AT PRIMARY VERSUS INTERVAL SURGERY FOR ADVANCED OVARIAN CANCER IMPROVES PROGRESSION-FREE SURVIVAL

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Aims

To determine effect of complete gross surgical resection (R0) of tumor on progression-free survival at primary versus interval tumor reductive surgery in advanced ovarian cancer.

Method

We prospectively triaged patients from April 2013 to December 2016 with suspected advanced stage ovarian cancer to laparoscopic scoring assessment to determine primary resectability. Medically inoperable or those with distant metastatic disease received neoadjuvant chemotherapy (NACT). 20 gynecologic oncologists from a single institution performed all scoring. Predictive index value (PIV) scores ≥8 were dispositioned to primary surgery and ≥8 to NACT. Clinicopathologic and adjuvant treatment data was collected prospectively. Univariate and multivariate analysis was performed for effects on progression-free survival (PFS).

Results

658 patients presented with presumed advanced ovarian cancer. 488 patients were found to have pathologically confirmed stage II-IVB high-grade epithelial ovarian cancer and triaged to NACT/no scope (n=243), NACT/scope (n=105), and primary surgery (n=138). Patients undergoing primary surgery had improved PFS (HR=0.52, 95% CI 0.31-0.85, p=0.02) compared to interval surgery after NACT. Patients undergoing R0 resection at primary surgery had significant improved PFS compared to those undergoing R0 resection at interval surgery (23.5 vs. 12 months, p<0.001). On multivariate analysis, ECOG performance status (p=0.03), R0 resection (p=0.01), and primary surgery (p=0.01) had significant effects on PFS.

Conclusion

Complete surgical resection at primary surgery in advanced ovarian cancer is associated with superior progression-free survival compared to NACT and interval surgery. Laparoscopic scoring assessment allows for appropriate triage of patients to primary surgery.
IMPLEMENTATION OF A LAPAROSCOPIC SCORING ALGORITHM PRIOR TO CYTOREDUCTIVE SURGERY IN PATIENTS WITH ADVANCED OVARIAN CANCER

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Aims

To determine the surgical outcomes and concordance rates of patients undergoing laparoscopic scoring assessment for presumed advanced stage ovarian cancer.

Method

We prospectively triaged patients from April 2013 to April 2017 with suspected advanced stage ovarian cancer to laparoscopic scoring assessment to determine primary resectability. Medically inoperable or those with distant metastatic disease received neoadjuvant chemotherapy (NACT). 20 gynecologic oncologists from a single institution performed all scoring. Predictive index value (PIV) scores <8 were dispositioned to primary surgery and ≥8 to NACT. Two surgeons scored each patient in a blinded fashion, and a third surgeon score was available to assess cases with a discrepancy. Descriptive statistics were used to report surgical and scoring outcomes.

Results

672 patients presented with presumed advanced ovarian cancer and 292 patients underwent laparoscopic scoring assessment. 21 patients (3%) were diagnosed with a non-ovarian primary malignancy. Surgical complications included GI trocar injury (n=6, 2%), port site metastasis (n=12, 4%), and wound infection (n=9, 3%). 184 patients (63%) had a PIV<8 and 100 patients (34%) a PIV ≥8. PIV score could not be determined in 8 patients (3%). Two-surgeon scoring (n=200) resulted in qualitative agreement in 94% of cases, and a third surgeon was called in 10 cases (5%). The third surgeon agreed with the second surgeon in 4 cases, giving a discordance rate of 2%.

Conclusion

Laparoscopic scoring assessment in presumed advanced stage ovarian cancer is associated with acceptable surgical outcomes and low complication rates. Concordance is high amongst surgeons experienced with the scoring algorithm.
PHASE 2, RANDOMIZED CONTROLLED STUDY OF PEGYLATED LIPOSOMAL DOXORUBICIN AND CARBOPLATIN VERSUS GEMCITABINE AND CARBOPLATIN IN PLATINUM-SENSITIVE RECURRENT OVARIAN CANCER (GOTIC003/INTERGROUP STUDY)


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Aims

To compare the efficacy, safety and tolerability profiles of pegylated liposomal doxorubicin and carboplatin (PLD-C) with those of gemcitabine and carboplatin (GC) for the treatment of patients with platinum-sensitive recurrent ovarian cancer (PSROC).

Method

Patients with histologically proven ovarian cancer with recurrence >6 months after first-line platinum and taxane-based therapies were randomly assigned to PLD-C (PLD 30 mg/m² plus carboplatin area under the curve [AUC] 5 on day 1) every 4 weeks or GC (gemcitabine 1,000mg/m² on day 1 and 8 plus carboplatin AUC 4 on day 1) every 3 weeks for at least 6 cycles. The primary endpoint was progression-free survival (PFS), with overall response rate, overall survival, toxicity and dose administration as secondary endpoints.

Results

One hundred patients (49 PLD-C; 51GC) were randomly assigned. With a median follow-up of 27 months, the median PFS was 12.0 months (95%CI, 9.2 to 15.0) for PLD-C and 9.8 months (95%CI, 8.9 to 12.3) for GC. The overall survival data are immature. Response rate was 57.1% (95%CI, 41.0 to 72.3) for PLD-C and 56.4% (95%CI, 39.6 to 72.2) for GC. No obvious differences in toxicity (G3/4) were noted between arms. Treatment completion rate for 6 cycles was higher for PLD-C (63.3%:95%CI, 48.3 to 76.6) than for GC (31.4%:95%CI, 19.1 to 45.9).

Conclusion

PLD-C and GC are both good treatment candidates for PSROC patients; however, the dose intensity was lower for GC than for PLD-C. PLD-C seems to have a more favorable risk-benefit profile than does GC for the patients in this study.
OVARIAN CANCER

ESGO7-0209

THE ASSOCIATION BETWEEN EXPRESSION OF TBX2 AND SENSITIVITY TO PLATINUM-BASED CHEMOTHERAPY FOR OVARIAN SEROUS CARCINOMA

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Aims

We examined the correlation between TBX2 (T-box2) expression and the sensitivity to platinum-based chemotherapy for ovarian serous carcinoma.

Method

We reviewed 54 cases of ovarian serous carcinoma stage III-IV from 2005 to 2013. Cases were divided into two groups: one group in which maximum debulking surgery followed by platinum-based chemotherapy was performed and did not recur within 6 months after initialization of chemotherapy (group A; n=27), and another group in which maximum debulking surgery followed by platinum-based chemotherapy was performed and recur within 6 months (group B; n=27). TBX2 expression was examined immunohistochemically in paraffin-embedded sections using the avidin-biotin peroxidase complex method. This study was approved by the institutional review board in our facility.

Results

The expression of TBX2 was significantly higher in the group B than in the group A (p=0.005). Cases were divided into two groups: one group in which TBX2 expression was low level (weighted score≤6, n=44), and another group in which TBX2 expression was high level (weighted score≥8, n=10). Low TBX2 expression group might be sensitive to platinum-based chemotherapy than high expression group (p=0.02). The overall survival of Low TBX2 expression group was significantly longer than High TBX2 expression group (p=0.023).

Conclusion

It is suggested that the expression of TBX2 might be associated with sensitivity to platinum-based chemotherapy and predictor of prognosis of advanced ovarian serous carcinoma.
THE ASSOCIATION BETWEEN EXPRESSION OF UCP2 AND SENSITIVITY TO PLATINUM-BASED CHEMOTHERAPY FOR OVARIAN SEROUS CARCINOMA

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Aims

We examined the correlation between UCP2 (uncoupling protein 2) expression and the sensitivity to platinum-based chemotherapy for ovarian serous carcinoma.

Method

We reviewed 51 cases of ovarian serous carcinoma stage III-IV from 2005 to 2012. Cases were divided into two groups: one group in which maximum debulking surgery followed by platinum-based chemotherapy was performed and did not recur within 6 months after initialization of chemotherapy (group A; n=26), and another group in which maximum debulking surgery followed by platinum-based chemotherapy was performed and recur within 6 months (group B; n=25). UCP2 expression was examined immunohistochemically in paraffin-embedded sections using the avidin-biotin peroxidase complex method. This study was approved by the institutional review board in our facility.

Results

The expression of UCP2 was significantly higher in the group B than in the group A (p=0.027). Cases were divided into two groups: one group in which UCP2 expression was low level (weighted score≤6, n=24), and another group in which UCP2 expression was high level (weighted score≥8, n=27). Low UCP2 expression group might be sensitive to platinum-based chemotherapy than high expression group (p=0.007). The overall survival of Low UCP2 expression group was significantly longer than High UCP2 expression group (p=0.006).

Conclusion

It is suggested that the expression of UCP2 might be associated with sensitivity to platinum-based chemotherapy and predictor of prognosis of advanced ovarian serous carcinoma.
OVARIAN CANCER

ESG07-0358

EFFICACY AND OUTCOMES OF MINIMAL ACCESS SURGERY (MAS) VERSUS LAPAROTOMY (LAP) IN RE-STAGING OF APPARENT EARLY-STAGE OVARIAN AND FALLOPIAN TUBE CARCINOMA
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Aims
To compare efficacy and outcomes of MAS to LAP in re-staging of epithelial ovarian or fallopian tube carcinoma.

Method
All cases with presumed early-stage adnexal carcinoma referred to our institution for re-staging were identified from 02/2006-02/2017. Patient and tumor characteristics, operative findings, complications and recurrences were documented. Appropriate statistical tests were applied.

Results
Among 98 cases, 53 (54%) underwent LAP and 45 (46%) MAS; 29 (64%) robotic, 16 (36%) laparoscopic. When comparing the LAP and MAS groups, there was similar age, body mass index, stage, histologic subtypes, number of patients who underwent omentectomy and hysterectomy, number of pelvic lymph nodes removed, omental weight, detection of nodal and omental metastasis, number of patients who were upstaged, and number and sites of recurrences. Mean estimated blood loss (287ml± 208 vs 76ml±58, p<0.001) and hospital stay (7.4 days ±3.2 vs 3.9 ±2.8, p<0.001) were lower for MAS, operative time (162minutes ±49 vs 216minutes ±69, p<0.001) was longer. Mean number of para-aortic nodes removed was 4.7±4.4 (LAP) versus 8.7±5.9 (MAS) (p=0.005) respectively. There were similar operative- and 30-day complication rates for both groups. Mean time from re-staging until initiation of adjuvant therapy was 40.5 days (±62.4) in the LAP group and 21.3 days (±11.2) in the MAS group (p=0.064). There was no difference in PFS or OS between groups.

Conclusion
Re-staging of adnexal carcinoma by MAS is feasible and safe without compromising efficacy or oncologic outcome. Time from re-staging to initiation of adjuvant chemotherapy trended towards being shorter in patients operated by MAS.
ADVANCED OVARIAN CANCER: ARE WE UNDERSTAGING OUR PATIENTS? THE ROLE OF FDG-PET/CT BEFORE PRIMARY TREATMENT

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Aims

FDG-PET/CT has been suggested as a feasible but not yet broadly recommended tool to workup epithelial ovarian cancer (EOC) before primary treatment. The aim of this study was to evaluate the rate of upstaging introduced by the use of FDG-PET/CT for the initial assessment of suspected advanced EOC.

Method

Between 08/2012 and 07/2016, 48 patients presented, according to abdomino-pelvic CT and confirmed by histology, advanced EOC and were evaluated with whole-body FDG-PET/CT. Patient data were collected before primary treatment.

Results

The median age at diagnosis was 60 years (range 38-83). The median CA125 value was 1161.7 U/mL and median HE4 was 845.5 pmol/L. 60.4% showed moderate or massive ascites.

When evaluated using standard abdomino-pelvic CT we found 36 cases of suspected stage III (75%) and 12 suspected stage IV patients (25%). After FDG-PET/CT we identified that 19 patients were upstaged (39.6%), finding 21 stage III cases (43.8%) and 27 stage IV cases (56.3%). FDG-PET/CT detected patients with either cardiophrenic, internal mammary, mediastinal, supraclavicular, submandibular or axillary FDG-avid lymph nodes and patients with either pleural, splenic, adrenal and/or hepatic FDG-avid nodes suggestive of metastasis. None of these had been found by standard abdomino-pelvic CT.

Conclusion

More than one third of advanced EOC patients were upstaged by the use of FDG-PET/CT. Randomized studies should be used to clarify the role of FDG-PET/CT in the preoperative assessment of advanced EOC. We should discuss if we are staging advanced EOC patients correctly and therefore providing them with an accurate treatment.
Aims

Ovarian cancer is the deadliest of gynecologic cancers. Therefore, FIGO and the WHO classifications were revised. Both classifications are essential criteria for the treatment decision. We sought 1) to compare the major changes between the both classifications; 2) to examine the effects on the therapeutic and prognosis of the Ovarian, Fallopian Tubes and Peritoneum cancer in our sample.

Method

We performed a case series observational descriptive study of 210 patients who have been diagnosed with and/or treated for a malignant ovarian tumor at University Clinic Hospital of Salamanca from 2010-2016.

Results

According to the new FIGO subdivision of stage IC, we obtained 2.52% in substage IC2. The vast majority of ovarian cancer cases are in III FIGO stage. In the new WHO classification, the main change to the Serous group was the increase in the HGSC percentage. In the previous classification we had 6.48% of endometrioid malignant tumor and in the new classification this rate has decreased to 2.78%. Concerning Serous tumors, the separating line between adenomas and borderline tumors (SBOT) has been refined in the current WHO classification. In our study, the HGSC has reached 55.56% in the new WHO classification thanks to the incorporation of serous malignant adenocarcinoma (1988 WHO classification). We found 1.85% of Seromucinous Borderline Tumors. We found that 4.2% of the previous Stage IIIC patients have changed to stage IIIA2 or stage IIIB and this group of patients has a better prognosis and a superior survival rate.

Conclusion

This study demonstrated that the new-created WHO and FIGO classifications have improved the ability to predict the prognosis and consequently to change the therapeutic managements in Ovarian cancer patients.
OVARIAN CANCER

ESGO7-1082

STAGING SURGERY IN EARLY-STAGE OVARIAN MUCINOUS TUMORS ACCORDING TO EXPANSILE AND INFILTRATIVE TYPES


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3Hospices Civils de Lyon, Pathology, Lyon, France
4Gustave Roussy, Pathology, Villejuif, France

Aims

To determine the value of surgical staging for the two histologic types (expansile or infiltrative) of apparent stage I mucinous ovarian carcinoma.

Method

We retrospectively analyzed patients treated from 1976 and 2016 for apparent macroscopic stage I ovarian mucinous carcinoma. Extra-ovarian disease and tumors that metastasized to the ovaries were excluded. Two expert pathologists performed pathologic reviews of tumor data, according to 2014 WHO classification criteria. Tumors were typed as expansile or infiltrative and clinical and histologic characteristics were studied. The value of staging procedures (peritoneal and nodal) was based on the rate of microscopic involvement in macroscopically normal specimens.

Results

Of 114 cases reviewed, 46 were excluded (26 with macroscopic stage >I; 20 inaccessible for pathologic review). Of 68 patients included, 29 had expansile and 39 had infiltrative types. 27 patients received one-step surgery and 41 received restaging surgery. 52 patients received “complete” peritoneal surgical staging (including cytology, peritoneal biopsies, and an omentectomy or large omental biopsies). 24 underwent appendectomies and 31 underwent lymphadenectomies (8 expansile and 23 infiltrative). Before histologic analyses of staging specimens, 35 had “initial” stage IA and 33 had IC disease. After histologic analyses of lymph nodes, 4 cases (17%, all infiltrative) had nodal involvement, and 2 showed microscopic peritoneal disease (1 omentum and 1 right diaphragm peritoneum). Three patients were upstaged based on isolated positive peritoneal cytology.

Conclusion

Peritoneal staging procedures are required for both types of mucinous ovarian carcinoma. Lymphadenectomy could be omitted in expansile, but required in infiltrative type.
OVARIAN CANCER

ESGO7-1292

EVALUATION OF OLAPARIB SERUM CONCENTRATIONS IN PATIENT WITH TERMINAL RENAL INSUFFICIENCY AND DIALYSIS TREATED FOR PLATIN-SENSITIVE RECURRENT BRCA POSITIVE HIGH GRADE SEROUS OVARIAN CANCER.

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Aims

Olaparib, a PARP inhibitor, is a recommended maintenance therapy in BRCA mutated patients with relapsed, platinum sensitive high-grade serous ovarian cancer. Until now, there are lacking data of olaparib in patients with terminal renal failure (GFR< 30 ml/min) and dialysis.

Method

The serum concentrations of olaparib in a 75 year old patient with platin-sensitive recurrent high-grade ovarian cancer and terminal renal insufficiency (GFR< 15 ml/min) were measured systematically. The blood samples were taken prior, 1, 1.5, 2, 3, 4 and 6 hours after medication intake on a dialysis- and a non-dialysis day. Subsequently, the serum concentrations were analyzed.

Results

The patient is under olaparib therapy since March 2016 in a reduced dose of 200mg daily. She suffered from terminal renal insufficiency due to postoperative kidney failure after primary cytoreductive surgery by initial FIGO IIIC stage. Mild nausea and fatigue were present at the beginning of the therapy and released after few weeks. The patient is after a follow up of 14 months in a complete remission. The analysis revealed a median olaparib serum concentration of 1.46 µg/ml on dialysis and 2.93 µg/ml on non-dialysis day. No statistical significant difference between concentrations variations on these days was found (p=0.200; Mann- Whitney- U- Test).

Conclusion

To our knowledge, this is the first report evaluating olaparib serum concentration in terminal renal insufficiency and dialysis situation. Our analysis shows olaparib therapy as feasible and safe in those patients. Given to no concentrations variations differences on both days, the elimination seems to be independent from dialysis.
OVARIAN CANCER

ESGO-0951

TERTIARY CYTOREDUCTIVE SURGERY IN RECURRENT EPITHELIAL OVARIAN CANCER: A MULTICENTER MITO RETROSPECTIVE STUDY


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6University of Bari, Department of Biomedical Science and Human Oncology- Obstetrics and Gynecology Unit, Bari, Italy
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11San Raffaele Hospital, Department of Obstetrics and Gynecology, Milan, Italy
12Ospedale S. Giovanni Calibita Fatebenefratelli, Medical Oncology Unit, Rome, Italy

Aims

To evaluate the impact of tertiary cytoreductive surgery (TCS) on survival in recurrent epithelial ovarian cancer (EOC), and to determine predictors of complete surgical cytoreduction.

Method

A multi-institutional retrospective study was conducted within the MITO Group on a 5-year observation period. Patients were considered eligible if they met the criteria listed in Table 1.

Table 1. Enrollment criteria.

<table>
<thead>
<tr>
<th>Inclusion criteria</th>
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<tbody>
<tr>
<td>Age ≤ 75 years</td>
</tr>
<tr>
<td>Performance status (ECOG) 0 – 1</td>
</tr>
<tr>
<td>≥6 month TFI at the time of each recurrence</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exclusion criteria</th>
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<tbody>
<tr>
<td>Serological recurrence only (CA125 serum levels &gt; 35 UI/mL)</td>
</tr>
<tr>
<td>Non-epithelial or borderline tumors</td>
</tr>
<tr>
<td>Patients operated on for strictly palliative purposes</td>
</tr>
<tr>
<td>Patients with second malignancies who had been treated by laparotomy or who had a therapy that could interfere with the treatment of ROC.</td>
</tr>
</tbody>
</table>

EOC: Eastern Cooperative Oncology Group; ROC: relapsed ovarian cancer; TFI: treatment-free interval.

Results

A total of 103 EOC patients undergoing TCS were included (Table 2). Complete cytoreduction was achieved in 71 patients (68.9%), with severe post-operative complications in 9.7%, and no 30-day operative mortality. Multivariate analysis identified the complete tertiary cytoreduction as the most potent predictor of survival followed by FIGO stage I-II at initial diagnosis; exclusive retroperitoneal recurrence; TCS performed ≥3 years after primary diagnosis (Table 3). Patients with complete tertiary cytoreduction had a significantly longer overall survival (median OS: 43 mos, 95% CI 31 – 58) compared to those with residual tumor (median OS: 33 mos, 95% CI 28 – 46; p < 0.001). After multivariate adjustment, the following variables were the most significant predictors of complete surgical cytoreduction: single lesion; good performance status (ECOG 0) (Table 3).
Conclusion

Only one further large retrospective study on TCS has been published so far. The achievement of postoperative no residual disease is confirmed as the primary objective also in a TCS setting, when considering surgical efforts aiming at improvement of survival, with acceptable morbidity. Accurate patient selection is of utmost importance to have the best chance of complete cytoreduction.

Table 2. Clinical-pathologic characteristics at the time of TCS.

<table>
<thead>
<tr>
<th>Variable</th>
<th>60 [23 – 75]</th>
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<tr>
<td>Age, median [range], years</td>
<td>60 [23 – 75]</td>
</tr>
<tr>
<td>Years after primary diagnosis, n (%)</td>
<td></td>
</tr>
<tr>
<td>- &lt;2</td>
<td>5 (4.8)</td>
</tr>
<tr>
<td>- ≥2 and &lt;3</td>
<td>13 (12.6)</td>
</tr>
<tr>
<td>- ≥3</td>
<td>85 (82.5)</td>
</tr>
<tr>
<td>Last TFI, n (%)</td>
<td></td>
</tr>
<tr>
<td>&lt;12 months</td>
<td>65 (63.1)</td>
</tr>
<tr>
<td>≥12 months</td>
<td>38 (36.9)</td>
</tr>
<tr>
<td>Site of recurrence, n (%)</td>
<td></td>
</tr>
<tr>
<td>- Abdominal</td>
<td>50 (58.5)</td>
</tr>
<tr>
<td>- Distant</td>
<td>9 (8.7)</td>
</tr>
<tr>
<td>- Both</td>
<td>8 (7.8)</td>
</tr>
<tr>
<td>Abdominal tumor involvement, n (%)</td>
<td></td>
</tr>
<tr>
<td>- Intraperitoneal</td>
<td></td>
</tr>
<tr>
<td>- Retroperitoneal</td>
<td></td>
</tr>
<tr>
<td>- Both</td>
<td>21 (22.3)</td>
</tr>
<tr>
<td>- Both</td>
<td>18 (19.1)</td>
</tr>
<tr>
<td>Lesion number, n (%)</td>
<td></td>
</tr>
<tr>
<td>- Single</td>
<td>48 (46.6)</td>
</tr>
<tr>
<td>- Multiple</td>
<td>55 (53.4)</td>
</tr>
<tr>
<td>Completeness of TCS, n (%)</td>
<td></td>
</tr>
<tr>
<td>- 0 (no visible residual tumor)</td>
<td>71 (68.9)</td>
</tr>
<tr>
<td>- 1 (residual nodules ≤0.25 cm)</td>
<td>13 (12.6)</td>
</tr>
<tr>
<td>- 2 (residual nodules &gt;0.25 cm and ≤2.5 cm)</td>
<td>4 (3.9)</td>
</tr>
<tr>
<td>- 3 (residual nodules &gt;2.5 cm)</td>
<td>15 (14.6)</td>
</tr>
<tr>
<td>Follow-up (months) after TCS, median [range]</td>
<td>39.5 [1 – 138]</td>
</tr>
<tr>
<td>Status at last follow-up, n (%)</td>
<td></td>
</tr>
<tr>
<td>- NED</td>
<td>26 (25.2)</td>
</tr>
<tr>
<td>- AWD</td>
<td>25 (24.3)</td>
</tr>
<tr>
<td>- DOD</td>
<td>40 (38.8)</td>
</tr>
<tr>
<td>- DID</td>
<td>5 (4.9)</td>
</tr>
<tr>
<td>- Missing</td>
<td>7 (6.8)</td>
</tr>
</tbody>
</table>

Table 3. Significant predictors of mortality and complete tumor resection.

<table>
<thead>
<tr>
<th>Significant predictors of mortality:</th>
<th>Hazard ratio</th>
<th>95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Complete tertiary cytoreduction (no vs yes*)</td>
<td>10.7</td>
<td>4.3 – 26.2</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>- FIGO stage at initial diagnosis (I-II vs III-IV)</td>
<td>4.5</td>
<td>1.3 – 15.6</td>
<td>0.01</td>
</tr>
<tr>
<td>- Site of abdominal recurrence (other vs retroperitoneal only*)</td>
<td>4</td>
<td>1.1 – 14.5</td>
<td>0.03</td>
</tr>
<tr>
<td>- Interval from primary diagnosis (&lt;3 vs ≥3 yrs)</td>
<td>3.5</td>
<td>1 – 12.8</td>
<td>0.04</td>
</tr>
<tr>
<td>Significant predictors of complete tumor resection:</td>
<td>Odds ratio</td>
<td>95% CI</td>
<td>p-value</td>
</tr>
<tr>
<td>- Single lesion</td>
<td>14.2</td>
<td>4 – 50.6</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>- ECOG performance status 0</td>
<td>4.6</td>
<td>1.4 – 14.9</td>
<td>0.009</td>
</tr>
</tbody>
</table>

CI: confidence interval; ECOG: Eastern Cooperative Oncology Group; *Protective.
OVARIAN CANCER

ESGO-0875

FACTORS ASSOCIATED WITH A DEVIATION FROM STANDARD SURGICAL TREATMENT IN ELDERLY PATIENTS TREATED FOR OVARIAN TUMOR.
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²Hôpital Européen Georges Pompidou, Surgery, Paris, France

Aims

To compare two groups of elderly patients treated for an epithelial ovarian cancer, to understand the outcomes leading to a deviation to standard therapy and to isolate predicting factors of this outcome.

Method

It's a retrospective, bi-centric study, about all patients over 70 years old treated for an epithelial ovarian cancer between January 2005 and January 2014. We studied the pre therapeutic data of the patients, their treatment and the outcome of it depending on the standard treatment for ovarian cancer.

Results

222 patients were included. 93 patients received a complete standard treatment and 129 had a deviation to standard therapy. The encountered causes of deviation were: the spreading of the disease in 87 cases (67.4%), a medical refusal due to co morbidities in 36 cases (27.9%), surgical complications in 19 cases. An oncogeriatric analysis was performed in 22% of the cases in the group with standard therapy and in 38% in the group with deviation \( p = 0.02 \). When the oncogeriatric analysis did not promote a standard therapy, no patient had a standard treatment. There weren't more complication in surgery despite a more aggressive surgery in the group with standard treatment. Patients without deviation had an extended, survival hazard ratio 0.23 (0.14-0.39), \( p < 0.001 \).

Conclusion

Standard management of advanced EOC is associated with a substantial survival benefit in the elderly patient when it can be achieved. The main obstacle to complete a standard treatment remains the spread of the disease and the impact of aggressive surgery in frail patients.
EXPRESSION OF ACID CERAMIDASE (ASAH1) AS A PROGNOSTIC FACTOR IN OVARIAN CANCER


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3Goethe University Frankfurt, Department of Obstetrics and Gynecology, Frankfurt, Germany
4Bethesda Hospital, Department of Gynecology, Mönchengladbach, Germany
5BCCA Cancer Research Centre, Department of Molecular Oncology, Vancouver, Canada
6University Hospital Bonn, Institute of Pathology, Bonn, Germany

Aims

Acid ceramidase (AC), encoded by the ASAH1 gene, is a key enzyme of sphingolipid metabolism and frequently overexpressed in a variety of cancer types. In the present study, we investigated the expression of AC and its prognostic impact in ovarian cancers.

Method

Tissue micro arrays constructed using formalin-fixed paraffin-embedded tissue of primary ovarian cancers (n = 789) were obtained. Immunohistochemical analysis of AC was performed, and the results were correlated with clinico-pathological characteristics and survival.

Results

High AC expression was shown to significantly correlate with optimal tumour resection (p < 0.001). Kaplan-Meier analysis further revealed that low AC levels were associated with reduced progression-free survival (PFS; 44.82 months [95% confidence interval (CI): 32.21-55.43] vs. 86.49 months [95%CI: 63.01-109.97], p < 0.001) and overall survival (OS; 68.25 months [95%CI: 59.14-77.35] vs. 108.69 months [95%CI: 85.79-131.58], p < 0.001). Subsequently, the prognostic value of AC expression together with clinical factors (i.e. FIGO stage, age, and residual tumour burden after surgery) was substantiated in univariate Cox regression analysis (PFS: hazard ratio (HR) = 1.36 [95%CI: 1.15-1.63], p < 0.001; OS: HR = 1.4 [95%CI: 1.7-1.68], p < 0.001).

Conclusion

Our results suggest that AC expression is a prognostic factor in ovarian cancer, and that low AC expression might be associated with cancer progression and suboptimal tumour debulking. To corroborate these findings, however, our results need to be validated in an independent patient cohort.
DETECTION AND CHARACTERIZATION OF P53 PRIONS IN HIGH-GRADE SEROUS OVARIAN CANCER

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Aims

About 96% of high-grade serous ovarian cancers (HGSOC) harbor TP53 mutations. Recent evidence showed that several TP53 mutations lead to aggregation into prion-like amyloids, resulting in dominant-negative activity and oncogenic gain-of-function. This process could be involved in HGSOC initiation, progression and platinum-resistance. An ELISA-based technique was applied to detect p53 prions and to evaluate their prevalence and clinical relevance.

Method

Fresh-frozen tumour tissue of 123 HGSOC patients from the OVCAD study (at least five years follow-up) was analysed. An ELISA previously applied in the diagnosis of mad cow disease was optimized for the analysis of p53 prions. Data were analysed using Kaplan-Meier curves and Log-rank test.

Results

Samples carrying TP53 missense mutations showed a significantly higher prion signal compared to wild-type or frameshift mutated samples. In 37/46 (80.4%) of missense mutated cancers a p53 prion specific signal was detected. The ELISA results varied significantly between different tumours carrying the same missense mutation. A significantly diminished overall survival was observed for patients with moderate aggregation compared to patients with no p53 prions (p=0.031). In contrast, extensive p53 aggregation resulted in a prolonged overall (p=0.025) and progression-free survival (p=0.014).

Conclusion

We demonstrated the validity of the established ELISA in detecting p53 prions and their high abundance in HGSOC. Our data indicate that missense mutations alone are not sufficient and other cofactors are involved in the formation of prions. The significant correlation between survival and p53 prion levels demonstrates that the understanding of the biology of p53 prions is of high importance.
INTERACTION BETWEEN TWIST1 EXPRESSION AND TUMOR MICROENVIRONMENT FOR ANGIOGENESIS IN OVARIAN CARCINOMA

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Aims

Twist1 is a transcription factor that is involved in cancer metastasis and recurrence, but little is known about the mechanisms underlying these processes. This study aimed to investigate the role of Twist1 in tumor angiogenesis in epithelial ovarian cancer (EOC) and to identify key molecules involved in the Twist1 pathway.

Method

A Twist1 siRNA was transfected into the EOC cell line that showed the highest expression to silence the gene, while a cDNA vector was transfected into human ovarian surface epithelial cells to generate a Twist1-overexpressing cell line. To evaluate the change in angiogenesis, HUVEC tube formation assays were performed using the control and the transfected cell lines. In addition, a cytokine array was used to determine the molecules involved in Twist1-mediated angiogenesis.

Results

After Twist1 knockdown in A2780 cells, the number of tubes formed by HUVECs significantly decreased. In a cytokine array, Twist1 downregulation inhibited the expression of the CXC chemokine ligand 11 (CXCL11), which was confirmed by both an enzyme-linked immunosorbent assay and a western blot assay. In contrast, Twist1 overexpression increased the secretion of CXCL11. Furthermore, the ability of Twist1-expressing A2780 cells to induce angiogenesis was inhibited after CXCL11 knockdown by CXCL11-siRNA in a tube formation assay. Conversely, CXCL11 downregulation did not inhibit Twist1 expression.

Conclusion

Our findings demonstrate that Twist1 plays an important role in angiogenesis in EOC and is mediated by a novel pro-angiogenic factor, CXCL11. Downregulation of CXCL11 can inhibit tumor angiogenesis, suggesting that an anti-CXCL11 therapy may offer an alternative treatment strategy for Twist1-positive ovarian cancer.
COMPARISON OF PET-MRI AND MRI ALONE PREDICTING CARCINOMATOSIS IN OVARIAN CANCER USING PERITONEAL CANCER INDEX (PCI)


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2 Uppsala University, Department of Surgical Sciences - Section of Radiology, Uppsala, Sweden
3 Uppsala University, Department of Surgical Sciences, Uppsala, Sweden
4 Uppsala University, Department of Women’s and Children’s Health - Uppsala University, Uppsala, Sweden

Aims

It is difficult to estimate carcinomatosis in ovarian cancer and identify inoperable patients. The purpose of this study was to evaluate the ability of integrated PET-MRI and MRI alone in estimating carcinomatosis using peritoneal cancer index (PCI) with the surgical PCI as gold standard.

Method

Whole-body PET-MRI was performed on 24 patients with presumed carcinomatosis of a gynecologic origin, planned for surgery. The radiologist evaluated PCI on MRI (including DWI) and PET-MRI scans separately. The surgeon estimated PCI intraoperatively. The radiologist and the surgeon were blinded to each other results.

Results

The median total PCI was 16.5 for MRI (p = 0.01), 22 for PET-MRI (p = 0.725) and 24 for surgery. Bias between radiologic and surgical PCI was for MRI 4.96±6.15 (p = 0.73) and for PET-MRI -0.04 ± 4.71 (p = 0.32). The sensitivity calculated for each region ranged from 36.8-87.5% for MRI and 53.3-95.8% for PET-MRI. In the four inoperable patients the estimated median PCI for region 9-12 (small bowel, max score 12) was 3.5 for MRI and 10 for PET-MRI respectively, surgical PCI being 9.5.
Conclusion

PET-MRI and MRI have a good ability evaluating carcinomatosis, PET-MRI slightly exceeding MRI. Possibly the most interesting finding is the indication of better sensitivity of PET-MRI to detect carcinomatosis in the small bowel, which is crucial in deciding operability.
OVARIAN CANCER

ESGO7-1384

SURGICAL OUTCOMES AND MORBIDITY AFTER RADICAL SURGERY FOR OVARIAN CANCER: OUR EXPERIENCE IN ABERDEEN ROYAL INFIRMARY, THE NORTHEAST OF SCOTLAND GYNAECOLOGIC ONCOLOGY CENTRE

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3NHS Grampian, Obstetrics and Gynaecology, Aberdeen, United Kingdom

Aims

Ovarian cancer (OC) is the second commonest gynaecological cancer, characterized by patients' diversity to treatment and high mortality rate. Usually presents late in advanced stage which pose challenges to management. Recently, better understanding of the disease biology and application of aggressive surgery to achieve no visible residual has led to longer survival amongst these patients. Purpose of our study is to examine the clinical and demographic characteristics, surgical morbidity and outcomes of patients undergoing radical surgery for OC.

Method

A retrospective cohort study of women undertaking debulking surgery for OC between February 2014 and September 2016 at Aberdeen Royal Infirmary (ARI).

Results

121 women in total had debulking surgery for OC. 43 (35.6%) were stage I, 20 (25.7%) stage II, 53 (43.8%) stage III and 5 (4.1%) were stage IV. 78 (64.5%) women had radical surgery. Of these, 40 (51.3%) women had primary vs. 38 (48.7%) women who had interval debulking surgery. Commonest procedures that were performed as part of radical surgery include rectosigmoid resection (n=20, 25.6%), small bowel resection (n=10, 12.8%), splenectomy (n=9, 11.5%). Commonest morbidity outcomes included blood loss >1.5 lt. (n=17, 21.8%), hospitalization >7days (n=40, 51.2%), sepsis (n=14, 17.9%). Surgery outcomes were: no macroscopic residual disease (n=61, 78.2%), ≤10mm disease (n=6, 7.7%), and ≥10mm disease (n=8, 10.3%).

Conclusion

Identification of patients who will benefit from radical surgery avoiding unnecessary morbidity and mortality is a real challenge. We suggest that radical surgery for OC is related to acceptable morbidity after careful case selection.
OVARIAN CANCER

ESG07-1175

CAN COPENHAGEN INDEX REPLACE RISK OF OVARIAN MALIGNANCY ALGORITHM (ROMA) IN A TRIAGE OF PATIENTS WITH PELVIC MASS?

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²Tatarstan Regional Clinical Cancer Center, laboratory, Kazan, Russia
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Aims

to comprehensively compare two algorithms, predicting ovarian cancer in patients with pelvic mass: Copenhagen index (CPH-I) and Risk of Ovarian Malignancy Algorithm (ROMA).

Method

We prospectively enrolled 320 patients with pelvic mass, which were consecutively scheduled for surgery in a single institution. Prediction results by ROMA and CPH-I, obtained before surgery, were compared to final histological diagnoses.

Results

Histological analysis revealed 26 epithelial ovarian cancers (EOC), 15 borderline ovarian tumors, 8 non-epithelial malignancies, 2 cases of ovarian metastases and 260 benign diseases. On comparing ROC-AUC, CPH-I was not inferior to ROMA neither in pre- nor in postmenopausal patients. At standard cut-off points ROMA provides a tailored specificity of about 90% in all subgroups (89.6 and 89.7% in pre- and post-menopause, respectively), whereas CPH-I in premenopausal patients demonstrated an extremely high specificity of 96.3% (95%CI: 91.6-98.4) to the detriment of sensitivity. The sensitivity of CPH-I and ROMA for EOC was 87.5% and 100%, respectively, in premenopausal patients; 92.9% and 96.4%, respectively in postmenopausal patients; and 91.7% and 97.2%, respectively.

Conclusion

Both CPH-I and ROMA are excellent algorithms for triaging patients, diagnosed with pelvic mass, with the aim of referring high-risk patients to a tertiary centers. Non-inferiority of CPH-I’s ROC-AUC relative to ROMA’s is not to be doubted. However, when using standard cut-off points, ROMA was slightly superior to CPH-I and showed more balanced specificity and sensitivity. Thus, more research aimed at a thorough validation of CPH-I’s standard cut-off level is still needed for the widespread introduction of CPH-I into clinical practice.
THE SIGNIFICANCE OF PREOPERATIVE SERUM CANCER ANTIGEN 125 IN MALIGNANT OVARIAN GERM CELL TUMORS

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²Asan Medical Center, Seoul, Korea, Republic of Korea

Aims

To determine the prognostic value of preoperative serum cancer antigen 125 (CA 125) in malignant ovarian germ cell tumors (MOGCTs).

Method

Using information from medical databases, we investigated 161 patients with histologically diagnosed MOGCTs between 1993 and 2014. We chose the optimal cut-off value of CA 125 by using a receiver operating characteristic (ROC) curve.

Results

The median patient age was 24 years (range, 6-52 years). The most common histologic type was immature teratoma. Forty-eight patients had a normal range of serum preoperative CA 125 (<35U/mL). Most patients had stage I disease. Fertility-sparing surgery was performed for 138 patients, and staging surgery in 118 patients. The median tumor size was 15 cm. Ninety-four patients had ascites at surgery. Spillage of the tumor was observed in 51 patients. Fourteen patients had positive cytology, 12 had lymph node metastasis, and 61 patients had ovarian surface involvement. Six patients had residual tumors. We determined the reference level of CA 125 (>78 U/mL) using a ROC curve. On univariate analysis, lymph node metastasis, positive cytology, ascites, ovarian surface involvement, tumor rupture, age, tumor size, and stage were significantly associated with elevated serum preoperative CA 125 levels (>78 U/mL). Patients with an elevated serum preoperative CA 125 level (>78 U/mL) had poorer disease-free survival, but this was not statistically significant. However, elevated preoperative CA 125 (>78 U/mL) was significantly associated with poorer overall survival.

Conclusion

Elevated preoperative serum CA 125 is associated with poorer prognostic factors and may have prognostic value in patients with MOGCTs.
OVARIAN CANCER

ESGO7-0464

POST-DEBULKING CIRCULATING TUMOR CELL AS A POOR PROGNOSTIC MARKER IN ADVANCED STAGE OVARIAN CANCER


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Aims

To evaluate the association between the presence of perioperative circulating tumor cell (CTC) and clinical outcomes of ovarian cancer.

Method

In 30 patients who were going to undergo staging operation for ovarian cancer, peripheral blood samples were collected before and after primary debulking surgery. CTC was isolated using the tapered-slit filter (TSF) platform. Association between the presence of CTC and tumor characteristics was evaluated. The impact of the presence of perioperative CTC on progression-free survival (PFS) outcomes was also analyzed.

Results

The median age at diagnosis was 58 years (range, 24-77 years), and the median follow-up period was 15 months (range, 0-21 months). Overall, CTC positive rate was not different between pre- and post-operative peripheral blood samples (23/30 [76.7%] vs. 16/28 [57.1%], p=0.673). The presence of preoperative (6-month PFS rate, 90.5% vs. 83.3%, p=0.216) and postoperative CTC (6-month PFS rate, 80.0% vs. 100%, p=0.121) was not significantly associated with PFS outcomes. In a subgroup analysis of advanced stage, however, patients with postoperative CTC had significantly poorer PFS outcome than those without (6-month PFS rate, 75.0% vs. 100%, p=0.031). In this group of patients with advanced stage disease, postoperative CTC was more frequently detected in patients who had lymph node metastasis than those who did not (7/7 [100%] vs. 3/10 [30.0%], p=0.010).

Conclusion

The presence of postoperative CTC on the TSF platform might be associated with poorer PFS outcome in patients with advanced stage ovarian cancer. Further study with larger number of patients is needed to confirm our study results.
TOWARD OPERATIVE FLUORESCENCE IMAGING OF C-MET FOR PERSONALISED THERAPY IN OVARIAN CANCER

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2University of Oxford, Weatherall Institute of Molecular Medicine and Nuffield Department of Obstetrics and Gynaecology, Oxford, United Kingdom

Aims

Despite an initial therapeutic response with optimal surgical debulking, most women diagnosed with ovarian cancer will experience a recurrence, typically with peritoneal metastases. To develop novel targeted therapies, biomarker selection is a key criterion.

Method

We studied the expression of the c-Met oncogene in ovarian cancer. We stained tissue microarrays generated from individual 40 high-grade and 40 low-grade serous ovarian cancers (Gynecological Oncology Targeted Therapy Study 01). A modified cyanine 5–tagged peptide, GE137, with a high in vitro affinity for the human c-Met protein, was tested in ovarian cancer cell lines. Finally, the feasibility of detecting peritoneal metastases in vivo was tested through the intravenous injection of GE137 into mice with tumour xenografts.

Results

The histopathological analysis revealed a differential expression pattern of c-Met, indicating the importance of tumour heterogeneity for patient selection. Importantly, c-Met expression was also significantly increased in peritoneal tumour deposits compared to normal peritoneum. Next, we showed that GE137 co-localises to c-Met in SKOv3 (ovarian cancer) cells without activating downstream c-Met signalling pathways, such as AKT phosphorylation. After intravenous injection of GE137, tumour xenografts were readily detectable at a sub-millimeter resolution with the fluorescent signal being maintained for at least 8 hours.

Conclusion

This study established the expression of c-Met as biomarker in ovarian cancer and peritoneal deposits, providing a proof-of-concept of c-Met-targeted therapeutic strategies. This suggests that intraoperative optical imaging could provide a new paradigm for selecting cancer patients suitable for appropriate targeted therapies.
SHOULD AROMATASE INHIBITORS BE USED AS MAINTENANCE TREATMENT IN HIGH-GRADE SEROUS OVARIAN CANCER PATIENTS?

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2Ovarian Cancer Research Center, Department of Biomedicine, Basel, Switzerland
3Cantonal Hospital Baden, Institute of Pathology, Baden, Switzerland

Aims

Endocrine therapy is used in ER positive breast cancer and has been proposed as effective treatment in G1 serous ovarian cancer. The aim of this study was to determine the expression rate of ER in a high-grade advanced stage serous ovarian cancer cohort (HGSOC) and whether a maintenance antihormonal therapy adds a benefit in relation to the time of recurrence.

Method

We retrospectively examined ESR1 expression in breast and ovarian cancer as well as ER expression in a cohort of HGSOC. In addition, matched primary and recurrent HGSOC samples collected between 1985-2003 were inserted in a Tissue Microarray and IHC for ER expression. Furthermore, newly diagnosed HGSOC FIGO III/IV since 2013 were assessed prospectively for ER expression and when positive, offered a maintenance therapy with Letrozole 2.5mg/d in an off-label fashion. We assessed the time of first recurrence in correlation with the use or not of Letrozole using Kaplan-Meier analysis.

Results

ESR1 was strongly expressed in similar levels in HGSOC as in breast cancer. Strong ER expression in HGSOC is similar in chemotherapy-resistant primary tumors as in their recurrent counterparts. The use of Letrozole as maintenance treatment was associated with a significant prolonged recurrence free interval, with 75% of patients recurrence free after 24 months when taking Letrozole vs 40% in the control group (p= 0.01).

Conclusion

Primary HGSOC have a high ESR1 and ER expression which is similar to breast cancer where Aromatase inhibitor maintenance is routine for decades. Here we demonstrate evidence for the usefulness of a similar rationale in HGSOC.
Aims
Epidemiologic evidence suggests that aspirin use is associated with a reduction in the risk of developing ovarian cancer among women in the general population. No studies that evaluated this relationship among high-risk women. We evaluated the relationship between aspirin use and BRCA-associated ovarian cancer.

Method
We conducted a matched case-control study which included 986 cases of ovarian cancer and 3,069 controls with a BRCA1 or BRCA2 mutation. Detailed information regarding lifetime medication use (prescriptions and over-the-counter) was collected from a routinely administered questionnaire. Conditional logistic regression was used to evaluate the association between ever aspirin use, as well as, cumulative duration of aspirin use and the risk of developing ovarian cancer.

Results
Among BRCA1 and BRCA2 mutation carriers, aspirin use was not associated with the risk of developing ovarian cancer (odds ratio [OR] for ever vs. never use = 1.19; 95% confidence intervals [CI] 0.56-2.50; P = 0.65). Among women with a history of aspirin use, the risk of developing ovarian cancer associated with lifetime aspirin use for less than one year was 0.50 (95% CI 0.06-4.23) and was 1.45 (95% CI 0.65-3.24) for lifetime use of more than one year. Findings did not vary by BRCA mutation type.

Conclusion
Our findings do not support a role of aspirin for the prevention of ovarian cancer among women carrying BRCA mutations. Prophylactic bilateral salpingo-oophorectomy is the most effective primary prevention strategy for this high-risk population.
OVARIAN CANCER

ESG07-0850

p53 PROTEINS ARE ABLE TO EXHIBIT PRION-LIKE BEHAVIOUR - A STUDY TO ESTABLISH RELIABLE DETECTION TECHNIQUES IN OVARIAN TUMOURS

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2Medical University of Vienna, Department of Obstetrics and Gynaecology, Vienna, Austria
3Innsbruck Medical University, Division of Clinical and Functional Anatomy- Department of Anatomy- Histology and Embryology, Innsbruck, Austria

Aims

The recently discovered propensity of p53 proteins to exhibit prion-like behaviour may play an important role in initiation and progression of ovarian cancer. The aim of the present study was to establish reliable methodology to detect p53 prion-like aggregates in ovarian tumours.

Method

Three techniques to analyse p53 prion-like protein aggregates were established, i.e. immunofluorescence co-localization and co-immunoprecipitation based on 1) anti-aggregates antibodies and 2) on Seprion methodology. In a first step 10 ovarian cancer cell lines were tested, followed by analysis in tissues of patients with borderline tumours and malignant ovarian carcinomas (OC) of different histological subtypes. This included paraffin-embedded tissues (n=77) and a subset of fresh frozen tissues (n=30).

Results

p53 prion-like aggregates were found in 5/10 ovarian cancer cell lines consistently with all 3 different techniques. All positive cell lines harboured p53 missense mutations. With respect to patients samples, 3/11(27%) borderline tumours were positive for p53 prion-like aggregates and 34/66(52%) invasive OCs. 30/34(88%) positive OCs harboured p53 missense mutations, 1 showed a frameshift mutation and 3 were p53 wild-type. In the big majority of tissue samples consistency between the 3 techniques was found.

Conclusion

We demonstrated a high prevalence of p53 prion-like aggregates among the spectrum of different ovarian tumours, mainly associated with p53 missense mutations. High consistency and therewith reliability of the 3 established techniques was achieved. In a next step we plan to investigate the clinical relevance of p53 prion-like aggregates in a large homogenous cohort of prospectively collected high-grade serous OC cases.
GHOST ILEOSTOMY IN THE MANAGEMENT OF MODIFIED POSTERIOR EXENTERATION: A RELIABLE OPTION IN OVARIAN CANCER

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Aims

Our objective was to determine the usefulness of the ghost ileostomy associated with sequential postoperative rectoscopy (SPR) in patients in which modified posterior exenteration was performed due to ovarian cancer.

Method

After modified posterior exenteration (MPE) and colorectal anastomosis were performed, a loop ileostomy was created to minimize the clinical impact of colorectal anastomotic leak instead of a real ileostomy. A SPR was performed in 4º-5º postoperative (PO) day. CRP and Procalcitonin serum levels were also monitored in 1º and 3º PO day.

When anastomotic leakage was suspected, the ghost ileostomy was converted into a defunctioning ileostomy. In case of uncomplicated PO course, the loop was removed before discharge.

Results

Between January 2015 and April 2017, 139 cytoreductive procedures due to ovarian cancer were performed. In 30 out of 48 cases of MPE, a ghost ileostomy was created. SPR, CRP and Procalcitonin levels were found normal except in one patient (1/30; 3,3%). In this single case anastomotic leakage was confirmed in SPR. In consequence, real defunctioning ileostomy was created with an uncomplicated PO course.

Conclusion

Not only ghost ileostomy prevents all the complications related to defunctioning ileostomy but also presents its advantages in case of anastomotic leakage.
Aims

To compare survival outcomes following robotic-assisted and abdominal surgery in patients with ovarian cancer.

Method

Retrospective analysis of consecutive ovarian cancer patients seen by a single surgeon between January 2008-March 2016. Intention-to-treat analysis was conducted using chi-square and t-test with significance <0.05. Kaplan-Meier survival curves were compared using the Mantel-Cox-log-rank test.

Results

Robotic-assisted cases were (n=122) were similar to abdominal surgery (n=49) on age, BMI, uterine weight, parity, prior pelvic surgery and intra- and post-operative complications (p>0.05). More robotic-assisted cases (vs. abdominal) had neoadjuvant chemotherapy (47.5% vs. 24.5%, p=0.004), were stage I (37.7% vs. 20.4%, p=0.03) and had no evidence of disease after surgery (79.5% vs. 40.8%, p<0.001). In early stage cancer (I/II), optimal debulking (<0.5 cm residual disease) was achieved in 98.1% and 80.0% of robotic-assisted vs. abdominal surgeries respectively (p=0.27). In advanced cases (III/IV), optimal debulking was attained in significantly more in robotic than abdominal surgeries (85.3% vs. 61.8%, p=0.009).

Survival distributions showed robotic surgery patients had better overall survival (p=0.02), but only for early stage cancers (p=0.003) and not advanced cancers (p=0.38) (Figure 1). There were no differences in progression-free survival by surgical approach either overall (p=0.56) or by early (p=0.63) or advanced stage (p=0.73) disease.

Conclusion

Overall and progression-free survival were at least as good in patients who underwent robotic-assisted compared to abdominal procedures, at all stages of ovarian cancer.
OVARIAN CANCER

ESGO7-1196

AGE IS NOT AN INDEPENDENT PROGNOSTIC FACTOR IN OPERATED STAGE III-IV EPITHELIAL OVARIAN CARCINOMA

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Aims

Recent data shows that older women are less likely to have complete surgery for stage III-IV ovarian Carcinoma. Moreover, this undertreatment has been linked to higher rates of mortality. Many publications have suggested that age may be a prognostic factor in ovarian carcinoma. Most of them are old and extrapolated overall survival data instead considering ovarian cancer-specific survival (OC-SV). The objective of this study was to evaluate if age is an independent prognostic factor in stage III-IV operated epithelial ovarian carcinoma.

Method

A total of 1,259 patients who underwent surgery at 2 French centres between 1985 and 2015 were identified. The primary endpoint was OC-SV. A multivariate Cox model was built including age, FIGO stage, CA125 level, surgery and chemotherapy.

Results

Median follow-up was 33 months. Median age at diagnosis was 60 (17-90). 242 (19%) patients were over 70 years of age. Patient characteristics were as follows (≥70 vs. <70y): proportions of FIGO IV were 23 vs. 17% (p=0.042), CA125>500: 55 vs. 58% (p=0.54), incomplete surgery: 42 vs. 27% (p<0.001) and 5 vs. 1% didn’t had chemotherapy (p<0.001). Age<70y, FIGO III, CA125<500, complete surgery and chemotherapy were significantly associated with a better OC-SV in univariate analysis (p<0.05, Log-rank test). Only age>70y was not an independent prognostic factor of OC-SV in multivariate analysis (Hazard Ratio=1.16; 95%CI [0.84,1.6]; p=0.372).

Conclusion

This study did not identify age ≥70y as an independent prognosis factor in this population. Our results suggest that age related poor prognosis is more link to suboptimal treatment of elderly patients.
OVARIAN CANCER

ESGO7-1267

PROGNOSTIC SIGNIFICANCE OF ENDOMETRIOID OVARIAN CANCER SUBTYPE: RESULTS OF AN INTERNATIONAL MULTI-INSTITUTIONAL RETROSPECTIVE STUDY
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Aims
The prognostic significance of endometrioid ovarian cancer (OvC) subtype is unclear. We compared histoclinical characteristic of patients with OvC by pathological subtype and correlate them with overall survival (OS).

Method
Patients with endometrioid or serous OvC diagnosed in two cancer centers in Italy and France between 2000 and 2016 were retrospectively identified. Data were collected in a systematic manner. A multivariate Cox model was built, including age, year of diagnosis, surgery, FIGO stage and adjuvant treatment, to determine the impact of pathological subtype on OS.

Results
Six hundred and sixty-eight cases were retrieved including 86 (12.9%) endometrioid carcinoma and 582 (87.1%) serous controls. Women with endometrioid cancer were younger (median age 55.9 vs. 61.6 years; p<0.001), had less aggressive tumors (64.5% of grades I or II vs. 28.9%; p<0.001), less advanced stage (III-IV) cancers (47.9 vs. 84.2%; p<0.001) and were less likely to receive chemotherapy (87 vs. 96.5%; p=0.001). No significant difference for complete surgery or year of diagnosis were found. Five-year OS rates were 60% in the endometrioid group and 45% in the serous group, respectively (p=0.001). In multivariate analysis, the lower risk of death from endometrioid cancer compared to serous ovarian cancer was no longer significant [HR=0.957 (IC95:0.612-1.494); p=0.846].

Conclusion
In this large cohort, the better clinical baselines characteristic seem to explain the better survival of endometrioid OvC cases. The endometrioid subtype is not an independent prognostic factor. Further analyses are needed to understand why endometrioid OvC patients are diagnosed at a younger age and at earlier stage.
A PROVEN MODEL FOR IMPROVEMENT IN GENETIC COUNSELING REFERRALS FOR OVARIAN CANCER PATIENTS IN A COMMUNITY HOSPITAL CANCER CENTER

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Aims

Despite guidelines recommending genetic counseling (GC) referrals for ovarian cancer patients, rates within US academic centers (15-30%) and worldwide (15-20%) remain low. While most US cancer patients receive treatment at community centers, there is little research on genetics referrals in this setting. With changes to clinical pathways in 2013, our goal was 100% referral rate to GC within 1 year from diagnosis.

Method

In October 2013, the Gynecologic Oncology Steering Committee (GOSC) implemented a multidisciplinary approach to improve education, communication, and care integration for ovarian referrals to GC. Compliance was monitored and reported. Missing referral notifications were sent regularly and status presented bi-monthly at GOSC for two years. Baseline 2013 referrals were compared to those in 2014 and 2015.

Results

In 2013, 35% (41/116) of ovarian patients were referred. In 2014, 90% (71/79) of eligible ovarian patients received GC and testing. Sixty-four (81%) of these were in-house referrals, 4 patients were seen at an outside institution, and 3 were tested through a clinical trial. The 8 (10%) missed referrals were due to 2 deaths, 2 lost to follow-up, and 4 were never referred. This demonstrates a 157% increase over baseline. In 2015, in-house referrals remained high at 73% (72/99).

Conclusion

Improvement in ovarian genetics referrals can be sustained in community setting through a multidisciplinary approach and regular reporting. Physician engagement and accountability are key to success. Our impressive growth in GC referrals within a large community cancer center benefits patients and can serve as a model for guideline compliance.
OVARIAN CANCER

ESGO7-0967

MORBIDITY OF RECTOSIGMOID RESECTION IN CYTOREDUCTIVE SURGERY FOR OVARIAN CANCER. RISK FACTOR ANALYSIS

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Aim: Rectosigmoid resection is often performed during cytoreductive surgery for ovarian cancer, to achieve the goal of no residual tumour. Here, we evaluated the morbidity associated with rectosigmoid resection and the underlying risk factors.

Method: We retrospectively assessed consecutive patients managed with rectosigmoid resection during cytoreductive surgery for ovarian cancer at our centre in Paris, France, between 2005 and 2013. All previously identified risk factors were analysed. Major complications were defined as grade III-IV in the Clavien-Dindo classification.

Results: Of 228 patients, 116 had primary and 112 interval surgery; 43/228 [18.9%] experienced major complications, and these were more common after primary surgery [24.1% vs. 13.4%, p=0.04]. The 69 patients who had rectosigmoid resection [33 primary vs. 36 interval surgery, p=0.32] had a higher morbidity rate compared to the other patients [30.4% vs. 14.6%, p=0.006]. The anastomotic leakage rate was 2.89%. By multivariate logistic regression, independent risk factors for morbidity were postmenopausal status [adjusted odds ratio (aOR), 13.7; 95% confidence interval (95%CI), 1.2;161.9], surgery after neoadjuvant chemotherapy [aOR, 4.4; 95%CI, 1.1;18.8], and peritoneal stripping of the left paracolic gutter [aOR, 11.3; 95%CI, 2.3;54.3].

Conclusion: The morbidity of rectosigmoid resection during cytoreductive surgery for ovarian cancer seems acceptable. Ileostomy does not seem associated with a lower risk of major complications or adjuvant bevacizumab with a higher complication rate.

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ONCOLOGIC AND OBSTETRIC OUTCOMES OF CONSERVATIVE SURGERY FOR BORDERLINE OVARIAN TUMORS IN WOMEN OF REPRODUCTIVE AGE.

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Aims

To compare the oncologic and obstetric outcomes in reproductive-age females with borderline ovarian tumors (BOTs) treated with cyst enucleation (CE) or unilateral salpingo-oophorectomy (USO).

Method

The medical records of patients with BOTs treated between 1998 and 2014 were retrospectively reviewed. The recurrence rates in the USO and CE groups were compared, and the postoperative obstetric outcomes were assessed via telephone survey.

Results

Eighty-nine patients with BOTs underwent USO, and 19 underwent CE. Of these, six patients had recurrent BOTs. The recurrence rate was significantly lower in the USO group (3/89, 3.4%) than in the CE group (3/19, 15.8%) (P=0.032).

All patients with recurrent disease were successfully treated with further surgery. Of the 76 patients interviewed by telephone, 71 (93.4%) resumed regular menstruation after surgery. Twenty-six of the 32 patients (81.3%) who attempted to conceive had successful pregnancies. USO (19/24, 79.2%), like CE (7/8, 87.5%), resulted in favorable pregnancy rates for patients with BOTs.

Conclusion

USO is a suitable fertility-preserving surgery for women with BOTs. CE is also an acceptable option for select patients.
OVARIAN CANCER

ESGO7-0529

IMPACT OF TIME INTERVAL BETWEEN COMPLETION OF NEOADJUVANT CHEMOTHERAPY AND THE INITIATION FOR POSTOPERATIVE ADJUVANT CHEMOTHERAPY IN ADVANCED OVARIAN CANCER

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Aims

The aim of our study was to investigate the relationships between the time interval from the end of neoadjuvant chemotherapy (NAC) to initiation of postoperative adjuvant chemotherapy (POAC) and survival outcomes.

Method

We retrospectively investigated 220 patients with pathologically confirmed epithelial ovarian cancer who received NAC at Yonsei Cancer Hospital between 2006 and 2016. Time interval was defined as the time from completion of NAC through interval debulking surgery to initiation of POAC. Time interval was analyzed and correlated with outcomes.

Results

Median time interval was 42 (range 16-178) days; 103 patients (53.1 %) had POAC within 42 days after NAC, 91 patients (46.9 %) after more than 42 days. There were no significant differences of patient characteristics between two groups. Kaplan-Meier curve showed that patients with longer time interval (>42 days) had poorer progression-free survival (PFS) and overall survival (OS) (P = 0.039 and P = 0.005, respectively). Multivariate analyses identified poorer PFS (HR, 1.39; 95% CI, 0.98 - 1.96) and OS (HR, 1.83; 95% CI, 1.11 - 3.02) among patients with longer time interval, although PFS was not statistically significant. When patients were categorized by quartile based on time interval (<37, 37-42, 42-50, >50 day), patients with a longer time interval had at higher risk of recurrence and death (p for trend = 0.001 and <0.001, respectively).

Conclusion

Time interval from the completion of NAC to initiation of POAC seem to influence survival outcome. Efforts to reduce time interval might be needed to improve outcomes in ovarian cancer patients undergoing neoadjuvant chemotherapy.
OVARIAN CANCER

ESGO7-0490

EXPRESSION OF MACROPHAGE MIGRATION INHIBITORY FACTOR, CD74 AND Ki-67 IN OVARIAN TUMOR

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Aims

Macrophage migration inhibitory factor (MIF), CD74 and Ki-67 emerge as important players in pathogenesis and angiogenesis of several types of malignant tumors. The purpose of this study was to evaluate the expression of MIF, CD74 and Ki-67 in ovarian borderline tumor and ovarian cancer and explore the potential roles they play in ovarian tumor.

Method

Macrophage migration inhibitory factor, CD74 and Ki-67 expression was assessed by immunohistochemistry in 102 cases with various degrees of ovarian tissues, including 10 normal ovarian tissue, 46 borderline tumor, 48 ovarian cancer. Correlation between immunostainings and clinicopathological parameters, as well as the follow-up data of patients, was analyzed statistically.

Results

Immunohistochemical analysis showed that CD74 expression was significantly higher in ovarian cancer(26/48) than borderline ovarian tumor(10/46) and normal samples(0/10) (P< 0.01). Ki-67 expression was higher in ovarian cancer (18/48) than borderline ovarian tumor(2/46) and normal samples(0/10). (P< 0.001). MIF expression was high in all three group (40/48 vs 38/46 vs 10/10). Correlation analysis revealed that high CD74 expression in tumor cells were associated with advanced clinical stage, and worse prognosis of patients.

Conclusion

Correlation analysis revealed that high CD74 expression in tumor cells were associated with advanced clinical stage of patients
IS SELECTIVE INTERVAL DEBULKING SURGERY REALLY A FAULT IN THE MANAGEMENT OF ADVANCED HIGH-GRADE SEROUS OVARIAN CARCINOMAS (HGSOC)?

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Aims

Survival assessment of a series of HGSOC patients in a tertiary cancer center.

Method

We retrospectively reviewed the data of 228 consecutive patients diagnosed with advanced stages (FIGO stages IIIIC and IV) HGSOC, managed between 2008 and 2013 in our center.

Primary debulking (PDS) or Interval debulking surgeries (IDS) after chemotherapy were performed after a decisional laparoscopy for biopsy and tumor load assessment using Sugarbaker’s peritoneal cancer index (PCI), with the intent to perform a macroscopically complete (CC0) and safe surgery. During follow up, secondary surgery might have been indicated and repeated in selected recurrent diseases.

Results

PDS was possible in 28.6% and 71.3% for IDS, but 43 patients could never be operated. Median PCI was 10 (3-24), 24 (3-39) and 30.3 (8-39) in PDS, IDS and no surgery group respectively. CC0 was obtained in 92.5% cases and in 90.2% for PDS and IDS group respectively. With 36 months median follow-up, OS and DFS were 94.2/32.9, 67.9/20.5 months in PDS and IDS respectively.

During follow-up, 74.1% of patients recurred (50.9% and 83.3% in PDS and IDS respectively). For those who could be (optimally) operated, 79.7% were alive 5 years after the diagnosis versus 42.7% if surgery was not possible (p<0.0001).

Conclusion

In optimally cyto-reduced advanced HGSOC, initial tumor load is a more important survival factor than the moment of surgery. A centralized surveillance seems necessary as secondary surgical efforts represent an important factor to increase OS in these patients.
THE SAFETY AND EFFICACY OF BLEOMYCIN, ETOPOSIDE AND CISPLATIN (BEP) CHEMOTHERAPY IN PATIENTS WITH MALIGNANT OVARIAN GERM CELL TUMOR

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Aims

The safety and efficacy of bleomycin, etoposide, and cisplatin (BEP) chemotherapy have rarely been evaluated in malignant ovarian germ cell tumor (MOGCT) because of its rarity. The aim of this study was to evaluate the safety and efficacy of BEP chemotherapy in MOGCT patients.

Method

This was a retrospective study including 150 patients with MOGCT who underwent surgery followed by adjuvant BEP chemotherapy at Asan Medical Center (Seoul, Korea). The safety of BEP chemotherapy was evaluated by Common Terminology Criteria for Adverse Events (CTCAE) v 4.03. Response rates and survival outcomes were analyzed.

Results

150 patients received 687 cycles of BEP chemotherapy after surgery. 112 patients had stage I/II (74.7%) disease while 38 patients had stage III/IV (25.3%) disease. Ninety-three (62.0%) patients had grade 3-4 hematologic toxicity and 16 patients (10.7%) had grade 3-4 non-hematologic toxicity. Twenty-five patients (16.7%) suffered from neutropenic fever. Dose reduction due to toxicity was required in 7 patients (4.7%), and schedule delay due to toxicity was required in 7 patients (4.7%). Bleomycin was deleted during chemotherapy due to toxicity in 22 patients (14.7%). Cisplatin was replaced with carboplatin during chemotherapy due to toxicity in five patients (3.3%). 141 patients (94.0%) achieved complete response; one patient showed a partial response, three patients had stable disease, and eight patients experienced progression of disease with BEP chemotherapy. 14 patients had recurrent disease, and four patients died of disease. Overall survival rate was 94.7%.

Conclusion

BEP chemotherapy was highly effective and showed acceptable toxicity profile for patients with MOGCT.
OVARIAN CANCER

ESGO7-0384

A panel of microRNAs, identified with global microarray, may provide prognostic information for patients with ovarian cancer

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Aims

Ovarian cancer is the leading cause of gynecologic cancer deaths in the Western world. Prognosis of the disease is mainly related to stage at diagnosis, surgery and sensitivity to chemotherapy. The purpose of the current study was to identify microRNAs associated with prognosis and resistance to chemotherapy in patients with ovarian cancer.

Method

Patients who were surgically treated for epithelial ovarian cancer, diagnosed between September 2004 and January 2010 were enrolled in the study. MicroRNA expression profiles were identified from tumor tissue using microarray analysis. In the primary statistically analyses miRNA index predictors of survival and resistance to chemotherapy were developed with adaptive index models, adjusted for known prognostic variables.

Results

A total of 198 patients with epithelial ovarian cancer were included. Of these, 170 patients had received platinum-based chemotherapy as first-line treatment after primary surgery, and were eligible for analyses of resistance to chemotherapy. In the multivariate adaptive index model analyses combinations of three different miRNAs were identified to be significant and independent predictors of survival and time-to-progression. One miRNA were found to be significant for chemotherapy-resistance.

Conclusion

In the current study combinations of either one or three miRNAs were identified as significant predictors of survival, time-to-progression and chemotherapy-resistance for patients with epithelial ovarian cancer. This approach could potentially give important information of prognosis and thereby support patient management towards a more individualized treatment.
OVARIAN CANCER

ESGO7-0214

ONCOLOGIC OUTCOMES AND REPRODUCTIVE SUCCESS AFTER FERTILITY SPARING MANAGEMENT IN WOMEN WITH MALIGNANT OVARIAN GERM CELL TUMORS


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Aims

Malignant ovarian germ cell tumors (MOGCTs) represent a relatively rare malignancy that mostly affects young women with strong desire for fertility-preserving management. The aim of our study is to identify the oncologic and clinicopathologic characteristics of MOGCT, and report the prognostic factors and reproductive outcomes of patients treated with conservative surgery.

Method

Medical records from 42 women diagnosed and treated for MOGCTs between 1997 – 2015 in our hospital were analyzed retrospectively. Fisher's exact tests were used for the comparison of proportions and life table analysis for survival calculations.

Results

Mean age at diagnosis was 23.5 years. Thirty-one cases (74%) were stage I; 7 cases (17%) stage II; and 4 cases (9%) stage III. Immature teratoma represented the most common histological type (n = 18) followed by dygerminomas, mixed tumors, and endodermal sinus tumors. Thirty-five patients underwent fertility-sparing surgery defined by unilateral oophorectomy, lymphadenectomy, and peritoneal biopsies. Adjuvant chemotherapy was administered in 29 patients with BEP (bleomycin, etoposide, and cisplatin). After a median follow-up period of 9.2 years, 4 patients (11.5%) had disease recurrence and 3 died. The overall survival rate was 94.1% for women in early stage (I/II) and 87.1% for women in advanced stages. During the follow-up period, 31% (11/35) of the women tried for a pregnancy, and 45% (5/11) of them resulted in normal deliveries.

Conclusion

Our data demonstrate that MOGCTs, if detected in early stages, have excellent survival outcomes with fertility-preserving surgery and chemotherapy. Patients maintain future reproductive potential and appear to achieve favorable reproductive outcomes.
OVARIAN CANCER

ESG07-0232

EXPRESSION OF miR-146a IN PRIMARY TUMOUR AND OMENTAL IMPLANTS IN OVARIAN CANCER PATIENTS AND ITS CORRELATION WITH CLINICOPATHOLOGICAL FEATURES, PROGNOSIS AND CHEMO-RESISTANCE

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Aims

To study the miR-146a expression in primary tumour and omental implants of ovarian serous cancer, and to investigate the correlation with clinicopathological features, including chemosensitivity and survival.

Method

MiRNA-146a was evaluated in formalin-fixed, paraffin-embedded (FFPE) samples collected from 48 patients operated for advanced (FIGO III/IV stage) ovarian cancer. The reference group included 48 normal ovary samples. Total RNA was extracted from FFPE tissue using Roche High Pure miRNA Isolation Kit. The yield and quality of RNA were measured using PicoDrop spectrophotometer. Reverse transcription to cDNA was carried out according to the miRCURY LNA Universal RT micro RNA PCR instruction. PCR amplification was performed using primer set for hsa-miR-146a-5p. U6 snRNA and SNORD48 were internal controls. Reactions were performed on a 7900HT Fast Real-Time PCR System. Relative expression was calculated according to the Cq method $2^{-\Delta\Delta Cq}$.

Results

MiR-146a expression in primary tumour was increased in comparison to normal ovaries (p=0.02) and implants (p=0.01). Negative correlation was found between miR-146a expression in primary tumours and serum levels of CA125 (R=-0.37, p=0.03) and ROMA index (R=-0.79, p<0.0007). Overall survival (OS) positively correlated with the miR-146a expression in the primary tumour (R= 0.38, p=0.01). Probability of survival was decreased in patients with lower miR-146a expression (HR=0.21, p=0.003) in the primary tumour. In multivariate analysis lower levels of miR-146a expression correlated with shorter progression-free survival (PFS) (p=0.04) in primary tumour and with platinum-resistance in implants (p=0.006).

Conclusion

MiR-146a expression could be a prognostic marker for chemosensitivity and survival in serous ovarian cancer.
OVARIAN CANCER

ESGO7-0476

PRIMA-1MET INDUCES APOPTOSIS THROUGH ACCUMULATION OF INTRACELLULAR REACTIVE OXYGEN SPECIES IRRESPECTIVE OF P53 STATUS AND CHEMO-SENSITIVITY IN EPITHELIAL OVARIAN CANCER CELLS

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Aims

PRIMA-1MET is a small molecule compound that restores wild-type p53 to mutant p53, and is recently confirmed to be safe at therapeutic plasma levels. The aims of this study were to identify the anti-tumour activity of PRIMA-1MET on epithelial ovarian cancer (EOC) cells and elucidate the underlying mechanism in vitro.

Method

We used nine EOC cell lines and their chronic cisplatin/paclitaxel-resistant cells and performed cell viability assay and cell apoptosis assay to evaluate the efficacy of PRIMA-1MET. Moreover, we assessed the functional role of reactive oxygen species (ROS) and their scavenger in the EOC cells.

Results

We examined the viability of the total 13 EOC cells after 48 h treatment with PRIMA-1MET. Measuring the half maximal inhibitory concentration (IC50) of EOC cells revealed that the sensitivity was heterogeneous, and did not correlate with TP53 status. PRIMA-1MET induced apoptosis, PARP cleavage, and intracellular ROS accumulation in a p53-independent manner. The anti-tumour effects of PRIMA-1MET were completely rescued by a ROS scavenger, N-acetyl cysteine. Furthermore, PRIMA-1MET reduced the expression of antioxidant enzymes, PRX3 and GPX1, in a dose-dependent manner.

Conclusion

We demonstrated that PRIMA-1MET had an anti-tumour effect on EOC cells regardless of TP53 status and chemo-resistance. PRIMA-1MET is a promising therapeutic agent for chemo-resistant EOC patients and may contribute to a better prognosis in the future.
PREVENTION OF GYNAECOLOGIC CANCER

ESG07-0048

ASSESSING THE RISK OCCULT CANCERS AND 30-DAY MORBIDITY IN BRCANESS WOMEN UNDERGOING RISK-REDUCING SURGERY: A PREDICTIVE MODEL AND NOMOGRAM

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Aims

To investigate the incidence and predictive factors of 30-day surgery-related morbidity and occult precancerous and cancerous conditions in patients undergoing risk-reducing surgery

Method

This is a prospective cohort study evaluating BRCAness (BRCA 1 and 2 mutation carriers and BRCAX) women undergoing minimally invasive risk-reduction surgery. A nomogram has been created in order to assess the risk of diagnosis of occult precancerous and cancerous malignancies at the time of surgery

Results

Overall, 85 BRCAness women had risk-reducing surgery: 30 (35\%) and 55 (75\%) women had hysterectomy plus bilateral salpingo-oophorectomy (BSO) and BSO alone, respectively. Overall, 6 (7\%) patients were diagnosed with undiagnosed cancers: three early stage ovarian / fallopian tube cancer, two advanced stage ovarian cancer (stage IIIA and IIIB) and one serous endometrial carcinoma. Additionally, 3 (3.6\%) patients had incidental diagnosis of serous tubal intraepithelial carcinoma (STIC). A nomogram of predicting factors for the risk of having occult malignancies was built (Figure). Regarding 30-day morbidity, we observed 4 postoperative complications that were managed conservatively, including fever (n=3) and postoperative ileus (n=1). No severe (grade 3 or more) complication occurred among patients having risk-reduction surgery. Only presence of occult cancer correlated with an increased risk of developing postoperative complications (p=0.02); basically, due to the adjunctive staging procedures needed.

\begin{figure}
\centering
\includegraphics[width=0.5\textwidth]{nomogram.png}
\end{figure}

Conclusion

Minimally invasive risk-reducing surgery is a safe and effective strategy to manage BRCA mutation carriers. Patients should have to be counseled about the high prevalence of undiagnosed cancers observed at the time of surgery
PREVENTION OF GYNAECOLOGIC CANCER

ESGO7-1354

OPPORTUNISTIC SALPINGECTOMY: A SURVEY OF KNOWLEDGE AND ATTITUDES IN HEALTHCARE PROFESSIONALS

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Aims

The tubal origin of high-grade serous ovarian cancer (HGSC) represents an opportunity to reduce the risk of ovarian cancer. The Royal College of Obstetrics and Gynaecology advises that ‘women who have completed their families should be carefully considered for prophylactic removal of the fallopian tubes …at the time of gynaecological or other intra-peritoneal surgery’. We aimed to evaluate current knowledge and attitudes of relevant healthcare professionals to the concept of the tubal origin of HGSC, and opportunistic salpingectomy.

Method

We carried out surveys of professionals who may be involved in women undergoing gynaecological or abdominal surgery, including primary health care providers, obstetricians, gynaecologists and general surgeons who carried out pelvic surgery.

Results

19 of 21 primary care practitioners, and 12 of 15 surgeons were totally unaware of the tubal origin of HGSC. Obstetricians & Gynaecologists were better informed (17 of 26 were well informed). There was a lack of confidence in discussing or offering opportunistic salpingectomy across all specialties for a variety of reasons. The majority of professionals surveyed volunteered that written information for healthcare professionals and patients would be helpful, along with teaching sessions or direct surgical training from a specialist.

Conclusion

There is limited knowledge around the tubal origin of HGSC amongst healthcare professionals who may be in a position to counsel or offer opportunistic surgery. Strategies to educate and alter attitudes of healthcare professionals may be required before we see a paradigm shift in offering the choice of this potentially life-saving opportunity to women.
HUMAN PAPILLOMAVIRUS VACCINE UPTAKE IN SOUTH KOREA
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Aims

This study aimed to assess the human papillomavirus (HPV) vaccine uptake rate in South Korean women and to identify factors affecting vaccination rate before initiation of the national HPV vaccination program.

Method

A nationwide online survey of 2,000 9–59-year-old women collected information on their HPV vaccination status and associated correlates such as age, residential region, education, and socioeconomic status. The regional and age distribution of subjects was based on the South Korean census data.

Results

The overall HPV vaccine uptake rate was 23.1%, and the highest rate of vaccination was observed in women aged 20–29 years (38.6%), followed by those aged 30–39 years (36.9%), 9–19 years (16.9%), 40–49 years (14.2%), and 50–59 years (12.5%). Women from the metropolitan cities showed a higher vaccination rate than those from rural areas (26.2% vs 20.5%, P=0.003). A multivariate regression analysis showed that HPV vaccine uptake was independently associated with age, residential region, educational level, regular influenza vaccination, clinic visit within the last 6 months, and a high family income. The main barriers to HPV vaccination were the cost of vaccination (24.3%), and concerns regarding vaccine safety (23.1%).

Conclusion

HPV vaccine uptake was low among the South Korean women, especially among women aged 9–19 years and women living in rural areas. The national HPV vaccination program will improve vaccine uptake rate by overcoming barriers to vaccination.
QUALITY OF LIFE AFTER TREATMENT OF GYNACEOLOGIC CANCER

ESGO7-0316

SELF-COMPASSION AND CLIMACTERIC SYMPTOMS IN OOPHORECTOMIZED BRCA1/2 MUTATION CARRIERS

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Aims

To reduce ovarian cancer risk, BRCA1/2 mutation carriers are advised to undergo risk-reducing salpingo-oophorectomy (RRSO) around the age of 40, which may induce severe climacteric symptoms. Dealing with these symptoms may be difficult and success is related to several coping strategies. Successful coping depends in part on self-compassion. This describes a positive and caring way of relating toward the self when facing difficult experiences; it is a skill that can be taught. The aim of this study was to explore the association between climacteric symptoms and self-compassion in late postmenopausal BRCA1/2 mutation carriers.

Method

This cross-sectional study using questionnaire data examined climacteric symptoms, self-compassion, physical fitness in 165 BRCA1/2 mutation carriers who underwent an RRSO ≤ 45 years, at least 5 years ago.

Results

Late postmenopausal BRCA1/2 mutation carriers reported low levels of climacteric symptoms and being highly self-compassionate. Higher self-compassion was associated with less climacteric symptoms. Furthermore, anti-depressant use was associated with more climacteric symptoms, whereas physical fitness with less symptoms.

Conclusion

Being self-compassionate and physically fit, and not using anti-depressants was associated with less climacteric symptoms in oophorectomized BRCA1/2 mutation carriers. Future research is needed to investigate the effect of self-compassion training on climacteric symptoms after RRSO in BRCA1/2 mutation carriers.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0910

LONG-TERM OUTCOMES AFTER CONSERVATIVE AND RADICAL TREATMENT OF BORDERLINE OVARIAN TUMOURS

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Aims

1. To evaluate the remote outcomes of patients with borderline ovarian tumours (BOTs) after radical (RS) and conservative (CS) surgery: survival and recurrence rates and their dependence on surgery type, patients age, FIGO stage, histological tumour type, preoperative CA 125 levels.
2. To assess the pregnancy rate after conservative surgery.
3. To evaluate the Quality of life (QOL) after CS and RS.

Method

Retrospective data analysis of 56 patients treated for BOT in Oncogynaecology Department of LUHS Hospital. According to the surgery type, patients were divided into CS and RS groups. For QOL evaluation, the validated EORTC–QLQ30–OV28 questionnaire was used. The results were compared between CS and RS groups.

Results

The 5-year survival rate was 97.6% and recurrence rate – 17.9% (10 patients). BOTs significantly more often recurred after CS (80% vs. 20% respectively), and among younger patients (36.9 vs. 46.4 years), 21 patients had CS, 6 (28.57%) of them tried to get pregnant. The pregnancy rate was 66.7% (4 patients). QOL evaluation showed that patients after CS had less symptoms (30.3 vs. 26.0 points), however, the difference is not significant. Nevertheless, sexual function was evaluated significantly better in the RS group (73.0 vs. 53.3, p<0.05).

Conclusion

The 5-year survival rate was 97.6%. Recurrence rate was 17.9%, more often after fertility sparing surgery and among younger patients. Pregnancy rate was 66.7% among patients who tried to conceive after CS. Despite the fact that overall QOL was similar between two groups, sexual function was evaluated better among RS patients.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0552

DOES BLOODCARE POWDER PREVENT POSTOPERATIVE CHYLOUS ASCITES AFTER RETROPERITONEAL LYMPHADENECTOMY FOR GYNECOLOGICAL MALIGNANCIES?
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Aims

To evaluate the effect of an intraoperative hemostatic cellulose agent (BLOODCARE powder®) on reducing the incidence of postoperative chylous ascites (PCA) after complete pelvic and para-aortic lymphadenectomy (PPALN) in patients with gynecological cancers.

Method

This case control study reviewed 150 patients (75 patients each in the control and case groups) with gynecological cancer who underwent retroperitoneal PPALN. In the case group, BLOODCARE powder® was applied via the left renal vein and bilateral obturator fossa. In the control group, no sealant agent was used after the procedure, such as fibrin glue or a hemostatic cellulose agent.

Results

The demographic and surgical characteristics of the patients in both groups were similar (Table 1). Chylous ascites occurred in nine (6%) cases. The incidence of PCA was lower in the case group [1 (1.3 %) vs. 8 (10.7%); P = 0.03]. Logistic regression analysis indicated that using BLOODCARE powder® during the surgery independently protected against the development of PCA (Table 2)
Conclusion

Using BLOODCARE powder® during retroperitoneal surgery may prevent PCA. This simple, effective agent should be used after retroperitoneal PPALN for gynecological cancers.
IMPACT OF HORMONE REPLACEMENT THERAPY ON PATIENTS WITH OVARIAN OR CERVICAL CANCER

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Aims

To investigate the influence of HRT on patients with ovarian or cervical cancer.

Method

158 patients with ovarian/cervical cancer were involved and divided into HRT and NHRT groups. 65 patients (31 with ovarian cancer, 34 with cervical cancer) underwent HRT treatment while 93 (44 with ovarian cancer, 49 with cervical cancer) did not undergo HRT after surgery/radiotherapy. PR, ER and its subtypes were detected in cancer tissues by immunohistochemical staining assay. And the serum concentration of calcitonin and TGF were detected by radio-immunity and ELISA. The data were analyzed by Kaplan-Meier survival curve and Cox’s proportional hazard model. Quality of life was measured by EORTC-C30 and other scale made by ourselves.

Results

There was no statistical significance between HRT and NHRT groups in survival interval. Cox model showed that HRT is not an independent factor for prognosis. There were no statistical significance between positive expression group of ER, ERα,ERβ, PR and negative expression group of them for survival interval. The serum concentration of TGF had no statistical significance between HRT and NHRT groups whether pre, post surgery, or half to one year after surgery. The serum calcitonin concentration of NHRT group is higher than HRT group. For HRT group, there’s no statistical significance for serum calcitonin concentration pre and post surgery. HRT could improve quality of life.

Conclusion

HRT has no detrimental effects on patients. HRT maybe stabilize calcitonin concentration in serum and improve quality of life. TGF concentration and ER, ERα,ERβ, PR expression have no association with prognosis.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0180

POSTOPERATIVE RECOVERY AFTER ABDOMINAL SURGERY FOR GYNECOLOGIC MALIGNANCY WITH INTRATHECAL MORPHINE OR EPIDURAL ANALGESIA. A RANDOMIZED TRIAL

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Aims

To determine whether the use of regional analgesia with intrathecal morphine (ITM) in an enhanced recovery program (ERAS) gives a shorter duration of hospital stay with a similar health-related quality of life (QoL) to epidural analgesia (EDA) in women after laparotomy for proven or assumed gynecological malignant tumors.

Method

An open-label, randomized, controlled single center study. Eighty women undergoing midline laparotomy for proven or assumed gynecological malignant tumors were included. ERAS with standardized perioperative routines including a standardized general anesthesia was used. The allocated treatment (ITM or EDA) was applied immediately preoperatively. The ITM group received morphine, clonidine and bupivacaine intrathecally; the EDA group an epidural infusion of bupivacaine, adrenalin and fentanyl.

Results

The length of hospital stay did not differ between the groups (median 3.3 vs. 4.3 days) but the time to meet the standardized discharge criteria was significantly shorter for the ITM group (3.0 vs. 4.0 days). Significantly, more women allocated to ITM were discharged on day 3, 62.5% vs. 30%. The ITM group used significantly less opioids whereas no differences were observed in pain assessment or QoL. No serious adverse events were attributed to the ITM or EDA.

Conclusion

Compared with EDA, ITM reduces the duration of hospital stay and the opioid consumption postoperatively with an equally good pain alleviation and QoL. ITM is even effective as EDA for postoperative analgesia in gynecological cancer surgery and is easier to administer.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0784

CONSERVATIVE TREATMENT OF POSTOPERATIVE CHYLOUS ASCITES IN GYNECOLOGIC CANCER SURGERIES.
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Aims

This study aimed to evaluate the efficacy of conservative treatment with the formula for postoperative chylous ascites in patients with gynecologic surgeries.

Method

We retrospectively analyzed 107 patients who underwent pelvic and/or para-aortic lymphadenectomy for gynecologic malignancies at Ulsan University Hospital from March 2011 to February 2013.

Results

The 107 cases consisted of 41 cervical cancers, 24 endometrial cancers, 34 ovarian cancers, and eight other cancers. Among the 107 cases, 81 patients underwent pelvic and para-aortic lymphadenectomy, 23 patients underwent pelvic lymphadenectomy without para-aortic lymphadenectomy, and three patients underwent only para-aortic lymphadenectomy. Postoperative chylous ascites occurred in 13/81 of patients who received pelvic and para-aortic lymphadenectomy, in 2/3 patients who received only para-aortic lymphadenectomy, and none of the patients who received only pelvic lymphadenectomy.

The average age of the patients was 55.8 yr. The mean time interval between the operation and the appearance of chylous ascites was 2.8 days (range, 2–5 days). All cases of postoperative chylous ascites were treated with the conservative treatment with our department formula. The cure rate of chylous ascites with the conservative therapy was 100%. None of the cases had recurrent chylous ascites during follow-up.

Conclusion

In gynecologic surgeries, para-aortic lymphadenectomy induced postoperative chylous ascites could be treated in high cure rate by the formula of effective conservative strategy.
TRANSLATIONAL RESEARCH

ESGO7-1011

IMPACT ON SURVIVAL OF INTEGRATIVE SYSTEMIC AND LOCAL METABOLOMICS IN HIGH-GRADE SEROUS OVARIAN CANCER

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Aims

Little is known about how and wherefrom cancer cells get fuel, building blocks, and reducing equivalents for their increased cell growth and division.

Method

Targeted metabolomics of preoperative and follow-up sera, ascites, and tumor tissues, RNA sequencing of isolated tumor cells, local and systemic chemokine, and local immune cell infiltration data from up to 65 high-grade serous ovarian cancer patients and 62 healthy controls were correlated to overall survival and integrated in a Systems Medicine manner.

Results

43 mainly (poly)unsaturated glycerophospholipids and 4 essential amino acids (citrulline) were significantly reduced in patients with short survival. The glycerophospholipid fingerprint is identical to the fingerprint from isolated (very)low-density lipoproteins (vLDL), indicating that the source of glycerophospholipids consumed by tumors is (v)LDL. A glycerophospholipid-score (HR0.46; P=0.007) and a 100-gene signature (HR0.65; P=0.004) confirmed the independent impact on survival in training (n=65) and validation (n=165) cohorts. High concentrations of LDLS and glycerophospholipids were independent predictors for favorable survival. Patients with low glycerophospholipids presented with less adaptive immune cell tumor infiltration, less oxygenic respiration and increased triglyceride biosynthesis in tumor cells, and lower histone expressions, correlating with higher numbers of expressed genes and more transcriptional noise - a putative neo-pluripotent tumor cell phenotype.

Conclusion

Low serum phospholipids and essential amino acids are correlated with worse outcome in ovarian cancer, accompanied by a specific tumor cell phenotype (figure.1).
MYELOID DERIVED SUPPRESSOR CELLS (MDSC) DETERMINE OUTCOME IN OVARIAN CANCER.

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Aims

Immunotherapy trials in ovarian cancer have so far yielded poor results, possibly due to severe immunosuppression. Macrophages are abundant in ovarian cancer (OC) and a predominance of M2 macrophages is correlated with poor survival. Clodronate Liposomes (CL) are a commonly used drug, which effectively depletes macrophages.

Method

Tumorbearing ID8-fLuc-C57BL/6 and ID8-fLuc-Rag1tm1Mom mice were treated with weekly CL. Immune-monitoring on ascites was performed by fluorescent activated cell sorting (FACS). Furthermore peripheral blood mononuclear cells were collected prospectively in 39 patients at diagnosis of OC.

Results

Mice treated with CL died significantly faster compared to immunocompetent mice (p=0.004), whereas the survival was not altered in mice lacking T- and B-cells (Rag1tm1Mom). After treatment with CL, macrophages were nearly absent. There were no significant changes in T- and B-cell populations. After treatment with CL, monocytic myeloid derived suppressor cells (mMDSC) (CD11b+Ly6CHi) increased significantly (p=0.004), whereas granulocytic MDSC (CD11b+Ly6C-Ly6GHi) decreased. In patient samples, we observed a decrease in progression free survival in patients with a high number of mMDSC (CD11b+HLA- DR-CD14+) (17.5 vs 20 months).

Conclusion

In OC mice the absence of adaptive immune system did not influence survival. Depletion of macrophages by CL significantly reduced survival in tumorbearing mice. This could be explained by a significant rise in mMDSC in mice. The increase was also observed in patients with OC. Our research demonstrates for the first time a prominent role for mMDSC as the driver of immunosuppression in OC, which is a new concept in the field of OC.
CLINICAL RELEVANCE OF CIRCULATING TUMOR CELLS IN OVARIAN, FALLOPIAN TUBE AND PERITONEAL CANCER

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Aims

Presence of circulating tumor cells (CTCs) is associated with impaired clinical outcome in a variety of cancers. Limited data are available on the significance of CTCs in gynaecological malignancies. Aims of the present study were to evaluate the dynamics of CTCs in patients with ovarian, fallopian tube and peritoneal cancer during chemotherapy and to assess the clinical relevance of these changes.

Method

50 patients with ovarian (n=40), fallopian tube (n=5) and peritoneal (n=5) cancer were included. All patients received chemotherapy in the first-line setting (n=25) or tumor recurrence (n=25). CTC analysis was performed prior to chemotherapy, after three and six cycles and analysed using CellSearch.

Results

26 patients had at least one CTC/7.5ml blood at baseline. Positivity rate was 18% in patients with first-line setting and 35% in those with tumor recurrence (p=0.216). Presence of CTCs was not correlated with other prognostic factors, such as the FIGO stage, nodal status, or grading. CTC positivity declined to 5% after three cycles of cytotoxic therapy and no patient was CTC positive after 6 cycles of chemotherapy. 15 patients died during follow-up. Patients with CTCs at baseline had significantly shorter overall survival compared with CTC negative patients (p=0.014; median OS 3.1 vs. 13.4months). In the subgroup of patients with primary cancer, CTC positivity was significantly associated with OS in univariate analysis (p=0.046).

Conclusion

Hematogenous dissemination is a common phenomenon in ovarian, fallopian tube and peritoneal cancer. Patients with CTCs at time of diagnosis are more likely to die than those who are CTC-negative at baseline.
Aims

A randomized multicenter controlled study showed a significant benefit of front line carboplatin paclitaxel oregovomab (CIT) relative to carboplatin/paclitaxel (SOC) in optimally debulked ovarian cancer (Ferrandina G, ASCO Proceedings 2017). The present study evaluated peripheral blood for immune correlates.

Method

97 FIGO 3/4 ovarian cancer patients (CA125 >50U) were randomized to 6-cycles SOC with or without addition of oregovomab 2mg IV at cycle 1, 3, and 5 and cycle 5+12 weeks. Peripheral blood mononuclear cells were evaluated at baseline, cycle 5, and cycle 5+13 weeks. Patients were followed for disease progression and survival. Immune cell populations and CA125-specific IFN-γ producing CD8+ T cells (sensitized using autologous dendritic cells loaded with oregovomab/CA-125 immune complexes) were evaluated by flow cytometry.

Results

CIT (N=47) prolonged relapse free survival (RFS) relative to SOC (N=50) (median RFS: N.E. [21.3, N.E.] vs 15.4 m [10.9,19.3] p=0.0009 log rank). Early survival data is consistent with RFS. Safety/toxicity was similar in both arms. CIT increased percentage and absolute cell count of CA125-specific IFN-γ producing CD8+ T cells (p=0.01 and p=0.02, respectively) at cycle 5. The neutrophil-monocyte/lymphocyte ratio (NMLR) cutoff 3.612 at baseline predicted outcome in the CIT population with HR 9.75 (p<0.001).

Conclusion

Peripheral blood analyses of patients on SOC and CIT indicate that appearance of treatment-emergent CA-125 specific IFN-γ producing CD8+ T cells is associated with treatment efficacy and that baseline NMLR is useful as a predictive marker for clinical response.
PRECLINICAL EVALUATION OF A NOVEL ALPHA-PARTICLE EMITTING THERAPEUTIC AGENT FOR SELECTIVE INTRAPERITONEAL THERAPY OF PERITONEAL METASTASES

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Aims

Intraperitoneal radionuclide therapy with β-emitting 32P-colloid has been previously used in treatment of ovarian cancer. It was then shown to be as effective as adjuvant cisplatin therapy for some groups of patients, but late bowel complications occurred more frequently, most likely caused by a combination of long half-life and several millimeters range of electrons from 32P. We have developed a composition of a microparticle and an α-emitting radionuclide, with a considerable shorter range in tissues, specifically designed for local treatment of peritoneal carcinomatosis. Biocompatible microparticles, with no antigen-targeting, act as carriers for the α-emitter 224Ra. This novel α-radiation therapy has a range in tissue of less than 100 µm and is designed to confine the zone of radiation exposure to the intraperitoneal cavity including peritoneal surfaces and liquid volumes. The therapeutic efficacy and safety of the 224Ra-microparticles in murine models are presented.

Method

Radium-224 loaded onto calcium carbonate microparticles was evaluated in immunodeficient athymic nude mice inoculated with human ovarian cancer cells in the peritoneal cavity. Different activities of 224Ra-microparticles were administered intraperitoneally. Tumor growth, survival and tolerance of the treatment were assessed.

Results

Intraperitoneal treatment with 224Ra-microparticles resulted in considerable survival benefit. An advantageous discovery was that only a few kilobecquerels per mouse were needed to yield therapeutic effects. The treatment was well-tolerated up to doses of 1000 kBq/kg and no clinical signs of toxicity were observed.

Conclusion

Intraperitoneal α-therapy with 224Ra-microparticles demonstrated a significant potential for treatment of residual microscopic intraperitoneal disease with a very promising safety profile.
TARGETED PROTEOMICS IDENTIFIES PROTEOMIC SIGNATURES IN LIQUID-BIOPSIES OF THE ENDOMETRIUM TO DIAGNOSE ENDOMETRIAL CANCER AND ASSIST IN THE PREDICTION OF THE OPTIMAL SURGICAL TREATMENT


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Aims

Endometrial cancer (EC) diagnosis relies on the observation of tumor cells in endometrial biopsies obtained by aspiration (i.e., uterine aspirates), but it is associated with 22% undiagnosed patients and up to 50% of incorrectly assigned EC histotype and grade. We aimed to identify biomarker signatures in the fluid uterine aspirates to overcome these limitations.

Method

The levels of 52 proteins were measured in the fluid fraction of uterine aspirates from two independent cohorts of patients of 38 and 116 patients by LC-PRM, the latest generation of targeted mass-spectrometry acquisition. A logistic regression model was used to assess the power of protein panels to differentiate between EC and non-EC patients and between EC histological subtypes. The robustness of the panels was assessed by the "leave-one-out" cross-validation procedure performed in the cohort of 116 patients and 38 patients.

Results

The levels of 28 proteins were significantly higher in EC patients (n=69) compared to controls (n=47). The combination of MMP9 and KPYM exhibited 94% sensitivity and 87% specificity for detecting EC cases. This panel perfectly complemented the standard diagnosis, achieving 100% of correct diagnosis in this dataset. Nine proteins were significantly increased in endometrioid EC (n=49) compared to serous EC (n=20). The combination of CTNB1, XPO2 and CAPG achieved 95% sensitivity and 96% specificity for the discrimination of these subtypes.

Conclusion

We developed uterine aspirate-based signatures to diagnose EC and classify tumors in the most prevalent histological subtypes. This will improve diagnosis and assist in the prediction of the optimal surgical treatment.
LONG-TERM FOLLOW-UP AFTER SENTINEL LYMPH NODE BIOPSY IN EARLY-STAGE VULVAR CANCER

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Aims

To evaluate the long-term follow-up in patients with early-stage vulvar cancer undergoing sentinel lymph node biopsy (SLNB).

Method

Retrospective cohort study performed in patients with squamous cell vulvar cancer ≤ 4 cm without suspected inguinofemoral lymph node metastases admitted to our center from June 1998 to July 2004 who underwent SLNB. Complete inguinofemoral lymphadenectomy was performed when SLNB was positive intraoperatively or non-detected. In midline tumors with unilateral drainage complete lymphadenectomy of the opposite side was performed. Adjuvant radiotherapy or re-excision was applied if margins were affected in histological examination. Only patients without lymph node metastases assessed by only SLNB were considered.

In order to compare the recurrence rate and disease-specific 10-year survival this cohort was compared to another cohort without lymph node metastases assessed by inguinofemoral lymphadenectomy, sharing both groups the same tumor’s characteristics and adjuvant treatment.

Results

Thirty patients had negative lymph node after performing SLNB and 51 after lymphadenectomy. The median follow-up was 62.8 months (range 2.9 – 131). We observed no significant differences in recurrence rates between patients with negative SLNB and negative lymphadenectomy (43.3% vs 51%, p=0.646) as well as in the disease-specific 10-year survival rate (76.7% vs. 84.3%, p=0.394). The location of first recurrence in negative SLNB were in 33.3%, 6.7% and 3.3% of patients, local, groin and distant recurrence respectively, being in negative lymphadenectomy 45.1%, 5.9% and 0 respectively, being these differences not significant (p=0.441).

Conclusion

SLNB seems to be, in oncological terms, as safe as inguinofemoral lymphadenectomy to assess lymph node status in early-stage vulvar cancer.
VAGINAL AND VULVAR CANCER

ESGO7-1040

SENTINEL LYMPH NODE MAPPING FOR VULVAL CANCER: PRIOR WIDE LOCAL EXCISION DOES NOT IMPAIR NODAL MAPPING.
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Aims

To determine the performance of sentinel lymph node (SLN) mapping technique in staging vulval cancer in women who have undergone an earlier wide local excision (WLE).

Method

Since 2005, women with vulval cancer of stage 1B or greater have undergone central surgery with SLN mapping. We have performed SLN mapping with the combined technique using Tc-99m colloid and methylene blue dye. Patients had preoperative SPEC/CT. If patients presented with clinically suspicious nodes, these nodes were debulked and subsequently treated with radiotherapy +/- chemotherapy. If the SLN was negative, then the specimen was ultra-staged by a single pathologist.

Results

Median age was 67 years and the median body mass index was 28.6. In our study of 32 patients both the SPEC/CT and gamma probe identified SLN in 100% of patients. Methylene blue identified SLN in 97% of cases. 21 patients had stage 1B disease, 4 had stage 2 and 7 had stage 3 cancer. 90% were diagnosed with squamous cell cancer. Median size of the lesion was 15 mm and depth of invasion was 2.5 mm. LVSI present in 28% of cases. LN were positive in 25% cases. The median number of SLN in central tumours was 1 per LN basin and in lateral tumours, it was 2. False negative rate was 3.1%

Conclusion

SLN is a feasible and safe technique even in those who have had prior WLE.
VAGINAL AND VULVAR CANCER

ESGO7-0945

18F-FDG PET/CT IN PREOPERATIVE NODAL STAGING OF VULVAR CANCER PATIENTS: IS IT REALLY NEEDED?

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Aims

Aim of this study was to assess the role of PET/CT in nodal staging of vulvar cancer patients.

Method

29 pts (68 years; range 51–83) with vulvar cancer (clinical stage I-II), underwent preoperative FDG-PET/CT scan followed by radical vulvectomy and bilateral (or monolateral in case of tumour >2 cm from midline) inguinal lymphadenectomy or sentinel node biopsy. PET/CT images were analyzed by three examiners in consensus and correlated to histological findings according to a pt-based and a groin-based analyses. SUVmax of the nodal uptake of each inguinal area (if present) has been calculated and correlated to histological findings.

Results

PET/CT analysis in consensus resulted negative at inguinal LN level in 18 pts (10 TN, 8 FN) and positive in 11 pts (6 TP, 5 FP). Incidence of LN metastases resulted 48%. On pt-based analysis, sensitivity, specificity, accuracy, negative and positive predictive value of PET/CT in detecting LN metastases were 43%, 67%, 55%, 55%, 56%. On a groin-based analysis, considering overall 50 LN sites, sensitivity, specificity, accuracy, negative and positive predictive value of PET/CT were 53%, 85%, 73%, 67%, 76% respectively. The mean value of SUVmax was 4.1 (range 0.7–9.3) for metastatic nodes, whereas 1.6 (range 0.7 – 5.4) for reactive/negative lymph-nodes (p=0.0005).

Conclusion

In vulvar cancer FDG PET/CT showed low sensitivity and moderate specificity for lymph node staging, therefore it is not an accurate tool for the nodal status assessment.
VAGINAL AND VULVAR CANCER

ESGO7-1009

V-Y ADVANCEMENT FLAP VERSUS LOTUS PETAL FLAP FOR PLASTIC RECONSTRUCTION AFTER SURGERY IN CASE OF VULVAR MALIGNANCIES: A RETROSPECTIVE SINGLE CENTER ITALIAN EXPERIENCE.

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Aims

This study retrospectively reviewed patients with primary or recurrent vulvar malignancies that had undergone vulvoperineal reconstruction using the V-Y advancement flap and the two variant of the lotus petal flap (LPF) in terms of surgical outcome and postoperative complications.

Method

Between 2000 and 2016, 234 women operated at San Gerardo Hospital in Monza were included in the study. 128 of them having undergone V-Y flap, whereas 106 underwent LPF (58), or it tunneled variant (48). Overall, 365 flaps were harvested (214: 59% V-Y; 151: 41% LPF). Two hundred and sixty-two (262) flaps were bilateral, (47% V-Y, 24% LPF) whereas 103 flaps were monolateral (11% V-Y, 17% LPF).

Results

The average length of follow-up was 84 months (range, 6 - 180 months). Overall, postoperative complications occurred in 21.5% of patients including 27/128 (21%) of the V-Y group and in 14/106 (13%) of the LPF group. No statistically differences were recorded in terms of complications between the groups when comparing V-Y and LPF’s overall (p=0.588), or by comparing the primary (p=0.202), or the recurrent setting (p=0.281). Site of recurrence are listed in table 3. No statistically difference were found between the groups overall (p=0.974), or when comparing the primary (p=0.873), or the recurrent setting (p=0.971).

Conclusion

V-Y flap and the LPF represent two feasible techniques for vulvoperineal reconstruction after surgery for primary or recurrent vulvar malignancies. The associated rates of complications are reasonable for both procedures. LPF represents the treatment of choice in our department for vulvar reconstruction producing the best aesthetic and functional results.

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Aims

Inguinal radiotherapy with or without concomitant chemotherapy is considered standard for patients who have had wide local excision and inguinal lymphadenectomy, and are found to be node positive.

We were interested in outcomes, toxicity and patterns of failure in this group of patients.

Method

We analysed our databases for patients who had received adjuvant (chemo)radiotherapy to inguinal nodes either unilateral or bilateral. We queried our systems (Aria and Chemocare) and collected patients from 1st January 2007 to 1st September 2015. Further details on patients were collected through case notes, Clinical Portal, SCI Store and Trakcare.

Results

We found 21 patients that fulfilled the above criteria, median age 66 yrs (range 28-84 years). Sixteen patients (76%) had concomitant chemoradiotherapy. Dose of radiotherapy was 50Gy in 60% of the total cohort. About 30% of patients had grade 3 tumours and lymphovascular space invasion (LVSI) was seen in 66%.

Lymphoedema was the only late toxicity, observed in 24% of patients. There was no bowel or bladder related toxicity beyond Grade 1.

Just over half the patients are alive and disease free after a median follow up of 18 months. The median follow up for those who are disease free is 30 months.

Seven patients out of the total of 10 with any relapse, and all patients who had a distant relapse, had LVSI in their initial specimen.

Conclusion

Our results show that chemo-radiation to the inguino-femoral region is well tolerated. LVSI is a strong predictor for relapse.
A COMPARATIVE STUDY OF VIDEO ENDOSCOPIC INGUINAL LYMPHADENECTOMY AND CONVENTIONAL OPEN INGUINAL LYMPHADENECTOMY IN TREATING VULVAR CANCER

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Aims

To compare the complications, oncological outcomes, cosmetic satisfaction and quality of life between video endoscopic inguinal lymphadenectomy (VEIL) and conventional open inguinal lymphadenectomy (COIL) in women with vulvar cancer.

Method

Patients with vulvar cancer who underwent COIL (n=27) or VEIL (n=21) in our hospital between 2003 and 2016 were included in this retrospective cohort study. The perioperative data, postoperative complications, oncological outcomes, cosmetic satisfaction and quality of life between COIL and VEIL groups were compared.

Results

20 patients (74.1%) in COIL group and 19 patients (90.5%) in VEIL group returned for their follow-up after the operation. The median follow-up time was 73 months (8-162 months) for the COIL group and 28 months (8-58 months) for the VEIL group. The inguinal lymph node yield in the VEIL group was comparable with that in the COIL group (15±5 VS 18±6, P=0.058). The VEIL group had similar recurrence rate and death rate with the COIL group. The wound complication rate is significantly lower in the VEIL group than that in the COIL group. The VEIL group had higher body image scores (16.27 ± 1.20 VS 13.16 ± 0.87, P < 0.0001) and cosmetic scores (20.13 ± 0.98 VS 16.92 ± 0.72, P < 0.0001) than the COIL group. The patients in the VEIL group had a higher life quality scores by the FACT-V questionnaire than those in the COIL group (165.9±6.3 VS 160.5±6.0, P=0.026).

Conclusion

Comparing with conventional open inguinal lymphadenectomy, video endoscopic inguinal lymphadenectomy can effectively reduce the postoperative wound complications, improve patients’ cosmetic satisfaction and life quality without compromising the therapeutic efficacy.
IMPLICATION OF HISTOLOGICAL TUMOR-FREE MARGIN (hTFM) AND RE-EXCISION ON SURVIVAL IN PRIMARY VULVAR CANCER WITH ADJACENT VULVAR INTRAEPITHELIAL NEOPLASIA (VIN III)  
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Aims

hTFM in vulvar cancer is an important prognostic factor. Ideally, a diameter of >8mm should be achieved after primary surgery. The role of VIN III persistence after primary surgery is still unclear. The main objective of the current study was to compare differences in disease free survival among patients with different hTFM and the role VIN III re-excision in primary vulvar cancer.

Method

Forty-one patients with remaining VIN III after primary surgery for vulvar cancer which were operated between 1996 and 2016 in our clinic were enrolled in this retrospective study. Re-excision rates for VIN III were calculated. According to the histological margin patients were divided into three group: <3mm, 3-8mm and >8mm. Univariate and multivariate survival analyses were conducted using the Kaplan-Meier method and Cox proportional hazards models, respectively.

Results

The vast majority of patients had pT1b stage (58.5%), grading G2 (70.7%) and node-negative (78.0%) disease at first diagnosis. The re-excision rate was 56.0% (23 cases). The 5-year disease-free survival (PFS) rates in patients with <3mm, 3-8mm and >8mm hTFM were 50.0%, 60.0% and 82.6%, respectively (p=0.05). The 5-year PFS rates in patients with re-excision and without re-excision for VIN III were 78.3 and 61.1%, respectively (p=0.17). Histological margin >8mm and node-positive disease were the only independent factors for PFS in multivariate analysis (p=0.01 and p=0.02, respectively).

Conclusion

hTFM is a potential prognostic indicator for PFS in vulvar cancer patients. Re-excision for VIN III could not carry any additional benefit on PFS after primary surgery.
VAGINAL AND VULVAR CANCER

ESGO7-0347

VULVAR CANCER: TWO PATHWAYS WITH DIFFERENT LOCALIZATION AND PROGNOSIS

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Aims

Two etiologic pathways for vulvar squamous cell carcinoma (SCC) are described: in a background of lichen sclerosus and/or differentiated vulvar intraepithelial neoplasia and related to high-risk human papillomavirus (HPV) infection with high grade squamous intraepithelial lesion (HSIL) as precursor. The aim was to compare the predilection site and survival of HPV-related to non HPV-related vulvar SCCs.

Method

Data of patients treated for primary vulvar SCC at the Radboudumc between March 1988 and January 2015 were analyzed. All histological specimens were tested for HPV with the SPF10/DEIA/LiPA25 system assay and p16INK4a staining was performed using CINtec® histology kit. Vulvar SCCs were considered HPV-related in case of either >25% p16INK4a expression and HPV positivity or >25% p16INK4a expression and HSIL next to the tumour. Tumour localization, disease specific survival (DSS), disease free survival (DFS) and overall survival (OS) of patients with HPV-related and non HPV-related vulvar SCC were compared.

Results

In total 318 patients were included: 55 (17%) had HPV-related (Group 1) and 263 (83%) had non HPV-related vulvar SCC (Group 2). The tumours in Group 1 were significantly more often located at the perineum compared to Group 2, 30% and 14%, respectively (p = 0.001). The DSS, DFS and OS were significantly better in HPV-related than in non HPV-related vulvar SCC patients.

Conclusion

HPV-related vulvar SCCs are more frequently located at the perineum and have a favourable prognosis compared to non HPV-related vulvar SCCs. Both localization and the HPV relation could explain this favourable prognosis. HPV-related vulvar SCC seems to be a separate entity.
VAGINAL AND VULVAR CANCER

ESGO7-0611

EVALUATION OF RISK FACTORS FOR WOUND BREAKDOWN AFTER INGUINAL LYMPH NODE DISSECTION IN VULVAR CANCER

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Aims

The aim of this study was to evaluate risk factors for wound complications after inguinal lymph node dissection in patients with vulvar cancer.

Method

We retrospectively identified all patients with Vulvar Cancer treated at the Medical University of Vienna between 1995 and 2015. Clinical data including age, type of operation, number of resected lymphnodes and lymphnodestatus, drainage, use of antibiotics, body mass index (BMI), co morbidities and postoperative morbidities e.g. cellulitis, wound breakdown, lymphcyst formation and lymphedema were obtained by chart review. Statistical calculations were performed using chi- square test and logistic regression analysis.

Results

147 patients and a total number of 254 groin operations were enrolled in this study. 107 patients had bilateral, 40 patients unilateral groin node dissection. The mean age was 69.5 (SD 13.0). 156 (61.4%) cases were performed as complete inguinal lymphadenectomy, 98 (38.6%) cases as sentinel node biopsies. The mean BMI was 27.6 (SD 5.8). 22 patients (8.7%) developed wound breakdown and 53 patients (20.1%) lymph cysts. Univariat analysis showed BMI >30 (p=0.004) and more than five resected lymph nodes (p=0.04) significantly correlated with wound breakdown. In multivariate analysis BMI >30 (OR 5.0 [1.6-16.0], p=0.006), diabetes (OR 3.7 [1.4-10.1], p= 0.01) and more than five resected lymph nodes (OR 4.1 [1.5-11.1], p=0.005) were shown as independent risk factors for postoperative wound breakdown.

Conclusion

Wound breakdown is a frequently seen complication after inguinal lymph node dissection. Obesity, diabetes and an extended number of removed lymph nodes were shown to be independent risk factors for developing wound complications.
VAGINAL AND VULVAR CANCER

ESGO7-0364

ONCOPLASTIC TECHNIQUES IN VULVAR CANCER: INDICATIONS FOR TRANSPOSITION FLAPS

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Aims

Describe the surgical technique of transposition flaps, among the different types of flaps in vulvar reconstruction.

Method

Retrospective study of 23 cases of vulvar cancer diagnosed between April 2008 and July 2016. We present the surgical technique: transposition flaps with surgical images and diagrams that make understandable the design and the displacement of the flap.

Results

Limberg flap is very useful by allowing transpose woven from 4 different adjacent zones. It is designed with a geometric basis and are transposing the estetic-functional or loose skin that we choose the possible 4. The design consists of drawing a diamond containing tumor with angles of 60° and 120°. From one of the two angles of 120 degrees is projected an incision of length same to the distance between those angles of 120° and, from here, we can orient to one or other side according to the anatomical area and the distensibility of the skin, through another incision parallel and equal in length to the side of the rhombus. We present an example to cover the area dehiscent after radical vulvectomy and inguinal bilateral lymphadenectomy in patient with vulvar cancer stage pTII pN0 M0 (0/19).

Dufourmentel flap is used for rhomboid defects, is but its angles are 60 degrees, but oscillating between 60-90°. We present images of inguinal node metastases lymphadenectomy treated for squamous cell vulvar cancer, stage IIA1 (pN0/9) M0.

Conclusion

Transposition flaps allow excellent coverage in recurrences with big defects of vulvar cancer, with an optimal morpho-functional reconstruction.
VAGINAL AND VULVAR CANCER

ESG07-0356

IMPROVING THE ONCOLOGIC OUTCOMES. ONCOPLASTIC TECHNIQUES IN THE TREATMENT OF VULVAR CANCER.

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Aims

To study of outcomes and complications of the oncoplastic techniques in reconstructive surgery for vulvar cancer.

Method

Retrospective study of 23 cases of vulvar cancer. 15 cases were treated through radical vulvectomy (8), hemivulvectomy (5) and expanded lumpectomy (2). Arise with images and diagrams the technical realization of flaps fasciocutaneos, local or neighborhood, with vascular pattern axial and randomized, described according to the type of mobilization performed. Surgical variables, complications and disease-free survival (DFS) and overall survival (OS) were assessed using Kaplan-Meier survival curves and a multivariate analysis.

Results

Oncoplastic techniques for reconstruction were performed in 13 cases (86.6%). The mean age was 76.9 years, 87% of the tumors was squamous cell type and the most frequent stage was IIIA1 (26.1%), followed by stages IB and II (21.7%). The most commonly used flaps were transposition flap of interpolation, straight inner flap, flap of Martius and flaps of progress (V-Y, Z). Bilateral inguinal lymphadenectomy was performed in 9 cases and homolateral in 3 cases, with a mean removed lymph nodes of 12.8. Mean operative time was 219.6 minutes and mean blood loss was 1012 ml. There were no major complications: 3 patients had dehiscence, 1 case presented necrotizing fasciitis and another case of flap necrosis. 6 patients required re-intervention (26.1%). OS was 35,7% and DFS was 22,1% at 3 years.

Conclusion

Fasciocutaneos flaps allow a proper morpho-functional reconstruction and good local sensitivity. A protocol of perioperative management is essential to reduce the rate of complications.
VAGINAL AND VULVAR CANCER

ESGO7-1333

GENOMIC CHARACTERISATION OF VULVAR (PRE)CANCERS IDENTIFIES DISTINCT MOLECULAR SUBTYPES WITH PROGNOSTIC SIGNIFICANCE

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Aims

Vulvar cancers (VC) are classified on the presence of human papilloma virus (HPV). HPV- VC are associated with TP53 mutations, but little is known about other genetic alterations. In an effort to further delineate the molecular landscape of VC, we comprehensively assessed somatic mutations in a large series of vulvar (pre)cancers.

Method

We performed targeted next generation sequencing (17 genes), p53 immunohistochemistry and HPV testing on 36 VC and 82 precursors. Subsequently, the prognostic significance of HPV and p53 status was assessed in a series of 236 VC patients (follow-up cohort).

Results

Frequent recurrent mutations were identified in HPV- VC and precursors in TP53 (42% and 68%, respectively), NOTCH1 (28% and 39%, respectively) and HRAS (20% and 32%, respectively). Mutation frequency in HPV+ vulvar (pre)cancers was significantly lower (p-value = 0.001). Furthermore, a substantial subset of the HPV- precursors (35/60, 58.3%) and VCs (9/28, 32%) were TP53 wildtype, suggesting a third molecular subtype. Clinical outcomes in the 3 different groups (HPV+, HPV-/p53-WT, HPV-/p53-abn) were evaluated in the follow-up cohort. Local recurrence rate was 5.3% for the HPV+ patients, 16.3% for HPV-/p53-wt patients and 22.6% for HPV-/p53-abn patients (p=0.044). HPV positivity remained an independent prognostic factor for favourable outcome in multivariable analysis (p=0.020).

Conclusion

HPV- and HPV+ vulvar (pre)cancers display striking differences in somatic mutation patterns. HPV-/p53wt VC appear to be a distinct clinicopathologic subgroup with frequent NOTCH1 mutations. HPV+ VC have a significant lower local recurrence rate, independent of clinicopathological variables, opening opportunities for future studies on possible reduction of overtreatment in VC.
BREAST CANCER II

ESGO7-0097

STROMAL B7-H3 AND B7-H4 EXPRESSION CORRELATIONS WITH TUMOR PROGRESSION AND T-CELL INFILTRATION IN PHYLLODES TUMOR OF THE BREAST

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Aims

The aberrant expression of co-inhibitory B7 molecules, B7-H3 and B7-H4, in the tumor microenvironment has been attributed to reduced anti-tumor immunity and immune evasion, prompting the development of immunotherapeutic approaches. This study was undertaken to detect the expression of B7-H3 and B7-H4 in phyllodes tumors (PTs) and its association with the grade and clinical behavior of PTs. In addition, the association of B7-H3 and B7-H4 with the CD3 and CD8+ T lymphocytes was also assessed to investigate their roles in the regulation of tumor immune surveillance.

Method

Immunohistochemistry was applied to examine the expressions of B7-H3, B7-H4, CD3, and CD8 in 60 benign, 26 borderline, and 15 malignant PTs.

Results

Stromal high B7-H3 and B7-H4 expression was noted in 31 (51.7 %) and 0 (0 %) of 60 benign PTs, 20 (76.9 %) and 2 (7.7 %) of 26 borderline PTs, and 13 (86.7 %) and 9 (20.0 %) of 15 malignant PTs, respectively. Stromal B7-H3 and B7-H4 expression increased continuously as PTs progress from benign through borderline to malignant PTs, respectively ($P = 0.003$ and $P = 0.001$). The recurrence rate was higher in the stromal high B7-H3 or B7-H4 expression group than in the low expression group but this difference was not statistically significant. B7-H3 expression inversely correlated with the intensity of CD3 and CD8+ T cells ($P = 0.001$ and $P = 0.027$, respectively).

Conclusion

B7-H3 and B7-H4 are involved in the progression of PTs and B7-H3 may play a role in immune surveillance mechanisms of PTs.
BREAST CANCER II

USE OF UNDERARM COSMETIC PRODUCTS AND BREAST CANCER: A CASE-CONTROL STUDY


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Aims

We conducted a 1:1 age-matched case-control study to investigate the risk for breast cancer (BC) in relation to self-reported use of underarm cosmetic products (UCPs) containing aluminium salts. Our study for the first time also included analysis of aluminium concentrations in a big series of breast tissues.

Method

Structured BC risk interviews were conducted. History of UCP use was compared between 209 BC patients (cases) and 209 age-matched healthy women (controls). Aluminium concentration was analysed in breast tissues of 100 cases and 52 controls who underwent mastectomy for BC or reduction mammoplasty for non-cancer reasons, respectively. Multivariable conditional logistic regression analysis was performed to determine relative risks, estimated as odds ratios (ORs) with 95% confidence intervals (CIs), adjusting for established BC risk factors.

Results

Case-control comparisons confirmed established risk factors for BC. Self-reported use of UCP was significantly associated with an increased risk of BC (p=0.036). BC risk increased by an OR of 3.88 (95% CI 1.03-14.66) in women who reported using UCP's more than once daily starting at an age <30. Aluminium in breast tissue was significantly associated to self-reported UCP use (p=0.003) in both cases and controls. Median (interquartile) aluminium concentration was significantly higher (p<0.001) in cases than in controls (5.8, 2.3-13.1 versus 3.8, 2.5-5.8 nmol/g).

Conclusion

Frequent use of UCPs may lead to accumulation of aluminium in breast tissue. Extensive use of UCPs particularly at young age was associated with increased risk of BC. Of note, we herein report on pure correlation analyses and not on causal links.
BREAST CANCER II

ESGO7-0459


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Aims

Diagnosis of leptomeningeal metastasis (LM) has become increasingly common because of longer survival of patients by better systemic control. However, treatment options are very limited and their appearance implies a very poor prognosis. Treatment options are intrathecal and systemic chemotherapy, radiotherapy. This report of our single center experience investigates clinical features and determines prognostic factors in a cohort of patients with breast cancer.

Method

Single center data from 43 patients with breast cancer and LM between 2009 and 2016 were retrospectively analyzed with focus on characteristics, clinical outcome and treatment.

Results

Mean interval between diagnosis of breast cancer and diagnosis of LM was 17,5 month (range 0-149 months). LM was diagnosed by MRI and cerebrospinal fluid cytology (CSF) 69,8%, MRI alone 25,6% or CSF 4,7% alone. Treatment included intrathecal therapy alone 48,8%, radiotherapy alone 20,9% or the combination of both 14%. 42% patients had triple negative (TNBC) breast cancer, 9,3 % were Her2-positive (HER2+) and 48,8 % had a hormone receptor positive and Her2-negative disease (HR+/HER2-). Median survival was 1,6 month for TNBC, 13,3 months for HER2+ and 7,4 months for HR+/HER2- disease. 58,1% died due to progression of LM und 23,3% due to systemic progression. 1 patient (Her2+) is still alive 18 months after diagnosis of LM.

Conclusion

Despite the improvement of treatment options for breast cancer within the last years, appearance of LM is still associated with a poor survival. Survival differs between subtypes. More research needs to be done to identify factors for possibly new systemic therapies that improve survival.
Aims

Based on the central role of biomarkers in planning the mammary cancer therapy, we investigated 412 cases, randomly selected, to emphasize the relationship between peritumoral lymphangiosis carcinomatosa in molecular subtypes in breast cancer and axillary lymph node metastasis.

Method

We have selected cases that are ordered under the four molecular subtypes of breast cancer. We noticed that the majority of mammary carcinoma are part of the Luminal A subtype. For this subtype we analyzed the behaviour between peritumoral carcinomatosa lymphangiosis and axillary lymph nodes.

Results

L1 status has a HIGH RISK of nodule METASTASIS (HRM)
L0 status has a LOW RISK of nodule METASTASIS (LRM) allowing that the size and biology of the tumor have favorable criteria

Conclusion

Peritumoral lymphangiosis carcinomatosa can be used as a prediction factor in a high or low risk metastasis of axillary lymph nodes, as well as a prognostic factor.

The presence of peritumoral lymphangiosis implies a direct relationship with the metastasis of lymph nodes and their increase in number.

In case of a Luminal A L0 situation we expect few axillary nodes metastasis, which makes possible to even forego the axillary dissection.
ULTRASOUND-GUIDED ONCOPLASTIC SURGERY IN NON-PALPABLE BREAST LESIONS
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Aims

To evaluate the rate of malignant margins in the oncoplastic surgery of non-palpable ultrasound-guided breast lesions.

Method

- Observational, descriptive and retrospective study. All patients diagnosed with non-palpable malignant breast lesions from October 2011 to May 2015 were included in the study. Patients with neoadjuvant therapy were also included as long as the tumor was not palpable at the time of surgery.

Results

114 patients were included. 66.6% corresponded to infiltrating ductal carcinoma, 22.8% to ductal carcinoma in situ and 10.6% to all other lesions (special and lobular carcinomas). The oncoplastic techniques used were Fisher-type tumorectomy and remodeling (52.6%), circular mammoplasty (16.6%), vertical mammoplasty (14.9%). The malignant margins rate was 7.01% (8 patients).

Conclusion

Reviewing the literature, there is still insufficient evidence to conclude that intraoperative ultrasonography in nonpalpable lesion surgery is a superior technique. Lack of randomized clinical trials are available. There is evidence to conclude that it is a simple, reproducible technique with a short learning curve and that does not generate pain to the patient. The published localization rates are around 100%. Studies should be performed comparing currently available techniques.
MAJOR HISTOCOMpatibility COMPLEX CLASS I-RELATED CHAIN A (MICA) EXPRESSION AS A MARKER FOR BREAST EPITHELIAL PRECANCEROUS AND CANCEROUS LESIONS

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Aims

To analyse the expression of MICA in various breast epithelial lesion in order to support the diagnosis of precancerous and cancerous lesions, and to gain the knowledge of breast cancer pathogenesis and the role of immune system in cancer.

Method

One hundred and six of paraffin blocks tissue samples was analysed by immunohistochemistry using monoclonal MICA antibody. Samples have been categorized histopathologically as atypical duct hyperplasia, ductal carcinoma insitu, ductal carcinoma invasive (low, moderate, and highly differentiated).

Results

there was a significant differentiation of MICA expression between atypical duct hyperplasia and invasive ductal carcinoma moderate and highly differentiated of the breast. There was as significant differentiation of MICA expression between ductal carcinoma insitu and invasive ductal carcinoma moderate and highly differentiated of breast (p < 0.05).

Conclusion

MICA expression could be used to differentiate precancerous and cancerous lesions of breast.
BREAST CANCER II

ESGO7-0900

ADDITIONAL CAVITY SHAVES MARGINS IN BREAST CANCER

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Aims

The aim of our study is to evaluate our management strategy for tumor shave in anatomopathological examination after breast-conserving surgery and discuss the role of additional re-excision margin.

Method

We undertook a retrospective review, throughout 2012, of 319 women who underwent lumpectomy with shaving margins for stage 0-III breast cancer.

At our institution, patients who had breast conservation had a lumpectomy with routine CSM with extemporaneous anatomopathological study at the time of initial surgery, associated with an axillary lymph node dissection. If CSM was tumor, the radical surgery was realized. No additional re-excision margin was performed.

Results

The median age was 50 years old. The median clinical tumor size was 30 mm. The median histological size was 20 mm. The infiltrating ductal carcinoma was the most common histological type.

All our patients underwent a lumpectomy with systematic cavity shaving. Tumor in shavings was revealed in 106 (33.2%) patients. It was discovered in extemporaneous examination in 63 (59,5%) cases. In 43(40.5%), it was revealed in the definitive anatomopathological examination and additional mastectomy was necessary. Among these patients who had radical mastectomy, the final histological examination concluded to a residual cancer in 58 (54,7%) cases.

Conclusion

Taking additional CSM at the time of lumpectomy is advocated by some as a way to decrease re-excision rates. Despite these findings, a minority of surgeons have adopted this practice.
PREOPERATIVE AXILLARY LYMPH NODE STAGING IN BREAST CANCER

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Aims

To evaluate the reliability of physical examination in predicting the axillary lymph node involvement in breast cancer, study the factors that may interfere with it and ask about the benefits of means other than the physical examination to have an accurate lymph node status.

Method

A retrospective review was performed of 730 consecutive patients diagnosed with breast carcinoma between January 2012 and December 2012 who had physical examination of the axilla. Definitive histopathological evaluation of lymph nodes has been performed for 654 patients.

Results

A total of 377 (57%) patients had one or more positive lymph nodes, 80.2% of whom were identified preoperatively by physical examination. The sensitivity of physical examination in evaluating the axillary node involvement was 80.2%. Its specificity was 46%. An underestimation was noticed for T0 and an overestimation for T1, T2, T3 and T4 tumors.

Conclusion

Physical examination is useful for preoperative axillary staging and treatment planning. Nonetheless, it is an inadequate definitive predictor of axillary lymph node involvement, especially that the examiner is not blinded to the breast tumor size which will inexorably influence his assessment.
CHAMOMILE CAN REDUCE THE METASTATIC PROPERTIES OF HUMAN BREAST CANCER CELL LINE THROUGH IMPACT ON VEGF AND MMP ENZYMES ACTIVITY

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\textsuperscript{2}Kazerun Azad University, Medical Faculty, Kazerun, Iran

Aims

Today there is a special focus on traditional medicine for preventing and treatment of diseases. Herbal medicine has the central role in the traditional medicine and there are different kinds of medicinal plants, which use for this purpose. One of these plants is chamomile. Various studies have reported the anticancer effects of this plant. In this study, the effects of hydroalcholic extract of chamomile on angiogenic factor, VEGF, and MMP enzymes activities were investigated in human breast cancer cell lines.

Method

MCF-7 and MDA-MB-468 cell lines were cultured and treated with hydroalcholic extract of chamomile. Cell viability were evaluated by using MTT assay. VEGF gene expression were analysed by Real Time PCR. Enzyme activity of MMP-2 and MMP-9 evaluated by zymography assay. Data were analyzed by one-way ANOVA in SPSS software.

Results

MTT assay on MCF-7 and MDA MB468 showed IC50 at 1000 and 1400 μg/ml respectively. At the IC50 doses, VEGF expression and secretion is reduced compared to the control by the cell lines. Treatment of MDA-MB-468 cell line with 1400 μg/ml of chamomile extract caused depletion of MMP-9 and MMP-2 enzyme activity in the cell culture medium.

Conclusion

The results show hydroalcholic extract of chamomile can reduce the expression of VEGF gene and MMP enzyme activity and so inhibit the angiogenesis progression by these cells. This study was in vitro study and must be tested in vivo by clinical approaches but the use of such these plants in daily diet may be useful for preventing and increase viability in breast cancer.
COMPLEMENTARY BREAST MAGNETIC RESONANCE IMAGING FOR TUMOR SIZE ASSESSMENT AND SURGICAL PLANNING IN WOMEN WITH EARLY BREAST CANCER

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Aims

The size and the focality of the primary tumor in breast cancer (BC) influence therapeutic decisions. The purpose of this study is to evaluate if preoperative breast magnetic resonance imaging (MRI) is helpful for the assessment of tumor size and for surgical planning in early BC.

Method

We performed a retrospective review of a prospectively collected database of 174 women with invasive BC who had a complete documentation of the tumor size from mammography (MMG), ultrasonography (US), and MRI.

Results

A total of 186 breast tumors were analyzed. The mean tumor size was different by imagistic method: 14.7 mm by MMG, 13.8 mm by US and 17.9 mm by MRI. The concordance between tumor size in breast imaging techniques (BIT) and pathology size with a cut-off +/- 2 mm was 34.8% for MRI, 32.1% for US and 27.2% for MMG. The concordance was the same in premenopausal women for MRI and US at 35%, in postmenopausal women it was higher with MRI. Correlation between size of BIT and histopathological size remain best with MRI (0.59), than US (0.56) or MMG (0.42). MRI examination revealed additional lesions in 13.8% of patients, with 69% malignancy in those lesions. MRI has change the surgical planning in 15 patients (8.6%) with increased mastectomy rate of 6.6%.

Conclusion

MRI can estimate BC size more accurately, but a significant overestimation exists. Complementary MRI examination could improve the concordance for tumor size between BIT and histopathological size with 16.5% and allowed a more appropriate treatment for 8% of patients.
PAPILLARY CARCINOMA OF MALE BREAST: AN UNCOMMON PATHOLOGY OF BREAST CANCER

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Aims

Male breast cancers constitute less than 1% of all the breast cancers. Papillary carcinoma is a very rare tumour of the male breast accounting for between 5 and 7.5% in men versus 0.5 and 2.4% in women.

The aim of this study is to investigate the clinico-pathological features and the treatments of papillary carcinoma of the breast in male.

Method

We retrospectively reviewed in this study eleven cases of papillary carcinoma of the male breast treated between 1994 and 2011 at Salah Azaiez institute.

Results

The median age at diagnostic was 65 years. The median tumor size was 45 mm. Ten patients underwent total mastectomy and one has a simple mastectomy because he was initially metastatic (lungs). Only two patients had positive lymph nodes. Hormonal receptors were positive in five cases.

Four patients were lost of sight during chemotherapy. Five patients completed adjuvant treatment involving local radiation and chemotherapy. Five had hormonal therapy. One patient had a synchrone adenosquamous carcinoma of the papilla of Vater and hepatocellular carcinoma. He was lost of sight after the abdominal surgery.

For the six remaining patients, they had a median follow up of 64 months (range 24 to 150). One developed regional recurrence, three developed metastases and one had adenocarcinoma of the stomach five years after the first cancer.

Conclusion

Papillary carcinomas have an indolent clinical course. The mainstay of treatment in these carcinomas is surgical excision. Furthermore, novel gene panels may serve as a potential decision tool in this rare entity especially in male population.
EXPRESSION DISTRIBUTION OF CANCER STEM CELL MARKER, CD44 WITHIN MOLECULAR SUB TYPES OF BREAST CARCINOMA IN INDIAN PATIENTS

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Aims

To determine cancer stem cell marker, CD44 expression in breast carcinoma and to see the association of CD44 expression with molecular subtypes

Method

N = 60 breast carcinoma patients in the Department of Surgery, LHMC were included between December 2013 till March 2015. Tru-cut biopsy was performed on cytologically proven cases. Immunohistochemistry for ER/PR/Her2/EGFR/Ki67/CK5/CD44 expression was performed.

Results

Mean age of presentation was 48.87±11.43 years. 56/60 (93.33%) were infiltrating duct carcinoma, not otherwise specified. Frequency of molecular subtypes: 13.33% Luminal A, 15.0% Luminal B, 25% Luminal Her2neu, 23.33% Her2neu Classic, 5% Basal phenotype, 18.33% non basal, normal breast like phenotype. Non basal normal breast like phenotype, Basal phenotype and Luminal Her2neu showed statistical significant correlation with age group <50 years (p=0.025). CD44 was positive (>10% positive tumor cells) in 32/60 (53.33%) cases. Significant negative statistical correlation between CD44 positive cases and ER, PR status (p=0.002 and p=0.011 respectively). The mean percentage of Ki67 positive cells in CD44 positive cases was higher (43.34%±27.43) than CD44 negative cases (33.75%±26.34) but was not significant. Significant positive CD44 correlation with Her2neu Classic and normal breast like phenotype subgroup and a significant negative CD44 correlation with Luminal A and Luminal B (p=0.016). No statistical significant correlation when CD44 positive molecular subtypes were scored 1+, 2+ and 3+ (p=0.131)

Conclusion

Higher number of CD44 positive cells in triple negative and Luminal Her2neu cases and lower in luminal subtype emphasize the tumor aggressiveness in Indian patients. CD44 can be used as independent marker and as target for development of novel therapies.
COST-EFFECTIVENESS OF BREAST CANCER SCREENING AND PREVENTION – A SYSTEMATIC REVIEW OF DECISION-ANALYTIC MODELS FOR EUROPEAN SETTINGS

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6Harvard T.H. Chan School of Public Health, Center for Health Decision Science- Department of Health Policy and Management, Boston, USA

Aims

To review cost-effectiveness studies evaluating primary and secondary prevention strategies for breast cancer in the European health care setting with specific interest on risk-adapted strategies.

Method

Relevant databases (Medline/Embase/Cochrane Library/CRD/EconLit) were systematically searched for decision-analytic modelling studies evaluating the cost-effectiveness of breast cancer screening and/or prevention strategies in the European health care context. Study characteristics, methodological details and results including the incremental cost-effectiveness ratios (ICER) in cost per quality-adjusted life years gained (QALY) or per life year gained (LYG) were extracted into standardized evidence tables. Economic results were converted to 2015 Euros using the GDP-PPP and CPI.

Results

Twenty five studies evaluating breast cancer screening and two studies evaluating breast cancer prevention strategies were included. The studies varied in terms of target population and evaluated strategies, time horizon, discount rate, and perspective. Among the screening studies, only one considered a risk-adapted screening approach. In all studies the ICERs of currently established breast cancer screening strategies, like biennial or triennial mammography screening age 50-70, fall far below 30,000 Euros/QALY or LYG, which is considered to be cost-effective in most European countries. Prevention studies considered women at high risk for breast and ovarian cancer evaluating prophylactic surgery in BRCA mutation carriers or genetic testing in Ashkenazi Jewish women with prophylactic surgery for mutation carriers. Results suggest that prevention in these populations is cost-effective.

Conclusion

Based on the included studies, breast cancer screening and prevention can be considered cost-effective in the European setting. Future research should include risk-adapted screening and prevention strategies.
BREAST CANCER II

ESGO7-0838

REAL-TIME ULTRASOUND ELASTOGRAPHY OF AXILLARY LYMPH NODES IN CLINICALLY NODE NEGATIVE BREAST CANCER

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1Universitätsmedizin, Breast Department, Rostock, Germany

Aims

Axillary lymph node status remains an important prognostic factor in early breast cancer. Ongoing studies i.e. INSEMA trial deal with the question whether sentinel lymph node biopsy (SLNB) can be avoided without reducing oncological safety. The aim of this study was to evaluate real-time ultrasound elastography for prediction of axillary lymph node metastases in patients with planned SLNB.

Method

In this prospective study 97 patients undergoing breast surgery with SLNB were included. Before surgery, all patients underwent axillary ultrasound with measuring of cortical thickness and elastography of axillary lymph nodes using a high end ultrasound device (Philips iU22). Elastographic strain ratio (SR) was determined and results were compared to histological findings of the removed lymph nodes.

Results

Axillary metastases were found in 33 of 97 patients (34%). The stiffness measurements were significantly different between the group of nodal negative and nodal positive patients (SR mean p= 0.016, SR max p=0.009). The areas under the ROC curves were 0.66 (95% confidence interval [CI]: 0.54-0.79) for SR mean, 0.68 (95% CI 0.56-0.80) for SR max and 0.58 (95%CI 0.45-0.72) for cortical thickness, respectively. Sensitivity/specificity/positive predictive value and negative predictive value were 74.1%/50.9%/41.7% and 80.6% for SR max in comparison with subjective axillary ultrasound evaluation, which reached 33.3%, 98.4%, 91.7% and 74.1%.

Conclusion

In a subgroup of patients with low prevalence of lymph node metastases elastographic strain ratio could improve diagnostic performance of axillary ultrasound by increasing sensitivity and negative predictive value. Further studies with higher number of cases are necessary to confirm these promising results.
HOW IMPORTANT ARE TUMOR MARGINS OF THE DUCTAL CARCINOMA IN SITU, AN EARLY FORM OF BREAST CANCER?
FINE-TUNING OF THE VAN NUYS PROGNOSTIC INDEX

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2University of Antwerp, Medicine and Health Sciences, Antwerp, Belgium

Aims

We investigated whether the Van Nuys Prognostic Index (VPNI), prospectively applied, is a reliable guideline for the treatment of patients with ductal carcinoma in situ (DCIS) in our hospital. Furthermore, we are going to try to refine the VPNI and thus also our policy. We will do this by using the combination of the obtained VPNI and the more specific score of the tumor margins. Our goal is to keep local recurrence rate less than 20% at 12 years.

Method

From 2004 to 2014, 142 patients diagnosed, treated and followed at the University Hospital of Antwerp are included in our analysis. Exclusion criteria are male gender, treatment with chemo- or endocrine therapy and invasive cancer. Kaplan-Meier plots were used to estimate the probability of remaining free of local recurrences. The statistical significance between the survival curves was determined by the log-rank test.

Results

108 patients were treated according to the VPNI. The local recurrences were 6%, 4% and 4% for group 1, 2 and 3, respectively. The local recurrences in the subgroup of patients who score 9, have margins < 1 mm and were treated with excision and radiotherapy was 20%.

Conclusion

With low numbers of local recurrences we can conclude that the VPNI is a reliable guideline for the treatment of patients with pure DCIS. Mastectomy is required for patients who score 9 and have margins < 1 mm and for all patients who score 10, 11, or 12 to keep the local recurrence rate less than 20% at 12 years.
GAIN OF 3q26 AS A PROGNOSTIC BIOMARKER FOR HIGH-GRADE CERVICAL INTRAEPITHELIAL NEOPLASIA

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Aims

Approximately 20-40% of high-grade cervical intraepithelial neoplasia (CIN) lesions show spontaneous regression. Nonetheless, most high-grade lesions are treated by surgical excision, because the prognosis of an individual lesion is unpredictable. This leads to overtreatment and associated complications. Gain of the 3q26 gene locus, which contains the human telomerase RNA gene, is frequently found in CIN and cervical carcinoma and has prognostic properties in low-grade CIN. The aim of this study is to assess 3q26 gain as a prognostic biomarker in high-grade CIN lesions.

Method

Patients were extracted from a study database, consisting of patients with histologically confirmed high-grade CIN who were conservatively managed for a median period of 16 weeks, after which they underwent loop excision. Punch biopsies taken at baseline were analyzed by fluorescence in situ hybridization to determine the 3q26 gene copy number.

Results

Nineteen women were included in the study (table 1). Mean age and biopsy-cone interval did not differ between patients with and without disease regression. Gain of 3q26 was found in 16 out of 19 patients (table 2). All patients with disease persistence showed gain of 3q26, whereas all patients without 3q26 gain showed disease regression. The positive and negative predictive values of 3q26 gain for disease persistence are 63% and 100%, respectively.

Table 1. Patient characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Outcome, n=19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years (mean, interval)</td>
<td>31 (24-41)</td>
</tr>
<tr>
<td>Interval in days between initial colposcopy and surgical treatment (mean, interval)</td>
<td>77 (28-452)</td>
</tr>
<tr>
<td>Disease outcome after follow-up</td>
<td></td>
</tr>
<tr>
<td>- regression to ≤ CIN 1 (absolute, percentage)</td>
<td>9 (47%)</td>
</tr>
<tr>
<td>- persistence (absolute, percentage)</td>
<td>10 (53%)</td>
</tr>
<tr>
<td>High-risk HPV infection (absolute, percentage)</td>
<td>18 (95%)</td>
</tr>
</tbody>
</table>

Table 2. Gain of 3q26 in the study population

<table>
<thead>
<tr>
<th>Persistence of high-grade CIN</th>
<th>Regression of high-grade CIN</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gain of 3q26</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>No gain of 3q26</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>9</td>
</tr>
</tbody>
</table>

Conclusion

The absence of 3q26 gain may serve as a biomarker for the identification of high-grade CIN with a high probability of disease regression. Additional research in a larger patient population is necessary.
THE CLINICAL UTILITY OF SENTINEL LYMPH NODE MAPPING IN THE CONSERVATIVE MANAGEMENT OF EARLY STAGE CERVICAL CANCER

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Aims

Lymph node (LN) metastasis is a critical attribute to prognostic recurrence in cervical cancer (CaCx). Our aim consists of a single algorithm detecting the sentinel lymph nodes (SLNs) and combining SLNs status with individual metastatic factors as an enhancement in the conservative management of early stage CaCx.

Method

Prospective study including patients with CaCx, stage IA1-IB2 (tumour size, TZ 0.5-3cm). Intracervical superficial injection of patent blue, after induction of anaesthesia, detection and removal of dyed LNs, sent for frozen section biopsy, bilateral pelvic lymphadenectomy/radical hysterectomy and correlation with final histopathology.

Results

Fifty five patients were included in our study. At least one SLN (range 0-6) was identified in 87.3% (48/55), whereas bilateral detection was succeeded in 78.2% (43/55). SLNs were located at the external (62.6%) or internal iliac region (11.2%), obturator fossa (16.1%), and ventral to the hypogastric vessels (10.1%), whereas 8.3% found in an unexpected area (parametrium) in certain cases. False negative SLN and micrometastasis was identified in only two cases (TS ≥2.2 cm). Frozen section biopsy was positive in 4 cases (4.3%) and the procedure was aborted. Sentinel lymph node sensitivity in detection of metastasis was 100% for TS < 2.2 cm, LVSI negative and DOI <5 mm. Median follow-up was 18.2 months (range 1-32) and all patients remain without evidence of disease.

Conclusion

Our technique is established as adequate in clinical significance of SLN mapping in early stage cervical cancer and support a more conservative surgery with greater safety in cases with small tumours.
EXPLORING IMMUNE REGULATORY NETWORKS CONTRIBUTING PRECANCER AND EARLY-STAGE CERVICAL CANCER PROGRESSION

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Aims

Regulatory relationships between diverse types of cells involved in tumor-induced immune reactions are being successfully studied at molecular level using various experimental approaches. In an organism, these simultaneously acting mechanisms form a complex immune regulation network that may differ from experimental systems and thus requires special investigation for each type and stage of cancer. In this sense, cervical cancer-associated alterations in cellular immunity are one of the least understood.

Method

60 women with cervical intraepithelial neoplasia grade 3 or microinvasive cervical carcinoma and 30 healthy women were involved. Multicolor flow cytometry was used to phenotype peripheral blood lymphocytes from controls and patients before any treatment. Mathematical tools were applied to the results to explore putative relationships between functionally different types of circulating lymphocytes.

Results

We analyzed the percentages of several rare but having potent regulatory properties cell populations, specifically CD4 and CD8 regulatory T cells (CD25pos/highCD127dim/negFoxP3pos), regulatory natural killers (CD3negCD16dim/negCD56bright), and CD3bright (including CD56pos) populations, and observed statistically significant expansion of immunosuppressive cell types in cancer patients. Additional evidence of regulatory disbalance came from decreased CD8/CD4CD25FoxP3 T-cell and CD56dim/CD56bright NK-cell ratios. As a direct effect of this disbalance, upregulation of apoptotic markers in circulating T- and NK-cell subsets was evaluated. Another feature of altered activation status of T cell subpopulations was found to be Stimulator of Interferon Genes expression.

Conclusion

Statistical analysis suggested systemic alterations of regulatory networks affecting different immune cell subsets may contribute the earliest stages of cervical cancer progression. The work was supported by the Russian Scientific Foundation (project No.17-15-01024).
CERVICAL CANCER II

ESGO7-0161

RISK SCORING SYSTEM FOR THE PREOPERATIVE ESTIMATION OF PELVIC LYMPH NODE METASTASIS IN PATIENTS WITH FIGO STAGE IA-IIA CERVICAL CANCER

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Aims

To develop a risk scoring system (RSS) for preoperative estimating pelvic lymph node (PLN) metastasis in patients with the International Federation of Gynecology and Obstetrics (FIGO) stage IA-IIA cervical cancer.

Method

A total of 255 patients with FIGO stage IA-IIA cervical cancer undergoing hysterectomy and PLN dissection from January 2013 to January 2016 were included retrospectively reviewed. Model-development cohort (n=162) and validation cohort (n=93) were composed according to the date of operation; pre- and post-2015, respectively. Univariate and multivariate analyses of preoperative clinicopathological factors were performed to identify predictors for PLN metastasis, and a RSS was developed and validated.

Results

Multivariate analysis with backward elimination method identified PLN metastasis assessed by 18F-fluorodeoxyglucose positron emission tomography/computed tomography (18F-FDG PET/CT, odds ratio [OR] 8.423; 95% confidence interval [CI] 3.295-21.513; P < 0.001) as an independent predictor. And tumor size (OR 1.327; 95% CI 0.992-1.774; P = 0.057) and cervical invasion depth (OR 6.360; 95% CI 0.809-49.989; P = 0.079) appeared to be marginally significant. The concordance indices of the RSS including these three predictors were 0.850 (95% CI 0.788-0.912) in the model-development cohort and 0.749 (95% CI 0.648-0.851) in the validation cohort, respectively. RSS-predicted probabilities of PLN metastasis revealed good agreement with observed probabilities in calibration plots of both datasets.

Conclusion

We developed the RSS for preoperative estimation of PLN metastasis in patients with FIGO stage IA-IIA cervical cancer. After external validation, it could provide valuable information for predicting the risk of PLN metastasis to gynecologic oncologists before surgery.
CERVICAL CANCER II

ESGO7-1374

PREDICTIVE VALUE OF p16/Ki-6DUAL-STAINED CYTOLOGY FOR THE PROGRESSION OF CERVICAL DYSPLASIA

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Aims

The objective of this study was to investigate the predictive value of p16/Ki-67 dual-stained cytology for the progression of disease.

Method

Cytology p16/Ki-67 dual-staining test was performed on 250 liquid-based residual samples from a cohort of women with ASC-US/LSIL and co-testing human papillomavirus (HPV) positive. Study end points were atypical squamous cells-cannot exclude high-grade lesion (ASC-H) or high-grade squamous intraepithelial lesion (HSIL) detection in 1 and 2 year’s follow-up.

Results

Positivity of p16/Ki-67 dual stained cytology was well correlated to progression of disease compared with positivity of HPV 16/18. During 1 year follow-up, 23 of 250 women experienced progression of disease into ASC-H or HSIL. For positivity of p16/Ki-67 dual stained cytology, Sensitivity (60.9%) for the detection of ASC-H or HSIL and specificity (81.5%) for normal or low grade cytology was higher than those of HPV 16/18 tests (13.0% and 89.0%, respectively) (p<0.001). During 2 years follow-up, 11 of 190 women experienced progression of disease into ASC-H or HSIL. For positivity of p16/Ki-67 dual stained cytology, Sensitivity (45.5%) for the detection of ASC-H or HSIL or specificity (82.1%) for normal or low grade cytology was also higher than those of HPV 16/18 tests (18.2% and 89.9%, respectively) (p=0.025).

Conclusion

p16/Ki-67 dual stained cytology could provide both high sensitivity and specificity for the prediction of ASC-H or HSIL in Pap cytology in the future. Positive p16/Ki-67 dual-stained cytology in low grade cytology was highly associated with the progression of disease in 1 or 2 years follow-up.
CERVICAL CANCER II

ESGO7-0087

POSTOPERATIVE CLINICOPATHOLOGICAL FACTORS AFFECTING CERVICAL ADENOCARCINOMA: STAGE I-II B

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Aims

Currently, cervical adenocarcinoma receives the same, but not suitable, standard treatments as squamous cell carcinoma. The present study was conducted to discriminate the prognostic role of postoperative clinicopathological factors in patients with stage I–II B cervical adenocarcinoma.

Method

All consecutive patients consisted of 312 patients with stage I to IIB cervical adenocarcinoma who underwent radical hysterectomy, including pelvic lymphadenectomy, at our institutions between Oct. 2006 and Sept. 2014. Overall survival and relapse-free survival was analyzed by the Kaplan–Meier method. Sites of recurrence were classified as local and distant locations.

Results

The 5-year OS and RFS rates were 88.2% and 83.8%, respectively. And the 5-year OS rates for patients with FIGO stage IA, IB, IIA, and IIB were 100.0%, 90.7%, 82.8%, and 55.6%, respectively, in adenocarcinoma. Cox model identified No. of positive pelvic nodes and Age at surgery as independent prognostic factors for survival, and No. of positive pelvic nodes and post-operation tumor diameter (4cm) as independent prognostic factors for relapse. 35 women suffered a cancer recurrence. The top three recurrence sites were pelvis, vaginal stump and lung.

Conclusion

A more aggressive therapeutic strategy, which was different from current adopted for cervical cancer, is urgently required for cervical adenocarcinoma. As a new prognostic factor, post-operation tumor diameter should be paid special attention in adenocarcinoma treatment.
CERVICAL CANCER II

ESGO7-0537

COMPARISON BETWEEN ROBOT-ASSISTED AND LAPAROSCOPIC PARA-AORTIC LYMPHADENECTOMY IN 217 PATIENTS WITH LOCALLY ADVANCED CERVICAL CANCER

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Aims

To compare robot-assisted (RPAO) with laparoscopic (LPAO) para-aortic lymphadenectomy in patients with locally advanced cervical cancer (LACC).

Method

In this monocentric retrospective study, we included 217 patients with LACC (FIGO-stage IB2-IVA or IB1 with suspicious pelvic LN), who underwent a para-aortic lymphadenectomy up to the inferior mesenteric artery (LPAO, N=162; RPAO, N=55) between 1994-2016 (RPAO starting from December 2012).

Results

Median age for LPAO and RPAO respectively (53 years vs 49 years), BMI (24.7 vs 24.4) were similar. FIGO-stage for RPAO was IB1, IB2, IIA, IIB, III and IV15%, 6%, 17%, 53%, 9% and 0, and for LPAO5%, 12%, 23%, 44%, 14% and 2%, respectively. In RPAO and LPAO 85% and 83% were squamous carcinomas, respectively. RPAO had a higher ASA-score (ASA2: 62% vs 56% and ASA3: 20% vs 2%, p<0.001) and more prior major abdominal surgery (18% vs 6%, p<0.001), less estimated blood loss (median, 25.0 mL vs 62.5 mL, p<0.001), more removed PAO LNs (11 vs 6, p<0.001) and shorter postoperative stay (1.8 vs 2.5 nights, p<0.002), and a tendency for more patients with metastatic PAO LNs (13% vs 5%, p=0.065), compared with LPAO respectively. There was no difference in complications. Overall survival (OS), progression free survival (PFS) and time-to-progression were similar.

Conclusion

RPAO resulted in less blood loss, shorter postoperative hospitalization, higher amount of sampled PAO LNs and tendency for a higher number of positive PAO LNs compared to LPAO.
PRELIMINARY RESULTS OF EXTENDED FIELD IMRT CHEMO-RADIOThERAPY OR PELVIC IMRT CHEMO-RADIOThERAPY FOLLOWED BY OPERATION IN PATIENTS WITH MULTIPLE PELVIC LYMPH NODE METASTASIS (PHASE II CLINICAL TRIAL)

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Aims

We use prospective randomized method to analysis the response rate and side effect rate of EF-IMRT and pelvic-IMRT combined with cisplatinum chemotherapy in patients with multiple pelvic lymph node metastasis.

Method

From 2012 to 2015, 96 cases enrolled into this study. Median Age was 46 years old. ECOG score was 0-2. FIGO stage was IB1-II A2. Histology included squamous 87 cases, adenocarcinoma 3 cases, squamous-adenocarcinoma 2 cases, low grade 4 cases. No adjuvant chemotherapy was done. All patients underwent radical operation, 20 cases of them were preserved both ovaries, 2 cases were preserved one ovary. Para-aortic LN resection was done in 21 cases, while biopsy was done in one case. The median number of lymph nodes was 26 (11-39). Patients were randomized into two groups: group A (EF-IMRT) or group B (pelvic-IMRT). The tumor dose was 45Gy/1.8-2Gy/25Fx, combined with cisplatinum 40mg/m² weekly for 5 cycles. We used CTCAE3.0 to analysis the side effect.

Results

All the patients fulfilled the whole therapy. 49 cases of them were enrolled into group A and 47 cases into group B. Blood and GI system were mainly side effects. Grade 4 of blood effect occurred only in one case group (A). Grade 1-2 of GI effect occurred in 10 cases (group B) and 20 cases (group A). With regards to acute or late toxicities, no statistically significant difference was observed between the two treatment groups.

Conclusion

Postoperative EF radiotherapy plus concurrent chemotherapy was effective and acceptable for treating patients with FIGO Stage IB1-II A2 cervical cancer displaying multiple pelvic lymph node metastases. This clinical trial is ongoing and long-term follow up is needed.
CERVICAL CANCER II

ESGO7-1173

DIFFERENT OPTIONS OF FERTILITY-SPARING TREATMENT FOR EARLY STAGE CERVICAL CANCER: CASE SERIES

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Aims

Evaluating the short-term results of fertility-preserving options for early cervical cancer patients in childbearing age.

Method

A total of 46 patients with early cervical cancer were included. The patients were stratified into three groups with regards to the organ-sparing therapy option. Eight women with stage IA1LVSII-IA2 (group 1) underwent ultraconservative surgery: amputation of uterine cervix with lymphadenectomy. Group 2 (31 patients with stage IA2-IB1, tumor size up to 2.0 cm) were subjected to radical abdominal trachelectomy. Seven women of group 3 (four with stage IB1 and tumor size more than 2 cm and three with stage IIA1) received multimodality therapy with neoadjuvant chemotherapy followed by radical abdominal trachelectomy.

Results

The follow-up time was 7 to 62 months. To prevent inflammatory and commissural changes in the small pelvis in the postoperative period, enzymatic drugs containing streptokinase-streptodornase were used. Pregnancy occurred in three women of the 1st group, two of them gave birth of time with no complication, one had a miscarriage at 15 weeks.

Conclusion

Our data suggest that less radical surgery than radical trachelectomy in patients with early low-risk cervical cancer improve the chances of reproductive function implementation; in case of early high-risk cervical cancer, multimodality treatment offers opportunities for radical surgical intervention of the organ-sparing option. However, the application of the mentioned methods of organ-sparing therapy is possible only after a thorough patient selection assessing all the risks in the selling of a highly-specialized cancer institution arranging multidisciplinary panel including an expert morphologist, a trained MRI specialist and qualified gynecologic oncologist.
CERVICAL CANCER II

ESGO7-0317

INCIDENCE OF LYMPH NODE METASTASES IN WOMEN WITH LOW-RISK EARLY CERVICAL CANCER WITHOUT LYMPH-VASCULAR INVASION

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Aims

To determine the incidence of lymph node (LN) metastasis in women with low-risk cervical cancer stage IA2, and IB1 (<2 cm) without lymph-vascular space invasion (LWSI) stratified by histology, depth of stromal invasion and tumor grade.

Method

A multicenter retrospective study was performed in patients who underwent radical or simple hysterectomy, conization, or tracheectomy plus pelvic lymphadenectomy for cervical cancer between January 2000 and June 2016.

Results

A total of 271 patients were included in the study. Mean (SD) age and BMI was 47.3 (12.9) years and 25.4 (5.1) kg/m²; respectively. Twenty-two patients had stage IA2 (8.1%), 247 (91.1%) had stage IB1, and 2 (0.7%) had stage IIA. The median tumor size was 14 (range, 5-20) mm. Tumor grades were 1 (n=63; 23.2%), 2 (n=120; 44.3%), 3 (n=63; 23.2%), and missed (25; 9.2). Mean (SD) depth stromal invasion was 8.1 (4.4) mm. Histology subtypes included squamous (n=171, 63.1%), adenocarcinoma (n=92, 33.9%), and adenosquamous (n=8, 3.0%). Overall incidence of LN metastasis was 2.9%. The incidence of LN involvement in G1, G2 and G3 was 0% (0/63), 5% (2/120) and 3.1% (2/63); respectively. Multivariate analysis did not identify any independent factor predicting LN metastasis.

Conclusion

No patient with G1 (well differentiated) cervical cancer less than 2 cm and without lymph vascular space invasion had lymph node metastasis. In such low-risk patients, there may not be a need for lymph node evaluation. Consideration for sentinel lymph node alone should be a standard in the setting of patients with grade 2 and 3 disease.
CERVICAL CANCER II

ESGO7-1042

PRE-THERAPEUTIC NUTRITIONAL STATUS FOLLOW-UP FOR PREDICTING SEVERE ADVERSE EVENTS IN PATIENTS WITH CERVICAL CANCER TREATED BY CHEMO-RADIOThERAPY

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Aims

Cervical carcinoma remains a significant health problem for women worldwide. Locally advanced cervical cancer (LACC) (stage IB2 to IVA) is a common presentation. Chemo-radiation with a platinum-based agent is the recommended treatment for LACC. Palliation with platinum agent remains the standard of care for inoperable patients who have metastatic or recurrent disease. Malnutrition is common in patients with cervical cancer and it may be related to severe adverse toxicity as a result of radiotherapy. The aim was to investigate nutritional screening factors for severe adverse events.

Method

A retrospective analysis over patients newly diagnosed of cervical cancer from 2015 to 2016 in Hospital del Mar Barcelona was recruited. Patients with locally advanced cervical cancer who underwent chemo-radiotherapy were included to predict severe adverse events. The pre-treatment nutritional parameters evaluated were hemoglobin (Hb), serum albumin (Alb), total protein (Prot), total lymphocyte counts (TLC) and Prognostic Nutritional Index (PNI).

Results

Of 38 patients diagnosed of cervical cancer, 25 were treated by chemo-radiotherapy for LACC and 24 patients were included in the pre-therapeutic nutritional analysis. Approximately 20% of the patients were manourished before treatment. A total of 6 patients (24%) presented severe adverse events according to EORTC definition. The pre-treatment nutritional parameters were not found to be significant predictors of chemo-radiotherapy severe adverse events.

Conclusion

Although nutritional status could be considered a useful predictor for cervical cancer survival; our results suggest that nutritional status not predict severe adverse events in patients underwent chemo-radiotherapy. However more studies are needed to confirm that preliminary results

Volume 27, Supplement 4
THE ADDITIONAL ROLE OF DIFFUSION WEIGHTED MAGNETIC RESONANCE IMAGING FOR THE ASSESSMENT OF PARAMETRIAL INVASION OF CERVICAL CARCINOMA, A PROSPECTIVE STUDY

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Aims

The treatment of cervical cancer is dependent on FIGO stage, with conventional staging, 15-25% of parametrial invasion is missed. MRI is increasingly used to optimize staging for cervical cancer. This study aimed to evaluate the diagnostic performance of diffusion weighted MRI in addition to conventional T2 weighted sequences and fusion images for the assessment of parametrial invasion.

Method

Prospective cohort study; conventional T2W MRI, the addition of high B-value diffusion weighted MRI sequences and fusion images (T2W with diffusion weighted MRI) for assessing parametrial invasion. Two blinded radiologists independently scored the likelihood of parametrial invasion with a 6-point confidence scale. The reference standard consisted of surgical-pathologic results after radical hysterectomy with pelvic lymphadenectomy. Diagnostic performance was evaluated by ROC curve analyses. P-values <0.05 were considered statistical significant. Ethical board approval was obtained.

Results

The cohort consisted of 65 patients, 8 patients showed parametrial invasion after surgery. Both observers (1-2) showed a statistical increase in diagnostic performance for the assessment of parametrial invasion, especially decreasing false positive findings. The corresponding areas under the ROC curve were .80-.67 for T2W MRI compared to .94-.94 for fusion imaging (p<0.05). Positive predictive value increased significantly 29-23% versus 50-50%. No significant difference was found between T2W imaging and T2W imaging with high B-value sequences without fusion images.

Conclusion

This is the first prospective study showing conventional T2 weighted MRI combined with diffusion weighted MRI to result in an increase in diagnostic performance for the assessment of parametrial invasion in suspected early-stage cervical carcinoma.
CERVICAL CANCER II

ESGO7-0719

DIFFUSION WEIGHTED MAGNETIC RESONANCE IMAGING OF CERVICAL CARCINOMA: APPARENT DIFFUSION COEFFICIENT MEASUREMENT TECHNIQUES RELATED TO PARAMETRICAL INVOLVEMENT AND LYMPH NODE METASTASES

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Aims

Staging of cervical cancer is dependent on FIGO stage, advanced imaging as diffusion weighted MRI is increasingly used to optimize staging for cervical cancer. Apparent Diffusion Coefficient (ADC) is a potential interesting quantitative parameter for assessing tumor aggressiveness. This study aimed to compare different ADC measurement techniques for cervical cancer and to assess mean ADC as a predictor for parametrial involvement and lymph node metastases.

Method

This was an ethical board approved prospective cohort study. Two blinded readers independently scored ADC\(_{\text{mean}}\) within the range of interest (ROI). The ROI was defined as total tumor ADC, single slice freehand ROI or a single round like ROI at the largest tumor diameter. The reference standard consisted of surgical-pathologic results after radical hysterectomy with pelvine lymphadenectomy. Diagnostic performance was evaluated by ROC curve and regression analysis. P-values <0.05 were considered statistically significant.

Results

The cohort consisted of 65 patients, 3 patients were excluded due to unavailability of ADC map. Interrater agreement (preliminary analyses) was excellent for assessing ADC\(_{\text{mean}}\). The predictive value did not significantly differ between the three used measurement techniques. The area under the curve for ADC\(_{\text{mean}}\) for assessing parametrial invasion and lymph node metastases was good-excellent (AUC 0.76-0.84) In our preliminary uni- and multivariate analyses ADC\(_{\text{mean}}\) was superb and independent compared to other predictive criteria (HR: 10.6 (1.2-92)).

Conclusion

The potential of ADC\(_{\text{mean}}\) as an independent parameter for predicting parametrial invasion and lymph node metastases is suggested by our results. The definitive analyses will be available at the ESGO 2017 Meeting.
LOW VALUE OF PET/CT IN PREDICTING TUMOR RESPONSE IN LOCALLY ADVANCED CERVICAL CANCER UNDERGOING NEOADJUVANT CHEMOTHERAPY

Aims

To assess the ability of PET/CT in predicting tumor response to neoadjuvant chemotherapy (NACT) in patients affected by locally advanced cervical cancer (LACC)

Method

This is a prospective study involving LACC patients undergoing NACT plus radical surgery between 2013 and 2016. Data of SUV max detected by PET/CT, at pre- and post-NACT examinations were compared with pathological findings. Concordance was used to assess the ability of PET/CT to predict tumor response.

Results

Overall, 37 patients were included. There were very low concordances between pre- and post-NACT SUV max on cervical tumor with response to chemotherapy (concordance <0.2). Similarly, concordance between pre- and post-NACT SUV max on pelvic lymph nodes was low (concordance < 0.2). Considering the ability of PET/CT in assessing lymphatic disease, we observed that post-NACT PET/CT was characterized by a relative low positive predictive value (0.66) but a high negative predictive value (0.92). One (1/67 negative pelvic sides; 1.5%) false positive result was observed. Five false negative (5/7 positive pelvic sides; 71.4%) results were observed. True positive and true negative accounted for (2/7 positive pelvic side; 28.5%) and (66/67 negative pelvic sides; 98.5%) 

Conclusion

SUV Max is not adequate in predicting tumor response of LACC patients undergoing NACT. A negative PET/CT is likely to correlate with negative nodes; however, the positive predictive value of PET/CT is not adequate. Further tools are needed to better predict response to treatment in LACC
HPV-NEGATIVE CARCINOMA OF THE UTERINE CERVIX: CLINICAL IMPLICATIONS


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2Hospital Clínic de Barcelona- IDIBAPS, Department of Pathology, BARCELONA, Spain

Aims

Almost all studies focus on cervical cancer (CC) found that a small proportion is negative for human papillomavirus (HPV). It has been suggested that HPV-negative CC may represent a biologically distinct subset of tumors carrying a poorer prognosis. However, the significance of HPV-negativity in CC remains unclear. We aimed to provide insight into the differential clinical-pathological characteristics of the unusual HPV-negative CCs.

Method

A cohort of 215 women with CC diagnosed in the Hospital Clinic (Barcelona) from 1999 to 2014 underwent HPV/DNA detection and genotyping using a highly sensitive polymerase chain reaction (PCR): SPF10PCR/DEIA/LiPA25 system and p16INK4a immunostaining. Clinical, histological and immunological characteristics of the cases included were recorded.

Results

21 out of 215 tumors (9.8%) were negative for HPV detection. Nine of them (9/21; 42.9%) showed a negative p16INK4a immunostaining result. These double negative tumors were considered as confirmed HPV-negative CC and all of them were diagnosed at advanced FIGO stage. Within the confirmed HPV-negative CC, 5 were squamous carcinoma, 2 were adenocarcinoma and 2 were neuroendocrine.

Patients with confirmed HPV-negativity had significantly worse disease free survival than women with HPV-positive tumours [47.46 months (95%CI: 8.7-86.22 months) vs. 130 months (95%CI: 116.66-143.33 months); p=0.01] and overall survival (OS) [72.1 months (95%CI 25.44-118.80 months) vs. 151.4 months (95%CI 139.70-163.05 months); p=0.056].

Conclusion

DNA-HPV negative result is an uncommon finding in women with CC, and in almost half of these cases p16INK4a immunostaining shows a positive result. Confirmed HPV-negative CC seems to be associated with advance FIGO stages and worse prognosis.
CERVICAL CANCER II

ESGO7-0292

HPV POSITIVE CARCINOMA OF THE UTERINE CERVIX. CLINICAL IMPLICATIONS AS A FUNCTION OF GENOTYPE

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Aims

It is hypothesized that human papillomavirus (HPV) genotype may have a role in prognosis of patients with uterine cervical cancer (CC). Results of previous studies on this topic are not conclusive. The aim of this study is to analyze whether there are clinical or prognostic differences in women diagnosed of CC depending on the HPV genotype.

Method

Women diagnosed of CC in the Hospital Clinic (Barcelona) from 1999 to 2014 underwent HPV/DNA detection and genotyping using a highly sensitive polymerase chain reaction (PCR): SPF10/DEIA/LiPA 25 system. Within the 215 women eligible, 194 had an HPV-positive CC and were finally included in the study. Clinicopathological features, disease-free survival (DFS) and overall survival (OS) were analyzed using SPSS version 23.

Results

Mean age at diagnosis was 50.52 years. Squamous cell carcinoma was the most frequent histological diagnosis (156/194;80.4%). Advanced FIGO stage was found in 110 (56.7%) cases. HPV-16 was the most frequent genotype (142/194;73.2%) followed by HPV-18 (25/194;12.9%). Multiple infection was observed in 30 women. From them, 12 showed co-infection with HPV-16/18. No differences were observed in terms of DFS and OS according to HPV genotype.

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<th>Table 1</th>
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<td>OS</td>
<td>DFS</td>
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<td></td>
<td>Months</td>
<td>95% CI</td>
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<tr>
<td>HPV-16</td>
<td>150.84</td>
<td>(138.58-163.11)</td>
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<tr>
<td>HPV-18</td>
<td>88.74</td>
<td>(60.27-117.22)</td>
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<td>HPV-16/18</td>
<td>58.78</td>
<td>(44.83-72.73)</td>
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<tr>
<td>HPV-HR (no 16 no 18)</td>
<td>130.67</td>
<td>(101.11-160.25)</td>
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<td>p</td>
<td>0.171</td>
<td>0.167</td>
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HPV: Human papillomavirus. HR: High risk. OS: Overall Survival. DFS: Disease Free survival. CI: Confidence Interval.

Conclusion

HPV 16 was the most frequent genotype in our series. HPV genotype does not seem to have any impact on prognosis in women with CC.
INVESTIGATION THE FACTORS OF RADIO-RESISTANCE FOR CERVICAL CANCER

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Aims

The purpose of this study is to investigating the factors of failure of local control of radiotherapy for cervical cancer

Method

122 cases who received radiotherapy and examined the effect of treatment during 2011-16. Concurrent chemoradiotherapy (CCRT) was done for patients under 80 years old. Weekly cisplatin (40mg/m²) was given before August 2014, and weekly paclitaxel (50mg/m²) and cisplatin (30mg/m²) was given for the patients with non-SCC after September 2014.

Results

Clinical stages are as follows, 1B 14, 2A 5, 2B 47, 3A 2, 3B 28, 4A 5, 4B 21. Histological subtypes are as follows, SCC 97, adenocarcinoma and adenosquamous carcinoma (non-SCC) 19, others 6. Local recurrence rate are as follows 1B 1/14(7%), 2A 0/5(0%), 2B SCC 3/38 (8%), 2B non-SCC 4/8(50%), 3B SCC 3/21 (14%), 3B non-SCC 6/9 (67%). Local recurrence was significantly frequent in non-SCC than SCC of same stage (p<0.01). For the relation with tumor diameter, local recurrence was 5/78(6%) in SCC (<7cm), 6/18 (33%) in SCC (≥7cm), 0/1 in non-SCC (<4cm), 11/19 (58%) in non-SCC (≥4cm). For the relation with treatment period, local recurrence was occurred 11/32 in patients who took 50 days or more for treatment, but 14/92 in patients with completed within 49 days (p<0.05). For the patients received weekly TP, tumor residue was seen in mucinous types of adenocarcinoma.

Conclusion

Improvement of treatment was necessary for large tumor patients (SCC with over 7cm and non-SCC with over 4cm). Management of adverse event is needed to complete the treatment within 49 days.
CERVICAL CANCER II

ESGO7-0438

CYCLES OF CISPLATIN AND ETOPSIDE AFFECT TREATMENT OUTCOMES IN PATIENTS WITH EARLY-STAGE SMALL CELL NEUROENDOCRINE CARCINOMAS OF THE CERVIX

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Aims

To explore the outcomes and prognostic factors in patients with FIGO stages I-II small cell neuroendocrine carcinoma of the cervix (SCNEC), and to determine the effects of adjuvant treatment on survival after radical surgery.

Method

A single-institution retrospective analysis was carried out in 92 patients receiving radical surgery for SCNEC. All clinico-pathological variables and treatment strategies were reviewed. Kaplan-Meier and Cox regression methods were used for survival analyses.

Results

After a median follow-up of 38 months (23.6-52.4), 43 (46.7%) patients experienced disease recurrence, of which, distant metastases was documented in 35 patients. The 5-year recurrence-free survival (RFS) was 45.2% and the median RFS was 39 months. In multivariate analysis, lymph node metastasis and parametrial extension were confirmed to be independent prognostic factors for disease recurrence. Adjuvant treatment containing etoposide plus platinum (EP) and its analogs for at least 5 cycles (n=39) was associated with improved 5-year RFS compared to other treatments (n=46) (Kaplan-Meier: 67.6% vs 20.9%, p<0.001; Cox regression HR: 3.68, 95% CI, 1.81-7.50, p<0.001). Additional radiotherapy or concurrent chemoradiation failed to validate further improved RFS in patients with EP 5+. It was consistent in subset of patients with high-risk factors (positive lymph node or positive parametrium).

Conclusion

Half of the stages I-II SCNEC patients experienced disease failure within 3 years and distant metastases is an outstanding issue. EP combination therapy for at least 5 cycles is beneficial for long-term recurrence-free survival after radical surgery. Additional radiation therapy seems unnecessary even in patients with high risk factors.
THE VALUE OF PRETREATMENT SERUM PSEUDOCHOLINESTERASE LEVEL AS NOVEL PROGNOSTIC BIOMARKER IN PATIENTS WITH LOCALLY ADVANCED CERVICAL CANCER

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Aims

Deficiency in pseudocholinesterase (PChE), a condition commonly noticed in liver damage, inflammation, and malnutrition, has previously been associated with impaired prognosis in different malignancies, such as oral and upper tract urothelial cancer. The aim of the present study was to investigate the value of pretreatment serum PChE levels as prognostic biomarker in patients with locally advanced cervical cancer (LACC).

Method

Data of a consecutive series of patients with LACC treated with primary (chemo-)radiotherapy between 1998 and 2015 were retrospectively analyzed. Pre-treatment serum PChE levels were correlated with clinico-pathological parameters and response to treatment. Uni- and multivariate survival analyses were performed to assess the association between decreased serum PChE levels and progression-free (PFS), cancer-specific (CSS), and overall survival (OS).

Results

A total of 365 patients could be included into the present analysis. The median (IQR) pretreatment serum PChE level was 6180 (4990 – 7710) IU/l. Median pretreatment serum PChE levels were significantly decreased in patients with lower body mass index, advanced FIGO tumor stage, and disease progression under (chemo-) radiotherapy (p<0.001, p=0.004, p=0.004, respectively). In uni- and multivariate analyses decreased pretreatment serum PChE levels were independently associated with shorter PFS (HR 1.7 [1.2 –2.5]; p= 0.006), CSS (HR 2.0 [1.3 –3.2], p = 0.002), and OS (HR 1.8 [1.3 -2.7]; p= 0.001).

Conclusion

Decreased pretreatment serum PChE level is associated with advanced tumor stage and impaired response to treatment, and serves as independent prognostic biomarker for shorter PFS, CSS and OS in patients with LACC.
CERVICAL CANCER II

ESGO7-0133

TOPOGRAPHIC DIFFERENCES OF THE AUTONOMIC NERVES IN THE POSTERIOR LEAF OF VESICOUTERINE LIGAMENT

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Aims

The posterior leaf of the vesicouterine ligament (PLVUL) contains autonomic nerve fibers which innervate the bladder. Fujii was described surgical anatomy of PLVUL and emphasized importance of preserving the bladder branch of the inferior hypogastric plexus (IHP) for saving bladder function after radical hysterectomy (RH). In our population, we noticed that the bladder branch of IHP could be divided in two or three branches which also pass through PLVUL. There is one main branch located dorsomedially from the inferior vesical vein (IVV) and one or two small additional branches positioned lateral of the IVV.

Method

In this study, we evaluate the operative findings at 98 cervical cancer patients surgically treated in Institute of Oncology and Radiology of Serbia, from January 2013 till December 2015 using Fujii-Okabayashi technique of nerve-sparing RH. The surgery was performing without magnifying glass and implies complete bilateral dissection and selective resection of PLVUL. In all patients the main bladder branch of IHP was successfully preserved bilaterally.

Results

In the lateral part of PLVUL, before separation of the IVV we noticed at least one small additional nerve branch at 61 patients (62.2%), what was also confirmed on the other side at 52 patients (53.1%). In 15 patients (15.3%) we recognized two additional nerve branches what could be seen bilaterally in 6 of them (6.1%).

Conclusion

Anatomical variation according the number of nerve branches in PLVUL may exist in significant number of patients. Resection of small nerve branches and sparing the main one is the safe method of preserving bladder function.
EVALUATION OF CONIZATION HIGH ASSOCIATED WITH FREE MARGINS FOR MICROINVASIVE CERVICAL CARCINOMA TREATMENT

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Aims

The definitive diagnosis of micro invasion must be obtained by histopathological analysis of cervical conization specimens, either cold knife conization (CKC) or loop electrosurgical excision procedure (LEEP). The aim of this study is to evaluate the clinical and pathological factors related to free margins in women with cervical microinvasive carcinoma submitted a conization.

Method

603 patients diagnosed and treated for squamous cervix microinvasive carcinoma, FIGO stage IA1 and IA2 (MIC), from 1975 to 2013 were included. CKC was performed in 333 patients (55.2%) and 270 (44.8%) LEEP.

Results

The analysis of surgical resection margins showed 489 (81.1%) free ectocervical margins and 331 (54.8%) endocervical margins. Univariate analysis showed that conization height, age ≥40yr (OR=2.55, p<0.001), LEEP (OR=1.75, p<0.001) and micro invasion depth > 3mm (OR=3.74, p=0.006) were associated with conization margins involvement. Multivariate analysis showed: conization height, age ≥40yr (OR=3.47, p<0.001), LEEP (OR=1.99, p<0.001) and micro invasion depth > 3mm (OR=3.99, p=0.007), were independent risk factors for conization margins involvement. Higher proportion of positive conization margins was observed in women who underwent LEEP, when compared to CKC (p<0.001). Specimens from CKC were larger than in LEEP (p<0.001) for all patients.

Conclusion

Free conization margins was statistically associated with conization depth bigger than 18.9 mm in women < 40yr and 20.6mm in women ≥ 40 yr, (p<0.001). ROC curve for the prediction of free conization margins by conization height, was 0.664 (p<0.001). Conization height with best performance was 19.5mm.
CERVICAL CANCER II

ESGO7-0468

IS NODAL RECURRENCE INCREASED AFTER SENTINEL LYMPH NODE BIOPSY IN PATIENTS WITH EARLY-STAGE CERVICAL CANCER?

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Aims

To describe recurrences in women with early-stage cervical cancer with negative nodes who were primarily treated by radical surgery and pelvic bilateral lymphadenectomy (LDN) or only sentinel lymph node biopsy (SLNB).

Method

A total of 134 patients with FIGO stage IA1-IB1/IIA1 cervical cancer were treated in our hospital. Of them, 121 had negatives nodes (73 LDN and 45 SLNB). From February 2001 until May 2011 patients underwent SLNB followed by complete pelvic LDN as part of their primary treatment. Between 06/2011 and 10/2016, patients underwent only SLNB. The SLNB was achieved by laparoscopic approach after intracervical injection with radiocolloid and blue dye. Patients in whom sentinel lymph nodes were detected unilaterally or non-detected underwent a complete lymphadenectomy of the failed mapped side. SLN were evaluated by pathologic ultrastaging. Follow-up data were prospectively recorded. SPSS 20.0 was used for statistical analysis.

Results

No differences regarding age at diagnosis, size of the tumor (≤ 2cm vs. > 2cm), FIGO stage, histology type and type of surgery were seen between both groups. In both groups the pattern of recurrence and metastases was similar. Ten patients recurred, 3 patients in the SLNB group and 7 in the LDN group. After SLNB there were 1 nodal recurrence, 1 loco-regional recurrence and 1 distant metastasis. After LDN, 3 nodal recurrences, 3 loco-regional recurrences and 1 metastasis were diagnosed. These differences were not statistically significant.

Conclusion

The rate of nodal recurrence was not increased after SLNB in early-stage cervical cancer
IS THE ONCOLOGIC OUTCOMES OF CERVICAL CANCER PATIENTS WHO UNDERWENT SIMPLE HYSTERECTOMY WORSE THAN THOSE OF PATIENTS WHO DIAGNOSED AND SURGERY PROPERLY?

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Aims

To evaluate clinical characteristics, causes, and survival outcomes of cervical cancer patients who underwent simple hysterectomy.

Method

Medical records of patients who underwent surgical treatment for presumed leiomyomas, from January 2006 to December 2014, were retrospectively reviewed. Clinical characteristics, subsequent treatment, and outcomes were analyzed by descriptive statistics. This study includes follow-up data through December 31, 2016.

Results

A total of 565 medical records of cervical cancer patients who underwent primary surgery. Of which 52 patients (9.2%) were inadvertent hysterectomy. Comparable with FIGO stage IA2, IB1, IB2 and IVB in 3, 44, 3, and 2 patients, respectively. Histopathology was classified as squamous cell carcinoma in 29 patients, adenocarcinoma in 21 patients, endometrioid carcinoma in 1 patient, and neuroendocrine types in 1 patient. Median age was 48.0 years (IQR 42.0-56.0 years). Causes of inadvertent hysterectomy were represent in Table 1. 9/52 patients were refused further treatment. Forty-three patients were prescribed the following treatment: radiation in 39 patients, surgery in 1 patient, and chemotherapy in 1 patient, and 2 patients were appropriate for long term surveillance. The median time before definite treatment was 1.6 months (IQR 0.5-9.2 months). 42/43 patients had complete response and one patient was disease progression. Two patients had recurrent disease and none patients died of their disease. The median overall survival (OS) was 58.5 months (IQR 7.2-114.4 months).

Conclusion

9.2% of cervical cancer patients were inadvertent hysterectomy. Treatment outcome was favorable with almost 4.6% of recurrence rate, and median OS was nearly 5 years.
EVALUATION OF THE EFFECT OF HUMAN PAPILLOMA VIRUS (HPV) POSITIVITY ON PATIENT ANXIETY

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Aims

It is known the relationship between Human papilloma virus (HPV) and cervical cancer. HPV screening is used for screening of cervical cancer and preinvasive lesions. The aim of this study was to evaluate the effect of HPV positivity on patient anxiety.

Method

This study was carried out at the Selcuk University Medical Faculty, Gynecology and Obstetrics Department. 300 patients were included in this study. Patients divided into the two groups, 150 patients were HPV positive group and 150 patients were HPV negative group as a control group. The patients were filled with an immediate and continuous anxiety scale questionnaire (STAI FORM-1 and STAI FORM-2). The results were assessed statistically.

Results

The mean age of HPV positive group was 42.2 years and the HPV negative group was 45.3 years. 68 patients were HPV 16-18, 82 patients HPV others in the HPV positive group. The HPV positive group had higher anxiety level than the HPV negative group. There was statistically significant difference in the comparison of the immediate anxiety scale questionnaire (51.27± 5.4 and 45.31± 4.2, p< 0.05).

Conclusion

The immediate and continuous anxiety scale levels of patients with HPV screening positive were detected high compared to HPV negative patients. Patients should be informed before and after screening to reduce anxiety.
CERVICAL CANCER II

ESGO7-0558

COMPARISON OF THE EFFECT OF HUMAN PAPILLOMA VIRUS (HPV) SCREENING ON PATIENT ANXIETY WITH CONVENTIONAL METHODS

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Aims

After identification of the relationship between Human papilloma virus (HPV) and cervical cancer, screening and treatment methods for sexually transmitted disease have been identified. HPV screening is used for screening of cervical cancer and preinvasive lesions. The purpose of this study was to compare the effectiveness of this screening method on patient anxiety with the conventional methods.

Method

This study was carried out at the Selcuk University Medical Faculty and Mersin Research and Training Hospital. The HPV group consisted of 255 patients who were referred to the outpatient clinic for HPV screening test and the Smear group included 250 patients who were referred to the outpatient clinic as a result of Smear scan. A total of 505 patients were included in this study. Before treatment, the patients were filled with an immediate and continuous anxiety scale questionnaire. The results were evaluated statistically.

Results

The mean age of HPV group was 45.3 years and the smear group was 47 years. 75 patients were HPV 16-18, 180 patients HPV others in the HPV group. 115 patients were ASCUS, 35 patients ASC-H, 75 patients were LGSIL, 25 patients were HGSIL in the smear group. The HPV group had significantly higher anxiety level (57.9±6.1 and 36.1±4.2, p< 0.001). There was no statistically significant difference in anxiety level among the HPV subgroups.

Conclusion

The anxiety levels of the patients with HPV results were higher than smear group. There was no difference in the subgroup comparisons made by the type of HPV-detected patients.
SENTINEL NODE MAPPING WITH FLUORESCENCE INDOCYANINE GREEN IS PROMISING IN 94 PATIENTS WITH CERVICAL OR ENDOMETRIAL CARCINOMA

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Aims

Retrospective study on sentinel lymph node (SLN) mapping with fluorescence indocyanine green (ICG) in early stage cervical (CC) and endometrial cancer (EC), using robot-assisted minimal invasive endoscopy.

Method

We included all patients who underwent SLN mapping by ICG and fluorescence imaging from 12/2014, to 03/2017. Ninety-four patients were analysed, 50 with EC (47pts FIGO-stage I and 3pts FIGO-stage II) and 44 with CC. Eighteen patients with EC and all patients but two with CC underwent a complete pelvic lymphadenectomy. In all cases, we injected 1mL of diluted ICG(2mg) into the 4 quadrants of the cervical stroma. In CC the injection was submucosal, in EC it was given 1cm deep in the cervical stroma. All SLNs were ultra-staged on final pathology.

Results

Twenty CC patients(45%) underwent neoadjuvant chemotherapy (NACT) (19 Ib2-IIB and 1 Ib1). Excluding NACT CC patients (2 IA2(5%) and 22 Ib1(50%)), 92% had bilateral mapping and 8% unilateral. NACT CC resulted in a worse SLN detection (bilateral:60%, unilateral:20%). Eight EC patients had a too deep (intrapertoneal) IGC-injection (N=6) or had fibrosis due to previous surgery(N=3). Excluding them, bilateral mapping was observed in 33(81%), unilateral in 4(10%) and no sentinel in 3 cases(7%). 12 positive sentinels were found (CC:9, EC:3). Only one patient, with a clinical stage II carcinosarcoma of the endometrium, had a false negative SN node. No recurrences in the pelvic lymph nodes were observed.

Conclusion

Fluorescence imaging with ICG using the robotic approach shows promising results in cervical and endometrial cancer. NACT seems to decrease the reliability of the technique.
CERVICAL CANCER II

ESGO7-1349

COMMON AORTIC AND OBTURATOR LYMPH NODE METASTASES MAY PREDICT PARAORTIC NODE INVOLVEMENT IN CERVICAL CARCINOMA

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Aims

To evaluate the risk factors associated with paraaortic lymph node metastasis in cervical carcinoma patients.

Method

A total of 205 consecutive cervical carcinoma patients with a histopathologic diagnosis of squamous cell or adenocarcinoma or adenocarcinoma were analysed retrospectively at Zekai Tahir Burak Women's Health Education and Research Hospital. Type 3 hysterectomy and bilateral pelvic paraaortic lymphadenectomy was the standard surgical procedure. Pathologic characteristics that were revealed with final pathology reports were analysed within univariate and multivariate analysis.

Results

Median age of the patients was 52.5 and most of the patients were having a squamous cell carcinoma (n=161, 78.5%). Median tumor diameter, pelvic and paraaortic lymph node counts were 3.5cm, 39 and 14 respectively. Paraortic lymph node metastasis was detected in 15 (7.3%) patients. In univariate analysis paraaortic lymph node metastasis was significantly related with parametrial involvement, lymphovascular space invasion and pericervical, obturator, external iliac, presacral and common aortic lymph node involvement (p<0.05). However multivariate logistic regression analysis showed that common iliac (p=0.003 OR:1.61, 95% CI:2.59-10) and obturator (p=0.021 OR:1.51, 95% CI:1.49-14) lymph node metastases were the only significant parameters of paraaortic lymph node involvement.

Conclusion

Common iliac and obturator lymph nodes may be used for the prediction of paraaortic lymph node metastasis during surgery for cervical carcinoma.
PTEN DOWN REGULATION INDUCE APOPTOSIS AND CELL CYCLE ARREST BY AN ACTIVATION OF P53 IN UTERINE CERVICAL CANCER CELL.

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Aims

PTEN and p53 are known as tumor suppressor proteins that are frequently mutated or down regulated in various human cancers. Down regulation of PTEN, however, may induce anti proliferative effect via p53 activation.

The authors investigate the proliferation and apoptosis of cancer cells after down regulation of PTEN in cervical cancer cell.

Method

Cervical cancer cells, HeLa and CaSki, were cultured with 10% FBS in culture medium. Before starting each experiment, the cells were cultured for 48 hours as fasting state for cell cycle synchronization. The siRNA for PTEN and control were constructed and transfected with Lipofectamine. The experiments were FACS for investigating cell cycles, Western blot for proteins analysis, and MTT assay for cell proliferation.

Results

Apoptosis cell portion was significantly increased(p<0.001) and S1 phase cell portion was significantly decreased in PTEN down regulated cells(p<0.001) on FACS analysis. Expression of p53, p27, p21, p-ERK, and cleaved Caspase 3 were increased and expression of cyclin A2 and cyclin D1 decreased in PTEN down regulated cells on western blots. Cell viability was significantly lower in PTEN down regulated cells than control(p=0.002) on MTT assay.

Conclusion

Down regulation of PTEN induce apoptosis and block G1/S shifting of cell cycle in cervical cancer cell and could be a new strategy for cervical cancer treatment.
CERVICAL CANCER II

ESGO7-0592

PROGNOSTIC EVALUATION OF NERVE-SPARING RADIAL HYSTERECTOMY IN TREATING LOCALLY ADVANCED CERVICAL CANCER

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Aims

The study aimed to evaluate clinical security and prognosis of nerve-sparing radical hysterectomy (NSRH) for locally advanced cervical cancer (LACC).

Method

A retrospective cohort analysis was conducted in National Cancer Center of China. Patients with LACC (stage in Ib2 or Iia2) were recruited from Jan.1, 2008 to Dec.31, 2014. Of all the patients, 69 cases underwent NSRH, while other 320 cases underwent conventional radical hysterectomy (RH). Clinical-pathological characteristics and operative parameters as well as bladder function were compared. After median 67 months’ follow-up, PFS and OS were evaluated.

Results

Basic information on two groups were matched. Multivariate analysis showed that lymph-vascular space invasion (LVSI) (P<0.001) and SCC level at diagnosis (P<0.01) were independent prognostic factors of PFS. Moreover, LVSI (P<0.001), SCC level (P<0.05) and efficacy evaluation of neoadjuvant therapy (P<0.05) were independent prognostic factors of OS. Compared to RH, patients who underwent NSRH presented less blood loss (366ml vs. 457ml, P<0.05), shorter urethral catheterization time (11.0 days vs. 15.5 days, P<0.01) and lower proportion of bladder dysfunction (6.1% vs. 16.3%, P<0.05). For patients in need of adjuvant radiotherapy, there was no superiority to the recovery of bladder function 1 year after NSRH (P=0.311).

Conclusion

NSRH is safe and feasible for patients with LACC. More importantly, compared with RH, NSRH not only demonstrated similar prognosis, but also improve operation quality as well as bladder function for patients with LACC. However, there is limited benefit at the recovery of bladder function for patients who underwent NSRH followed by pelvic radiotherapy.
CERVICAL CANCER II

ESGO7-0177

THE ROLE OF HPV TESTING WITH HPV16/18 GENOTYPING IN FOLLOW-UP OF CERVICAL CANCERS STAGES IA2-IIA2

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Aims

The aim of our study was to evaluate the role of HPV testing with HPV 16/18 genotyping for detection of local recurrence in patients who underwent surgical treatment for cervical cancers in stages IA2-IIA2.

Method

Patients underwent primary surgical treatment including radical or simple hysterectomy or fertility sparing procedure (trachelectomy or conization) and pelvic lymphadenectomy with sentinel lymph node biopsy. Adjuvant chemoradiotherapy was administered in patients with positive nodes. All women were followed in 3 months interval for the first 2 years and then semiannually. HPV tests (Cobas, Roche) were collected between 6-12 month of follow-up.

Results

Altogether 108 patients were included (IA2 - 20, IB1 - 80, IB2 - 7, IIA1 - 1), from them 51 underwent radical hysterectomy, 14 simple hysterectomy and 43 fertility sparing surgery (FSS). Four patients had subsequent adjuvant chemoradiotherapy. In 11 patients HPV test was positive. Disease recurred in vagina or cervix in 10 patients with 9 recurrences in patients after FSS. Six of them were HPV 16/18 positive. The rest 4 recurrences were detected within 6 months after the treatment before HPV testing.

Conclusion

Local recurrences were detected predominantly in patients after FSS. Nearly half of recurrences were detected before HPV test collecting. No case of recurrence were detected within HPV negative women.
IMPACT OF EXTENDED FIELD IRRADIATION ON ACUTE HEMATOLOGICAL TOXICITY IN PATIENTS WITH LOCALLY ADVANCED CERVICAL CANCER UNDERGOING RADIOCHEMOTHERAPY USING VOLUMETRIC MODULATED ARC THERAPY

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Aims

To evaluate the impact of para-aortic (PA) irradiation on acute hematological toxicity (HT), overall treatment time (OTT) and number of chemotherapy cycles in patients with locally advanced cervical cancer (LACC) undergoing concurrent radiochemotherapy using volumetric modulated arc therapy (VMAT).

Method

We analyzed 54 consecutive patients (Jan 2015 – March 2017) undergoing primary radiochemotherapy with weekly Cisplatin 40mg/m². Based on nodal involvement, irradiation fields included pelvic nodal irradiation in 29 patients and pelvic + PA nodal irradiation in 25 patients. Impact of PA irradiation was evaluated on HT, OTT and missed chemotherapy cycles. HT was assessed using the common terminology criteria for adverse events v.4.0. Dosimetric parameters (V10Gy, V20Gy, V30Gy, V40Gy, mean dose) were calculated for pelvic and lumbar bone marrow, which were contoured for each patient.

Results

Grade 3 leucopenia was observed in 20% vs 21% (with vs without PA irradiation), grade 2 in 36% vs 34%, and grade 1 in 32% vs 34%. Grade 3 anemia was not observed, grade 2 in 56% vs 37%, and grade 1 in 40% vs 41%. Bone marrow doses were acceptable, irrespective of field borders. For all but 1 patient, OTT of 50 days was respected. 75% got 4 to 5 chemotherapy cycles. There was no significant difference in HT (p=0.76), OTT (p=0.76), or chemotherapy cycles (p=0.45) among irradiation fields using linear mixed models.

Conclusion

PA irradiation using VMAT for LACC results in acceptable bone marrow doses, does not lead to increased HT, respects OTT and enables high compliance to concurrent chemotherapy.
CERVICAL CANCER II

ESGO7-0644

PATHOLOGICAL ULTRASTAGING OF SENTINEL AND NON-SENTINEL LYMPH NODES CAUSES STAGE MIGRATION IN EARLY STAGE CERVICAL CANCER

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Aims

The aims of study were to assess the impact of pathological ultrastaging (PU) processing on postoperative staging (TNM system) and to assess influence of PU on prognosis of patients with early stage cervical cancer according to International Federation of Gynecology and Obstetrics (FIGO) classification (IA2-IB1).

Method

In the study group (n1=27 patients) at least one sentinel lymph node (SLN)/patient was detected with blue dye. All extracted LNs in this group were subjected to PU (4 µm slices/150 µm intervals) with hematoxylin-eosin staining and immunohistochemistry (AE1-AE3 antibodies). Control group (n2=27 patients) had no SLN concept used nor PU. All patients underwent radical hysterectomy and systemic lymphadenectomy. Effect of PU in “n1” group was expressed as (pu)TNM and compared to FIGO classification. Disease-free (DFS) and overall survival (OS) were calculated for PU LN-event (isolated tumor cells, ITC, micrometastases, MICs, or macrometastases, MACs), PU LN-non-event and “n2” groups in median time of 4.2 years.

Results

Five-hundred-sixteen LNs were extracted (66 SLNs, 36% bilaterally). MIC or ITC were detected in 34 of 482 LNs (7.1%). False negative rate was 11.2%. PU revealed 5 cases of inconsistency between FIGO and (pu)TNM. Both N and M features were changed in two separate cases (from pN0 to puN1 - detection of MIC in pelvic nSLN, and pMx to puM1 - MIC in para-aortic nSLN). No differences in DFS and OS were found for any of the groups.

Conclusion

Underestimation of stage (staging bias) by FIGO classification in early stage cervical cancer, disclosed in PU, has no predictive nor prognostic significance.
SENTINEL LYMPH NODE DETECTION IN A SOUTH AFRICAN CERVICAL CANCER POPULATION

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Aims

To determine the detection rate, bilateral detection rate, sensitivity, specificity, positive and negative predictive values of sentinel lymph nodes in cervical cancer, with sub-group analysis to identify characteristics impacting on detection rates.

Method

Seventy-eight women were recruited. Methylene blue, Ninety-nine Technesium nanocolloid and indocyanine green were used to detect SLNs. Standard full pelvic lymphadenectomy was performed on all and ultrastaging on SLN negative women.

Results

Data of 72 women were available for analysis with 65% HIV positive. The mean age was 47.2 years; HIV-negative women 52.8 years compared to 44.2 years for HIV-positive women (p<0.0001). The mean BMI was 27.5 kg/m² (SD 5.41). The mean tumour diameter was 24 mm. Forty-eight patients (66.67%) were stage IB1 and 11 (15.3%) were IB2. Eighteen patients (25%) had pelvic lymph node metastases. The mean pelvic lymph node count was 25.16.

The SLN detection rate was 65.3% and the bilateral detection rate was 30.5%. The SLN detection rate in HIV positive was 68% and 60% in HIV negative women (p = 0.49). The sensitivity, specificity, positive and negative predictive values were 85.7%, 100%, 100% and 98.33% respectively.

Detection rates in women with tumour size < 2cm, early stage, node negative and BMI < 25 kg/m² were 77.1%, 74.5%, 72.2% and 77.7% respectively.

Conclusion

This is the first SLN study in African cervical cancer women of which large proportion had HIV infection. The SLN detection rate is much lower in this group compared to the published literature. Sensitivity, specificity, PPV, and NPV are comparable to the published literature.
CERVICAL CANCER II

ESG07-0271

NATIONWIDE CERVICAL CANCER SCREENING IN KOREA: DATA FROM THE NATIONAL HEALTH INSURANCE SERVICE CANCER SCREENING PROGRAM AND NATIONAL CANCER SCREENING PROGRAM, 2009–2014

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Aims

We sought to determine rates of participation and of abnormal results in the Korean nationwide cervical cancer screening.

Method

Using the database of the National Health Insurance Service, participation rates and abnormal result rates in the cervical cancer screening test were determined during the study period (2009–2014).

Results

The participation rate increased from 41.10% in 2009 to 51.52% in 2014 (APC = 4.126%; 95% CI = 2.253–6.034). During the study period, women aged ≥70 years showed the lowest rate (ranging from 21.7 to 31.9%) and those aged 30–39 years showed the second-lowest (ranging from 27.7 to 44.9%). The participation rates of National Health Insurance beneficiaries (ranging from 48.6 to 52.5%) were higher than those of Medical Aid Program (MAP) recipients (ranging from 29.6 to 33.2%). Abnormal result rates were 0.65% in 2009 and 0.52% in 2014, with a decreasing tendency in all age groups except the youngest group (30–39 years). In every year, abnormal result rates tended to decline from the group aged 30–39 years to the group aged 60–69 years, but rose again in those >70 years old. The ratio of ASC-US to SIL increased from 2.71 in 2009 to 4.91 in 2014.

Conclusion

Differences were found in participation rates and abnormal result rates by age and over time. Further efforts are needed to encourage participation in cervical cancer screening, especially for MAP recipients and elderly women and women aged 30–39 years. Additionally, quality control measures for cervical cancer screening programs should be enforced consistently.
CERVICAL CANCER II

ESGO-0710

CHARACTERISTIC FINDINGS OF HIGH-GR ADE CERVICAL INTRAEPITHELIAL NEOPLASIA OR MORE ON MAGNIFYING ENDSCOPY WITH NARROW BAND IMAGING

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Aims

Colposcopy, which is a standard modality for diagnosing cervical intraepithelial neoplasia (CIN), can have limited accuracy due to poor visibility. Currently, magnifying endoscopy with narrow band imaging (ME-NBI) has excellent diagnostic accuracy for early gastrointestinal neoplasms and is expected to be highly useful for CIN diagnosis. This study aimed to determine the characteristic findings and evaluate the diagnostic ability of ME-NBI using gastroscopy for lesions ≥ CIN 3.

Method

A total of 24 patients who underwent cervical conization with a preoperative diagnosis of high-grade squamous cell intraepithelial lesions (HSILs) or lesions ≥ CIN 3 were enrolled. Prior to conization, still images and video of ME-NBI were captured to investigate the cervical lesions. The images were retrospectively reviewed based on histological examination of the resected specimens. The NBI-ME images revealed the following abnormal findings: (1) light white epithelium (l-WE), (2) heavy white epithelium (h-WE), and (3) atypical intraepithelial papillary capillary loop (IPCL).

Results

Pathological examination of the resected specimens confirmed cervical lesions ≥ CIN 3 in 21 patients. The ME-NBI findings were classified into four groups, l-WE, l-WE with atypical IPCL, h-WE, and h-WE with atypical IPCL, at rates of 0%, 23.8%, 9.5%, and 66.7%, respectively. Additionally, all 3 patients with MIC showed strongly irregular IPCLs.

Conclusion

The detection of h-WE or l/h-WE with atypical micro-vessels using ME-NBI can be indicative for diagnosing lesions ≥ CIN 3. This study indicates that ME-NBI may have novel value for CIN diagnosis.

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CERVICAL CANCER II
ESGO7-1160

IMMUNE CHECKPOINT SYSTEM FOR EARLY STAGE CERVICAL CANCER WITH HIGH-RISK FACTORS
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Aims

The aim of this study was to evaluate the relationship between the expression of PD-L1 and survival in early stage cervical cancer with high-risk factors.

Method

Patients with high-risk factors of recurrence due to pathologically confirmed parametrial invasion and/or pelvic lymph node metastasis from 2002 to 2012 were included. Formalin-fixed, paraffin-embedded material of each patient was obtained through extraction after radical hysterectomy. Standard immunohistochemical staining was done using PD-L1 antibody. We also tested each tissue specimen for PD1 to evaluate the status of tumor-infiltrating lymphocytes (TILs). At least 1% of tumor cells expressing PD-L1 was defined as PD-L1(+). 50% or more TILs expressing PD1 was defined as high-PD1, less than 50% TILs expressing PD1 was defined as low-PD1, and no TILs expressing PD1 was defined as non-PD1.

Results

In total, 96 patients were enrolled. Patients with PD-L1(+) numbered 29 (30.2%), in which 12 (12.5%) had at least 50% of tumor cells expressing PD-L1. Patients with high-PD1 numbered 16 (16.7%). There were significantly more PD-L1(+) patients than PD-L1(-) patients with high PD1 (41.4% vs 6.0%, p=0.001). The 5-year progression free survival (PFS) rate of all patients in this study was 70.0%. The 5-year PFS rate of high-PD1 was higher than non-, and, low-PD1 (87.5% vs. 66.4%, p=0.054). 5-year PFS rate of patients with PD-L1(+) had no difference with PD-L1(-) (79.3% vs. 65.9%, p=0.101).

Conclusion

In patients with early stage cervical cancer, the patients with high-PD1 would tend to have a longer survival duration. The expression of PD-L1 would not affect the survival duration.
THE PLACE OF ENDOCERVICAL CURETTAGE ADJUVANT TO HPV POSITIVE PATIENTS WITH ASCUS CYTOLOGY AND NORMAL COLPOSCOPY

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Aims

To examine the additive information of ECC in the management of patients with ASCUS cytology, normal colposcopy and positive HPV result.

Method

A population based cohort study conducted at a single institution in the north of Israel between January 2007 and December 2014. All women with ASCUS cytology on routine PAP screen referred to colposcopy. All women with normal colposcopy were tested for HPV. Women with positive HPV referred to ECC.

Results

Of 11100 PAP smears taken in the study period, 980 (8.8%) were diagnosed as ASCUS. 910 of them had normal colposcopy and 260 of the normal colposcopy group (28.5%) were HPV positive. The mean age was 33 (18-55) and 85% of them were Jewish. HPV 16 was the most prevalent type (30%) in these patients. All the patients with positive HPV, had ECC test and 67 (25.7%) had cervical dysplasia – LGSIL or HGSIL. In 2 patients, squamous cell carcinoma in situ and adenocarcinoma in situ were found ultimately.

Conclusion

Performing ECC to women with ASCUS cytology, normal colposcopy and positive HPV enable us to detect precancerous dysplasia and even carcinoma in situ and it is justified in these patients.
OVARIAN PRESERVATION IS ASSOCIATED WITH BETTER SURVIVAL IN YOUNG PATIENTS WITH T1N0M0 CERVICAL ADENOCARCINOMA: A SEER-BASED STUDY

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Aims

Ovarian preservation is controversial in patients with cervical adenocarcinoma due to the risk of ovarian metastasis. The aim of this study is to evaluate the association of ovarian preservation with survival outcomes in young patients with T1N0M0 cervical adenocarcinoma.

Method

Women at 45 years old or younger with T1N0M0 cervical adenocarcinoma from 1988 to 2013 recorded in the Surveillance, Epidemiology, and End Results (SEER) Database who underwent hysterectomy were included. Propensity score weighting was used to balance the intragroup differences in baseline demographic and clinical characteristics. Cause-specific survival (CSS) and overall survival (OS) were compared through Kaplan-Meier estimates. Multivariate cox model was used to adjust for covariates including propensity score.

Results

A total of 1368 patients with T1N0M0 cervical adenocarcinoma, including 1090 (79.7%) patients underwent oophorectomy and 278 (20.3%) patients preserved ovaries were identified. Patients who preserved ovaries were younger, with lower T classification and less likely to undergo pelvic lymphadentectomy (all p<0.05). The median follow-up was 89 months for oophorectomy group versus 91 months for ovarian preservation group. In weighting cohort, ovarian preservation group had better CSS (5-year 98.8% versus 97.1%, 10-year 98.0% versus 95.2%, p=0.0370) and OS (5-year 98.8% versus 97.1%, 10-year 96.5% versus 93.5%, p=0.0025). After adjusting for covariates, the CSS benefit of ovarian preservation was marginally significant (p=0.051) and OS benefit was still significant (p=0.006).

Conclusion

Among young women with T1N0M0 cervical adenocarcinoma, ovarian preservation is associated with better survival.
CERVICAL CANCER II

ESGO7-0094

AWARENESS ON HPV AND HPV VACCINE AND ACCEPTANCE OF VACCINATION AGAINST HPV AMONG HIGH SCHOOL STUDENTS AND THEIR PARENTS: A PRIVATE HIGH SCHOOL BASED STUDY

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Aims

The aim of this study was to evaluate the awareness, knowledge, and risk perception about HPV and HPV vaccines among high school students and their parents. Another aspect assessed was the parent’s acceptance of the vaccine and willingness to vaccinate their children against HPV.

Method

Two different standardised electronic questionnaires, one for the students and one for the parents, were sent out. All subjects were students currently in school and their parents. Questionnaires were first sent in December 2016 and then twice more with 4 week intervals. All data from answered questionnaires were stored automatically by a computer program designed for the study (E.G.).

Results

The overall response rate was 34% for students and 27% for parents. The proportion of students who knew what the symptoms of HPV were was 21%, while 32% of students had heard about HPV only namely. 26% knew that there was a vaccine for the prevention of cervical cancer. Only 9.9% had been vaccinated against HPV, 86% vaccinated students were female. 70% of the students would like to be further informed.

Among parents, 74% had heard about HPV. Of 96 parents who have daughters in RC, 15 (16%) had vaccinated their child already. Reimbursement of HPV vaccine may influence on the decision of vaccination in 86% of parents.

Conclusion

This study is the first study evaluating the knowledge on HPV and the HPV vaccine among the high school students and their parents. Compared to vaccination rates in USA and Canada the vaccination rate in our population is very low.
CERVICAL CANCER II

ESGO7-0699

NEOADJUVANT-CHEMOTHERAPY IN LOCALIZED BULKY CERVICAL CANCER: A SINGLE INSTITUTION EXPERIENCE

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Aims

Cervical cancer is very rare in Israel. Radical-surgery is usually reserved for small localized lesions. The aim of this work is to present our experience with neoadjuvant-chemotherapy (NACT) in highly-selected patients (Bulky I-B1/IIA1 and I-B2/IIA2, with negative lymph-nodes per PET-CT).

Method

In 2004-2016 we treated 12 patients fulfilling the above-mentioned criteria with NACT prior to planned radical-surgery. All were included in the retrospective analysis. All NACT was IV platinum-based mostly with paclitaxel for at least 3-cycles. Response rate was measured according to RECIST-criteria. The need for adjuvant radiation-therapy was decided according to Seldis-criteria.

Results

Median age was 42 years (range, 26-68). Overall toxicity was very low, while clinical-response was high (10 patients, 83%). Two patients (17%) had stable-disease and were subsequently treated with chemoradiation. Clinical-response was defined as complete in 6 patients (50%) and as partial in 4 patients (33%). All these patients had radical-surgery. As for the pathological response: 7 patients had suboptimal-response (stromal-invasion >3 mm), 2 had complete-response and one had minimal residual-disease (<3 mm stromal-invasion). Only two patients required adjuvant radiation-therapy. Overall, 3 patients (25%) had persistent-disease, 2 patients that weren’t eligible to surgery and one patient that had surgery and needed adjuvant radiation-therapy. Two of these patients (one in each group) died of the disease.

Conclusion

In highly-selected patients with early, localized bulky cervical cancer, neoadjuvant-chemotherapy can generate high clinical-response which allows radical-surgery without subsequent radiation. This approach can achieve satisfactory outcomes, with few benign complications. We believe it could be applied as a valid alternative to primary chemoradiation.
CERVICAL CANCER II

ESGO7-0760

CHANGES IN EPIDEMIOLOGY OF OPERATED CERVICAL CANCER AT PRETORIA ACADEMIC HOSPITAL COMPLEX: 2000 VS 2010

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Aims

Our objective was to compare and evaluate epidemiology data on cervical cancer patients collected during two periods, ten years apart, at the Pretoria Academic Hospital Complex.

Method

Data were collected on cervical cancer patients with FIGO stage Ib1 – IIa during two retrospective descriptive studies, each study extending over a 5-year interval and performed ten years apart. Data obtained included demography, HIV status, FIGO stage, tumour histology type & grade and referral for adjuvant therapy.

Results

The first study (A) included 188 patients treated 1 Jan 1999 to 31 Dec 2003, while the second study (B) included 242 patients treated 1 Jan 2008 to 31 Dec 2012. Age distribution was comparable in both studies. HIV positivity rates were 2.5-fold higher in the second study: 9.4% vs 24.9%. FIGO stage Ib1 (43.5% vs 48.3%) and stage IIa (22.6% vs 17.8%) differed in the respective studies (A vs B), but stage Ib2 was similar in both (33.9%). Histological type differed slightly (A vs B): squamous- (76.6% vs 68.8%); adeno- (13.3% vs 20.2%) and adenosquamous carcinoma (10.1% vs 5.8%). Referral for adjuvant therapy were higher in study B: 40.4% vs 51.7%.

Conclusion

Longitudinal data from operated cervical cancer patients indicate a favourable trend toward downstaging. This could be due to increased screening, mainly targeting HIV positive women.
CERVICAL CANCER II

ESGO7-1352

PATHOLOGY REVIEW OF 159 CASES OF MICROINVASIVE CERVICAL CANCER
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Aims

Current FIGO definition of microinvasive cervical cancer (MICC) from 1994, limits stages IA1 and IA2 to 3 and >3<5 mm of invasion, respectively. Treatment options have greatly varied and changed within this period, new techniques have evolved, and the data of case series and reviews are becoming more available. Our study reviews the pathology in 159 cases in both stages of MICC primarily focusing on the possible spread of the disease beyond cervix and the spread pathways.

Method

Retrospective study of patients primarily treated for MICC where pathology review excluded over 100 due to missing data and primary pathology not complying with up to date standards, leaving 159 cases to review fulfilling all the criteria for MICC, including the „third dimension“ measure not exceeding 7 mm. Most of the excluded patients would have had to be staged as small IB1 on the basis of requirements of our pathology review.

Results

Of 159 reviewed pathologies 126 were stage IA1 and 33 IA2. Most frequent surgical treatment was radical hysterectomy, followed by simple hysterectomy and cone biopsy. LVSI in 12 patients and invasion to the middle third in one patient were registered. Pelvic nodes were found positive in 2 patients, both with LVSI, whilst parametrial invasion was not found in analyzed group. Positive pelvic nodes correlate with LVSI and deeper stromal invasion.

Conclusion

Despite current surgical treatment standard of modified radical hysterectomy or radical trachelectomy for stage IA2 patients it seems like an unnecessary procedure leading to over treatment of patients with possible complications.
BOWEL-, BLADDER- AND SEXUAL FUNCTION AFTER ROBOTIC ASSISTED RADICAL HYSTERECTOMY FOR EARLY STAGE CERVICAL CANCER- A ONE YEAR PROSPECTIVE STUDY

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Aims

To prospectively assess the impact of robot-assisted laparoscopic radical hysterectomy (RRH) for early stage cervical cancer on sexual-, bowel-, bladder and lymphatic function. Further to investigate the impact of RRH on androgen levels and ovarian reserve.

Method

Women consecutively scheduled for RRH during 2011-2013 were included in the study. Participants answered a validated questionnaire regarding psychological well-being, sexual-, bladder-, bowel-function and lymphoedema at baseline and one year after treatment. At the same time, serum samples for sex hormones and anti-Müllerian hormone were measured.

Results

50 women were included in the study and 32 were eligible for analysis one year after surgery. Six women needed adjuvant treatment. Vitality, anxiety and depression deteriorated in 50-60% of the women. Further, a significant proportion of the women treated with surgery alone (n=26) reported distress of sexual function including shortness and numbness of the vagina and deep dyspareunia. Lymphoedema was reported by 50% and micturition problems by 32% of the women. Sexual arousal and orgasm were significantly impaired among women receiving adjuvant treatment. FSH and LH levels were significantly increased and AMH decreased one year after surgery in women <45 years with preserved ovaries.

Conclusion

RRH is associated with sexual distress as well as micturition problems, lymphoedema and affects the ovarian function. Adjuvant treatment worsens the situation. Identifying women with impaired sexual and natural functions after RRH is important in order to provide adequate counseling and treatment. Patient reported experience measures should be incorporated in the follow-up after RRH for cervical cancer.
THE CLINICAL SIGNIFICANCE OF THE CD163+ AND CD68+ TUMOR-ASSOCIATED MACROPHAGES IN HIGH-RISK HPV-RELATED CERVICAL CANCER

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Aims

Objective. To explore the influence of M2-polarized tumor-associated macrophages (TAMs) on high-risk human papillomavirus (hr-HPV) related cervical carcinogenesis and metastasis.

Method

Methods. CD68+/CD163+ macrophages were examined immunohistochemically in a series of 129 samples, including 26 cases of normal cervical tissues, 59 cases of cervical intraepithelial neoplasia (CIN) and 44 cases of squamous cell carcinoma (SCC). Hr-HPV testing was carried out using the Hybrid Capture 2 assay (HC-II).

Results

Results. High counts of CD68+/CD163+ macrophages were associated with hr-HPV infection (both \(p<0.05\)) and positively correlated with cervical carcinogenesis (Spearman’s rho=0.478, \(p=0.000\); Spearman’s rho=0.676, \(p=0.000\), respectively). The immunostaining pattern of CD163 exhibited cleaner background compared with CD68. Notably, a high index of CD163+ macrophages is significantly associated with higher FIGO stages and lymph node metastasis (\(p=0.009\), \(p=0.007\), respectively), while CD68+ macrophages not (\(p=0.101\), \(p=0.070\), respectively).

Conclusion

Conclusions. Our study supported a critical role of TAMs as a prospective predictor for hr-HPV-related cervical carcinogenesis. CD163, as a promising TAMs marker, is superior to CD68 for predicting the malignant transformation and metastatic potential of cervical cancer.
NEOADJUVANT CHEMOTHERAPY (NACT) AND ABDOMINAL RADICAL TRACHELECTOMY (ART) FOR STAGE IB1 CERVICAL CANCER WITH TUMOR SIZE ≥2CM: PRELIMINARY RESULTS FROM CHINESE PATIENTS

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Aims

To assess the effectiveness of NACT and ART for IB1 cervical cancer with tumor size ≥2cm

Method

From April 2016 to March 2017, all patients with IB1 cervical cancer whose tumor≥2 cm and fit the inclusion criteria for ART were considered for this study. Laparoscopic lymphadenectomy was performed before NACT to rule out lymph node metastasis. Three courses with cisplatin 50mg/m², paclitaxel 135 mg/m² were followed by ART, and 3 more cycles after surgery.

Results

Seven young women considered eligible for ART were included. Median age was 30 years and tumor size before treatment was 31.4 mm. One (14.3%) had positive lymph node confirmed by frozen section during laparoscopic lymphadenectomy and converted to hysterectomy, although her PET-CT showed no suspicious lymph node before surgery. Adenocarcinoma was present in 1 (14.3%) and squamous carcinoma in 6 (85.7%). Pathological microinvasive residual tumor was observed in 2 cases, and 3 patients had tumor less than 2cm by final pathology. After a median follow-up of 7.1 months no relapses were observed. No patients had ever attempted to conceive.

Conclusion

Preliminary results from our data didn’t suggest a perfect pathological response although the regimen was well tolerated. We are now planning a further study with dose-dense regimen, to explore more effective pre-surgery treatment for reducing the tumor volume and performing less radical surgery.
CERVICAL CANCER II

ESGO7-1194

ERBB2 MUTATION: A PROMISING TARGET IN NON-SQUAMOUS CERVICAL CANCER

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Aims

Oncogenic mutations of ERBB2 have emerged as promising therapeutic targets in human cancers, whereas KRAS and PIK3CA mutations are predictors of resistance. ERBB2 mutations have been found in a subset of invasive cervical cancer (ICC). Nevertheless, the prevalence, mutation spectrum, clinicopathological relevance, human papillomavirus (HPV)-genotype association, prognostic significance, and other genetic background information of ERBB2-mutated ICCs have not been well established.

Method

In this study, ICC samples (N=1015) were assessed for mutations in ERBB2, KRAS, and PIK3CA by cDNA-based Sanger sequencing and were measured for HPV genotype by TaqMan fluorescent quantitative PCR. In addition, 157 ICC specimens were examined for HER2 overexpression and amplification by immunohistochemistry and fluorescence in situ hybridization.

Results

Somatic ERBB2 mutations were detected in 3.15% patients. The ERBB2 mutation rate was significantly higher in adenocarcinoma (4.52%, 7/155), adenosquamous carcinoma (7.59%, 6/79) and neuroendocrine carcinoma (10.34%, 3/29) than that in squamous carcinoma (2.14%, 16/749) (P=0.004, Fisher exact test). In addition, 18.75% of the patients carrying ERBB2 mutations concomitantly harbored PIK3CA or KRAS mutations. Patients with ERBB2-mutated ICCs tended to have a worse prognosis than those with wild-type or PIK3CA-mutated ICCs but a better prognosis than those with KRAS-mutated ICCs. The ERBB2 overexpression/amplification rate was 3.82% in ICCs.

Conclusion

This study provided a promising rationale for the clinical investigation of tyrosine kinase inhibitors for the treatment of cervical cancer with ERBB2 mutations. Patients with non-squamous cell carcinomas have priority as candidates for ERBB2-targeted therapy. Concurrent PIK3CA/RAS mutations should be considered in the design of clinical trials.
CERVICAL CANCER II

ESGO7-1156

DOES SIZE MATTER? MICROSCOPIC VERSUS GROSS TUMOR IN STAGE IB1 CERVICAL CANCER TREATED WITH RADICAL HYSTERECTOMY: IS THERE A DIFFERENCE?

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Aims

There is ongoing debate regarding the extent of radical dissection for stage IB1 cervical cancer. However, limited data exists regarding microscopic versus gross tumor presentation. This study compares pathologic outcomes of microscopic and gross stage IB1 cervical cancer in patients undergoing primary Type 3 radical hysterectomy (RH) at two large U.S. academic medical centers.

Method

All patients (1995-2017) with stage IB1 cervix cancer undergoing RH with pelvic lymphadenectomy were retrospectively analyzed using clinical and pathologic data. Pathology slides were reviewed by gynecologic pathologists. Squamous cell, adenocarcinoma, and adenosquamous carcinoma were included. Mann-Whitney U test was used to define age differences. Chi-squared test was utilized to calculate differences in pathologic variables with two-tailed \( p<.05 \) considered statistically significant.

Results

A total of 71 patients were identified, 60 met inclusion criteria. Mean age at diagnosis in the microscopic vs gross tumor cohort was 51.1 vs 49.5, \( p = .20 \). For microscopic confirmation of IB1 disease, 22 of 33 patients (67%) underwent cone biopsy or LEEP prior to RH.

<table>
<thead>
<tr>
<th>Table 1: Incidences of intermediate and high-risk pathologic features in microscopic and gross IB1 cancers</th>
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</thead>
<tbody>
<tr>
<td>Intermediate Risk Feature</td>
</tr>
<tr>
<td>Depth of invasion, % (n)</td>
</tr>
<tr>
<td>Middle 1/3</td>
</tr>
<tr>
<td>Deep 1/3</td>
</tr>
<tr>
<td>LVS1, % (n)</td>
</tr>
<tr>
<td>High Risk Feature</td>
</tr>
<tr>
<td>Nodes, % (n)</td>
</tr>
<tr>
<td>Parametrical invasion, % (n)</td>
</tr>
<tr>
<td>Vaginal margin involvement, % (n)</td>
</tr>
</tbody>
</table>

Conclusion

Though limited by low numbers, no parametrial invasion was seen in the microscopic cohort. According to our analysis, microscopic and gross IB1 have similar incidences of intermediate and high-risk features, affirming FIGO staging criteria. Further studies are warranted to better individualize treatment according to tumor burden to lessen treatment related adverse effects without compromising clinical outcomes.
Aims

The aim of this study was to evaluate outcomes after conservative management of precancerous lesions of cervix in 10 year period.

Method

Cone biopsy after biopsy of target lesions in selected cases were replaced with cytology and colposcopy examinations every six months. Initial pathohistological findings were compared with findings during follow up to see whether there was a progression, persistence or regression of lesions.

Results

A total number of 786 patients with HSIL cytological findings were included in study. In first 5 year period between 2002 and 2006, cone biopsies were performed in 264 out of 450 patients. In a second five year period from 2007 to 2012 selected cases were managed conservatively with reduction in number of cone biopsy procedures, 50 out of 336 patients. During 5 year follow up in first group there was a 4% progression rate. However in a group managed conservatively there were no cases with progression of findings.

Conclusion

Due to continuous development of team work and acquisition of the diagnostic equipment of higher quality, with mentioned conservative approach we were able to significantly reduce number of conisations, as well as the number of patients with progression to higher grade lesions in ten year period.
EXPRESSION OF Nod1 AND Nod2 DURING PROGRESSION OF HUMAN CERVICAL NEOPLASIA AND THEIR CORRELATION WITH P16INK4a EXPRESSION

Nod1 and Nod2 are cytosolic receptors which recognize pathogen-associated molecular pattern (PAMPs) and initiate the innate immune response. In this study, we examined the expression of Nod1 and Nod2 to determine whether their expression is associated with the tumor progression in cervical neoplasia.

Method

The expression of Nod1 and Nod2 was evaluated by immunohistochemistry (IHC) in 80 formalin-fixed paraffin-embedded cervical tissues; 20 normal cervical specimens, 20 low-grade cervical intraepithelial neoplasias (CINs), 20 high-grade CINs, and 20 invasive squamous cell carcinomas (ISCCs).

Results

IHC staining showed that Nod1 was constantly expressed in normal cervical epithelium, CINs, and ISCCs with variable staining intensity. However, Nod2 expression was detected in 40.0% of normal cervical epithelium (8/20), 45.0% of low-grade CIN (9/20), 70.0% of high-grade CIN (14/20) and 55.0% of ISCC (11/20). Interestingly, the Nod2 expression was more frequently observed in the high-grade CINs and ISCCs compared with that in normal cervical epithelium, but this association was not statistically significant. In addition, Nod2 expression was significantly more frequent in high Nod1 expression group compared to low Nod1 expression group (P=0.044) and increased frequency of Nod2 expression was associated with increased expression of P16INK4a (P=0.033) which is believed to be associated with human papillomavirus (HPV)-induced transformation of cervical tissue.

Conclusion

Our results showed the increased frequency of Nod2 expression in CINs compared with that in normal cervical epithelium and suggests Nod2 may be associated with the cervical tumor progression of CINs.
CORRELATION OF HPV, CYTOLOGICAL AND HISTOPATHOLOGICAL FINDINGS WITH DIFFERENT COLPOSCOPIC IMAGES

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Aims

The aim of this study is to determine the level of correlation between present of HPV infection and cytological and histopathological findings with different colposcopic images.

Method

Chi square test were used to determine the level of correlations among 1927 examined patients.

Results

Altogether 612 women (31.76%) were positive for one or more HR HPV types. HPV16 (11.36%) and 33 (6.43%) were the most prevalent types. HPV31 in 5.24%, HPV18 in 5.03% and HPV51 in 3.68% of all with normal colposcopic findings. 82.31% had normal cytology and 17.69% had abnormal cytology and among them 2.1% were HRHPV positive. There was a statistical difference between the findings of colposcopy and cytology in patients with HRHPV (x²=35.33, p=0.000). Abnormal colposcopy findings and normal cytology had 49.71%, among them there were 29.5% HRHPV positive and 9.5% LRHPV. There was no statistically significant difference between coposcopic and cytological findings (x²=0.394, p=0.530). Patients with normal colposcopy findings had histologically LGSIL changes in 53.81%, 11.95% were HRHPV positive. There was statistically significant difference between histopathology and colposcopy in patients with HRHPV (x²=10.17, p=0.001). 438 patients had abnormal colposcopy images and histopathological LSIL (71.51) and 2 patients had normal colposcopic images and histological HSIL. There was no statistically significant differences between histopaological and colposcopic exam in LRHPV patients (x²=1.71, p=0.190). HPV16 type was found in LGSIL statistically significant presence and in group age >35 years, HPV33 was the most often in age group 24 till 34 years. Abnormal findings on colposcopy was found in 93.3% patients with LGSIL and 68.05% patients with LGSIL had normal cytology and that 70.15% was HRHPV negative.

Conclusion

Our study showed that HPV testing could help for better screening for preinvasive lesions.
**Aims**

There has been a recent shift from cytology-only screening to HPV DNA testing in cervical cancer screening. The aim of this study is to identify outcomes of women with positive oncogenic HPV.

**Method**

This is a retrospective study of 4867 women who underwent HPV testing as part of cervical cancer screening between January 2013 and December 2016 in a tertiary institution in Singapore.

**Results**

Cotesting was performed in 58.1% and HPV primary screening in 23.5% of women. Of the 42 positive HPV 16 results, 2 had biopsy-proven CIN1 and 4 had biopsy-proven CIN2+. Two patients with normal colposcopy had negative random punch biopsies. Of the 15 positive HPV 18 result, 2 had biopsy-proven CIN1 and 3 had biopsy-proven CIN2+. One patient with normal colposcopy had negative multiple random biopsies and another had a negative diagnostic LEEP procedure. One patient had both HPV 16 and HPV 18 positivity and underwent diagnostic LEEP procedure of which histology was negative. Of the 183 positive non 16/18 HPV results, 1 had biopsy-proven CIN1 and 7 had biopsy-proven CIN2+. Two patients with normal colposcopy had negative diagnostic LEEP and another had negative hysterectomy. The sensitivity, specificity, positive predictive value and negative predictive value were 100%, 94.39%, 4.48%, 100% for HPV primary testing and 100%, 93.40%, 4.48%, 100% for co-testing respectively.

**Conclusion**

While HPV DNA tests can increase detection of high grade CIN, there is a need to strike a balance between increased sensitivity and over-treatment that may lead to recognised future fertility implications.
LAVAGE OF THE UTERINE CAVITY FOR OVARIAN CANCER DIAGNOSIS: A FEASIBILITY STUDY

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Aims

75% of ovarian cancer patients are diagnosed at an advanced stage. We previously introduced a new diagnostic concept, based on a lavage of the uterine cavity to collect shed cancer cells. After the design of a new catheter specifically for this purpose we conducted a feasibility study.

Method

In the course of the study the performance of the catheter (n=93), as well as the level of pain compared to the insertion of an intrauterine device (IUD) (n=18) which was placed four weeks afterwards were evaluated. 16 gynecologists of four centers performed the uterine lavage, using four different batches of the catheter.

Results

In 92/93 cases it was possible to collect a uterine lavage sample. Dilatation had to be applied in a lower proportion of pre-menopausal, compared to post-menopausal women (p=0.0088). Insertion of the catheter was more difficult in patients with cancer, than women with benign, or no gynecological diseases (p=0.009). The discomfort experienced during the uterine lavage was rated with a median VAS score of 1.6, the insertion of an IUD with 1.0, both using local anesthesia. No participant had to use medication, developed a fever or other symptoms requiring a doctor’s visit. Both procedures took 6.5 minutes on average.

Conclusion

The results of the feasibility study show that the catheter, together with the lavage protocol represents an easy and reliable way of collecting target cells present in the uterine cavity. The procedure is well tolerated. Therefore, it carries the potential to be used as a screening tool.
DIAGNOSTICS AND PREINVASIVE DISEASE II

ESGO7-0257

TYPES AND MULTIPLE INFECTION OF HPV ARE RELATED TO VIRAL PERSISTENCE AND CIN RECURRENCE AFTER LASER SURGERY

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²Obihiro kyoukai hospital, Dept. OB/GYN, Obihiro- Hokkaido, Japan

Aims

In order to elucidate the factors related to HPV persistence and CIN recurrence after Laser surgery, we examined the details of infected HPV genotypes in 334 cases with CIN.

Method

Cases were recruited from CIN cases treated in our hospital from 2007 to 2011, and observed until December 2014. One hundred and four of the cases were treated by laser conization, while the other 230 cases by laser vaporization. Surgical procedure was selected on the basis of colposcopic examination, pathological grade, and patient's hope for pregnancy. All cases examined infected HPV genotypes before and after treatment using the multiplex PCR method.

Results

There were no significant differences in cure rates, HPV persistence rates or recurrence rates between conization and vaporization. Persistent HPV infection after treatment was the independent risk factor of recurrence (RR, 9.25; 95%CI 3.06-27.98; p<0.001) in multivariate analysis. And, multiple-type HPV infection before treatment was the independent risk factor of the persistence of HPV infection (RR, 2.04; 95%CI 1.10-3.78; p=0.024). Types 16,18 and 33 showed a higher potential for recurrence than the other types of HPV.

Conclusion

Multiple HPV infections are a risk factor of HPV persistence. Furthermore, types 16,18 and 33 infections generate a high risk for the recurrence of CIN. In addition, HPV persistent cases, especially, HPV 16, 18 and 33 showed higher recurrence rates, thus may require more intensive follow up than HPV cleared cases.


### Aims

To compare IOTA logistic regression model (LR2) with Ovarian Malignancy Algorithm (ROMA) in predicting malignancy in women with pelvic masses.

### Method

Multicenter prospective study enrolling consecutively 371 unselected patients (mirroring clinical practice) with suspicious pelvic masses: benign 285pts; borderline 15pts; malignant 71pts (of which epithelial ovarian cancer-EOC 63pts). LR2 and ROMA diagnostic performances were estimated and compared.

### Results

Results. LR2 and ROMA had similar diagnostic performances in discriminating benign from EOC patients both in pre and postmenopause (Table 1; AUC:area under ROC curve).

#### Table 1

<table>
<thead>
<tr>
<th>BENIGN vs EOC</th>
<th>Optimal Cut-off</th>
<th>Specificity [95% CI]</th>
<th>Sensitivity [95% CI]</th>
<th>+ Predictive Value [95% CI]</th>
<th>- Predictive Value [95% CI]</th>
<th>AUC (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premenopausal</td>
<td>LR2 (%)</td>
<td>10.5</td>
<td>88.0 [82.7-92.2]</td>
<td>84.2 [60.4-96.6]</td>
<td>40.0 [30.4-50.4]</td>
<td>98.3 [95.4-99.9]</td>
</tr>
<tr>
<td></td>
<td>ROMA (%)</td>
<td>13.2</td>
<td>87.0 [81.5-91.3]</td>
<td>84.2 [60.4-96.6]</td>
<td>38.1 [29.0-48.1]</td>
<td>98.3 [95.4-99.9]</td>
</tr>
<tr>
<td></td>
<td>p-value (Del.Long)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>p=0.93</td>
</tr>
<tr>
<td>Postmenopausal</td>
<td>LR2 (%)</td>
<td>27.7</td>
<td>92.9 [85.3-97.4]</td>
<td>79.6 [64.7-90.2]</td>
<td>85.4 [72.7-92.8]</td>
<td>89.8 [83.0-94.0]</td>
</tr>
<tr>
<td></td>
<td>ROMA (%)</td>
<td>32.5</td>
<td>94.1 [86.8-98.1]</td>
<td>88.6 [75.4-96.2]</td>
<td>88.6 [76.8-94.8]</td>
<td>94.1 [87.5-97.3]</td>
</tr>
<tr>
<td></td>
<td>p-value (Del.Long)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>p=0.06</td>
</tr>
<tr>
<td></td>
<td>LR2 vs ROMA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>p=0.93</td>
</tr>
</tbody>
</table>

When using clinical recommended cut offs, LR2 and ROMA presented comparable sensitivity and specificity in premenopause. In postmenopause, ROMA showed higher specificity and LR2 higher sensitivity. Risk calculated with LR2 and ROMA slightly agreed in patients with benign disease (pre and postmenopause:Cohen's Kappa 0.07 and 0.20), whereas fairly or moderately agreed in patients with malignancy(pre and postmenopause: Cohen's Kappa0.23 and 0.56). AUC of LR2 and ROMA combination (logistic regression equation) was significantly higher in premenopausal patients compared to AUC for ROMA alone (AUC 0.943 and 0.907;p=0.03).Mean predicted probability of malignancy increased by 0.155 when using LR2+ROMA in comparison to LR2 alone (0.620 vs0.775), whereas decreased by 0.039 for benign tumors (0.095 vs0.056); integrated discrimination improvement was 0.155+0.039=0.194.

### Conclusion

Although LR2 and ROMA used individually show a comparable diagnostic performance, when used in combination they appear to differentiate EOC from pelvic masses more efficiently.
Aims

Recent literature supports the impact of contraceptives (local and systemic) on the cervical canal microbiome and mucous. In relation to the findings we investigated the potential impact of combined oral contraceptives (COC) and intrauterine devices (IUDs) on postoperative bleeding, discharge and pain after conization.

Method

This cross-sectional study analyzes single center data on postoperative complications experienced by patients after conization between the years 2005 to 2015 at the University Medical Center Maribor, Slovenia. Physicians recorded at the follow up exam 4-6 weeks after conization the amount of postoperative pain, bleeding and discharge as well as type of contraception patients were using. Statistical analysis was done through descriptive data analysis and the Mann Whitney-U test using the SPSS programme.

Results

A total of 717 women were included in the study. 69 % of women (n=497) in the study were using COC, 7.8 % (n=56) were IUD users and the rest of women compromised the control group (n=164). There was a significant difference in the amount of moderate discharge between groups (p>0.029) in favor of IUDs (reducing discharge). Whilst not statistically significant, there is a tendency of IUDs also reducing perception of pain (p>0.078). Other parameters between IUD usage and COC usage were statistically insignificant.

Conclusion

IUD properties may present a positive impact on the postoperative discharge following conization. Further studies are needed to evaluate differences between hormone and gold/copper IUDs as well as larger studies on specific oral contraceptive substances.
Aims

To evaluate the feasibility and assess the concordance of the HPV genotyping both in cervical samples and corresponding self-collected urine by PCR-HPV specific detection kit in women with CIN in a colposcopic referral population.
To correlate the genotype detection i both cervical and self-collected urine sample with the grade of CIN.

Method

Design: Cross-sectional single centre study.
Patients: Women undergoing conization for CIN at cervical biopsy.
Intervention: Cervical brush and urine samples were collected before conization. A first void urine specimen was self-collected by patients and brought to the outpatient clinic. Cervical samples was collected with cytobrush. HPV genotype was assessed by Linear Array (Roche) procedure.

Results

134 patients were enrolled. HPV genotypes were detected in 81% of cervical samples and only in 57% of corresponding urine. By classifying the samples on CIN, the worse the grade of CIN the better detection of HPV was observed in both biospecimens. HPV was present in CIN1 (n= 31) in 45% and in 29% of cervical and urine samples, while the percentages raised to 92% and 66% respectively for CIN>1 (CIN2= 47 and CIN3=56). This trend was confirmed by chi-square statistical analysis in CIN1 versus CIN2 and CIN3 (p=0.006 for cervix and p=0.039 for urine). A statistically significant increase of poly-infection was observed in CIN>1 compared to CIN1 in both samples (p=0.001 cervical, p= 0.008 urine).

Conclusion

This study shows that urine can be used for HPV genotyping in CIN2+ lesions. The concordance of HPV genotype detection between cervical and urine samples depend on the grade of CIN.
SUBJECTIVE ULTRASOUND ASSESSMENT AND MULTIVARIABLE-PREDICTIVE MODELS IN DISCRIMINATING MALIGNANT FROM BENIGN OVARIAN TUMORS IN REFERRAL CENTER FOR GYNECOLOGIC ONCOLOGY

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²Gdańsk University of Technology, Department of Probability and Biomathematics, Gdańsk, Poland

Aims

The aim was to develop a predictive model and compare it with subjective ultrasound assessment (SUA) in preoperative discriminating malignant from benign ovarian tumors, thus enabling optimal treatment planning in referral center for gynecologic oncology.

Method

A prospective, observational study on 280 consecutive patients undergoing surgery for adnexal masses (53.1% malignant) and preoperative standardized transvaginal and abdominal ultrasound examination with predefined definitions was performed. Stepwise logistic regression (SLG) with lowest possible AIC and BIC (Akaike and Bayesian information criterion) values were used to develop the model on 160 cases. On an independent group of 120 patients the model was tested and compared with SUA, risk of malignancy (RMI) and International Ovarian Tumor Analysis (IOTA) models: ADNEX, LR2.

Results

Univariate analysis revealed that age, hormonal status (HS), ascites, bilateral (BL) and multilocular lesions, solid components (SC), metastases in abdominal cavity, Doppler parameters: color score (CS), resistance (RI), pulsatility indices, peak systolic velocity, Cancer Antigen (CA) 125, platelet count and D-dimer level were significant in predicting malignancy. SLG revealed final model consisting of 6 factors (SC, BL, HS, CA125, CS, RI)- area under the receiver operator characteristic curve (AUC) 0.974. In a testing set, sensitivity, specificity and positive predictive values were 77.0%, 93.2%, 92.1% respectively. For other models – ADNEX: 81.9%, 93.2%, 92.6%; LR2: 63.9%, 96.6% (88.4-99.0), 95.1% (83.8-98.6); RMI: 77.0%, 89.8%, 88.7%; for SUA: 90.1%, 93.2% (83.8-97.3), 93.2% (83.8-97.3) respectively.

Conclusion

SUA by gynecologist oncologist has better or comparable clinical usefulness as multivariable-predictive models in discriminating malignant from benign ovarian tumors.
ESG07-0664

IS GENOTYPING OF UGT1A1 REALLY USEFUL FOR GYNECOLOGIC CANCER PATIENTS TREATED WITH IRINOTECAN-BASED CHEMOTHERAPY?

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³Ohki Memorial Kikuchi Cancer Institute for Women, Gynecologic Oncology, Tokorozawa, Japan

Aims

Genotyping of UGT1A1*28 and *6 was supported by national insurances since 2008 in Japan, however, there still exists argument which patients receive the test.

Method

Medical records of gynecologic patients treated with irinotecan-based therapy between 2003 and 2015 in our hospital were reviewed. Until 2007, dose reduction of irinotecan was based on physical status or previous myelosuppression (Non-UGT group). Since 2008, doses of irinotecan were modified by choice of physicians according to UGT1A1*28/*6 genotype (UGT group). Adverse effects at the 1st cycle were compared.

Results

217 cases were treated with irinotecan-based therapy: 59 with cervix, 30 with uterine corpus, and 128 with mullerian cancers. 109 patients underwent UGT1A1 genotyping: 66 (61%) with wild-type, 39 (35%) with hetero-type, and 5 (5%) with homo-type/double hetero-type. Irinotecan dose was modified in 25% in UGT group, and 11% in non-UGT group. In UGT group, Grade3/4 non-hematologic (17% vs. 26%, p=0.13) and Grade4 hematologic toxicities (11% vs. 19%, p=0.08) were reduced. Of note, grade4 non-hematologic toxicities were not observed in UGT group (0% vs. 5%, p=0.02).

Conclusion

Tailor-made chemotherapy according to UGT1A1 genotyping enabled us to reduce severe toxicities in gynecologic patients treated with irinotecan. Further investigations including response rates at reduced doses are needed to facilitate UGT1A1 genotyping.
A NOMOGRAM FOR DECISION MAKING OF COMPLETION SURGERY IN ENDOMETRIAL CANCER

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2 Antalya Research and Training Hospital, Department of Gynaecological Oncological Surgery, Antalya, Turkey
3 Akdeniz University School of Medicine, Department of Gynaecological Oncological Surgery, Antalya, Turkey
4 Ankara University School of Medicine, Department of Biostatistics, Ankara, Turkey

Aims

To develop a nomogram for decision making of completion surgery based on pathologic characteristics of the hysterectomy specimen in endometrial cancer (EC) patients treated with hysterectomy alone.

Method

Analyses were performed on the dataset of 336 patients. Age, grade, depth of myometrial invasion, lymphovascular space involvement, cervical involvement, positive peritoneal cytology, and histotype were assigned as potential covariates. To investigate associations between covariates and extrauterine disease, logistic regression analyses were performed. Several models were evaluated, and finally, three different models were developed. Accuracies of the models were internally validated in terms of their discrimination, calibration and overall performance. One of the models was selected, its clinical usefulness was quantified by decision curve analysis (DCA), and presented as a nomogram.

Results

Of the patients 67 (19.9%) had extrauterine disease. Performance values of the nomogram were as follows: area under the receiver operating characteristics curve, 0.870 (P<0.001); calibration slope β, 1.0; and Brier score, 0.101. Ten-fold cross-validation revealed a sensitivity of 50.7%, specificity of 95.5%, and positive predictive value of 73.9%. DCA revealed that a reasonable threshold probability for the presence of extrauterine disease that would indicate a completion surgery would be 2%. This cut-off value provided a net benefit of 18 true-positive results per 100 patients without an increase in the number of false-positive results. As compared with "treat all" strategy, it led to 10% fewer surgeries.

Table 1. Univariate and multivariate logistic regression analyses.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Univariate analysis</th>
<th>Multivariate analysis (Full model)</th>
<th>Multivariate analysis (Stepwise selection result)</th>
<th>Stepwise multivariate analysis (Prepared model)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR, 95% CI</td>
<td>OR, 95% CI</td>
<td>OR, 95% CI</td>
<td>OR, 95% CI</td>
</tr>
<tr>
<td>Age</td>
<td>1.04 (0.97-1.13)</td>
<td>1.00 (0.93-1.07)</td>
<td>0.99 (0.92-1.06)</td>
<td>1.00 (0.93-1.07)</td>
</tr>
<tr>
<td>Tumor grade</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 2</td>
<td>2.94, 0.99-8.33</td>
<td>1.96 (0.39-9.72)</td>
<td>1.96 (3.91-9.72)</td>
<td>1.96 (1.91-9.72)</td>
</tr>
<tr>
<td>Grade 3</td>
<td>2.70 (1.58-4.01)</td>
<td>1.64 (0.96-2.81)</td>
<td>1.64 (0.98-2.85)</td>
<td>1.64 (0.98-2.85)</td>
</tr>
<tr>
<td>Myometrial invasion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>4.48, 0.85-23.72</td>
<td>2.52 (0.74-8.53)</td>
<td>2.52 (0.74-8.53)</td>
<td>2.52 (0.74-8.53)</td>
</tr>
<tr>
<td>LVS%</td>
<td>0.99 (0.69-1.44)</td>
<td>0.99 (0.69-1.44)</td>
<td>0.99 (0.69-1.44)</td>
<td>0.99 (0.69-1.44)</td>
</tr>
<tr>
<td>Cervical involvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Yes</td>
<td>8.29, 4.32-15.07</td>
<td>3.00 (1.26-7.24)</td>
<td>3.00 (1.26-7.24)</td>
<td>3.00 (1.26-7.24)</td>
</tr>
<tr>
<td>Positive peritoneal cytology</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>8.57, 4.56-15.25</td>
<td>3.00 (1.26-7.24)</td>
<td>3.00 (1.26-7.24)</td>
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<tr>
<td>Histotype</td>
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</tr>
<tr>
<td>Endometrioid</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>CAEMT</td>
<td>2.90, 1.53-5.50</td>
<td>1.50 (0.81-2.80)</td>
<td>1.50 (0.81-2.80)</td>
<td>1.50 (0.81-2.80)</td>
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<tr>
<td>Clear cell</td>
<td>1.47, 1.20-17.05</td>
<td>1.00 (0.93-1.07)</td>
<td>1.00 (0.93-1.07)</td>
<td>1.00 (0.93-1.07)</td>
</tr>
<tr>
<td>Others</td>
<td>1.00 (0.93-1.07)</td>
<td>1.00 (0.93-1.07)</td>
<td>1.00 (0.93-1.07)</td>
<td>1.00 (0.93-1.07)</td>
</tr>
</tbody>
</table>

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Conclusion

Estimation of extrauterine disease and decision making for completion of surgery is possible with high predictive performance using a nomogram involving primary tumor characteristics.
GENETICS OF ENDOMETRIAL CANCER IS GREATER THAN PREVIOUSLY ESTIMATED IN THE OUR LOCAL POPULATION.

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3Hadassah-Hebrew University, Oncology, Jerusalem, Israel

Aims

To expand the data base on the hereditary component of endometrial cancer (EC) in the local population.

Method

The study population included EC patients that visited the oncogenetic clinic in Hasassah Ein-Kerem hospital. The patients were either tested for 18 common germline mutations associated with Lynch syndrome and breast and ovarian cancer syndrome, or known carriers from previous genetic testing. DNA was extracted from blood samples provided by the patients after signing an informed consent form. The Genomic DNA was then analyzed using High Resolution Melting (HRM) method and the results were validated using Sanger sequencing.

Results

Out of a total of 166 endometrial cancer patients included in the study, 41 patients (25%) were found to be carriers of a pathogenic germline mutation (fivefold the expected); 25 patients (15%) were found to be Lynch carriers. 10 patient (6%) were found to be carrier of a BRCA mutation (7 BRCA1 and 3 BRCA2), and 6 carriers of the APC-K1307 mutation. Only 76% of the lynch carriers met The Bethesda criteria at time of EC diagnosis.

Conclusion

The results of this study suggest that the genetic component of EC is greater than previously estimated in the local population, both in lynch and none lynch carriers. Since the women included in the study are of high risk population, the prevalence of pathogenic mutation carriers in the general population cannot be estimated. More women with EC should be referred for genetic counselling in order to conduct further research.
ENDOMETRIAL CANCER II

ESGO7-0663

SURGICAL MORBIDITY OF ROBOTIC-ASSISTED SENTINEL LYMPH NODE BIOPSY VS. SYSTEMATIC PELVIC LYMPHADENECTOMY FOR ENDOMETRIAL CANCER STAGING: A PROPENSITY-MATCHED ANALYSIS

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Aims

To compare perioperative surgical outcomes and treatment-related morbidity of patients undergoing robotic-assisted sentinel lymph node (SLN) biopsy vs. systematic pelvic lymphadenectomy (PLD) for apparent early stage Endometrial Cancer (EC) staging.

Method

Records of consecutive patients with FIGO stage I-III EC undergoing robotic-assisted staging during 01/01/2009-06/30/2016 were manually reviewed. Perioperative and 30-day surgical outcomes were compared between patients who underwent PLD vs. SLN as actual treatment for staging (i.e. patients who had SLN biopsy followed by pelvic lymphadenectomy were excluded). Inverse probability of treatment weighting (IPTW) derived from propensity scores was used to minimize the allocation bias when comparing outcomes between groups.

Results

423 patients were included in the analysis: 235 (55.6%) PLD and 188 (44.4%) SLN. IPTW analysis balanced for baseline characteristics (age, BMI, ASA score, Charlson comorbidity index, parity, prior C-section and prior abdominal surgery) showed no significant differences in intraoperative and postoperative complications, readmissions and reoperations between the groups. Women who received PLD and SLN had similar conversion to open surgery rates (1.5% vs 0.8%; p=0.48). Patients in SLN group had lower mean operative time (216.2 vs 138.1 minutes) and lower median blood loss (50 vs 100 mL) when compared to PLD (p<0.001). Table 1.
Conclusion

The introduction of SLN biopsy reduces operative times and further improves short-term perioperative surgical outcomes of robotic-assisted staging for apparent early stage EC.
THE TEN YEAR EXPERIENCE OF A REGIONAL SPECIALIST GYNAECOLOGY CANCER GENETICS CLINIC WITH LYNCH SYNDROME

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Aims

To review the outcomes from a single institution experience of a regional referral practice in Lynch Syndrome (LS)

Method

Service review. Surveillance was outpatient hysteroscopy, endometrial biopsy, CA 125 and TV ultrasound. Risk reducing surgery (RRS) was laparoscopic hysterectomy and bilateral salpingo-oophorectomy.

Results

Since 2007 60 patients have had RRS and a further 7 patients are undergoing surveillance. There are 18 MLH-1, 17 MSH-2, 7 MSH-6 and 2 PMS-2 mutation carriers having risk reducing surgery with the balance having strong family history. The frequency of surgery is increasing with more referrals. The mean age for RRS is 45 years (range 32-62 yrs). 21 patients opted for surveillance, mean time period 3 years, with the longest screen being 11 years. Forty patients chose RRS, 25 within 6 months of the specialist clinic, 9 within 12 months (1 cancer at surgery aged 54 years), 6 within 24 months (1 cancer at surgery aged 48 years). There has been one ovarian cancer (stage 1A endometrioid) discovered at the time of removing an abnormal ovary at time of colorectal cancer surgery aged 41 years which precipitated diagnosis of LS. Three patients have had endometrial cancer detected at RRS, one stage 2 requiring adjuvant radiotherapy. Prior cancer in carriers include bowel and breast cancer. There have been no deaths.

Conclusion

Centralised services provide excellent care for patients with cancer mutations
IMPACT OF HORMONAL RECEPTOR STATUS AND Ki-67 EXPRESSION ON DISEASE FREE SURVIVAL IN PATIENTS AFFECTED BY HIGH-RISK ENDOMETRIAL CANCER

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Aims

The aim of this study was to evaluate the immunohistochemical expression of Ki-67, estrogen (ERα) and progesterone (PR) receptors in high-risk endometrial cancer patients and to assess their prognostic impact.

Method

Immunohistochemical (IHC) expression of Ki-67, estrogen (ERα) and progesterone (PR) receptors was evaluated in primary untreated endometrial cancer. The correlation among IHC staining and risk factors of recurrence such as age, FIGO (Federation International of Gynecology and Obstetrics) stage, grading, depth of invasion, and metastatic spread was assessed.

Results

82 patients were available for the analysis. Mean age was 65.05 ± 10.48 years. The IHC assessment revealed a lack of ERα in 46.3%, of PR in 48.7%, and a high Ki-67 in 31.7%. Loss of ERα and PR was associated with a significant higher rate of advanced stage of disease, a higher frequency of G3 tumors and a myometrial invasion >50%. A strong Ki-67 expression correlated with a deeper myometrial invasion. Analysis of the inter-relationship between receptor immunonegativity revealed a relevant association of ERα immunolocalisation with PR and with a high Ki-67 expression. The present study also showed that loss of ERα (p = 0.003), advanced FIGO stage (p < 0.001) and high Ki-67 (p = 0.004) were independent prognostic factors of a shorter DFS. Importantly, loss of ERα, loss of PR and a high Ki-67 were correlated with a higher incidence of distant recurrence.

Conclusion

A systematic immunohistochemistry should be a key step in the therapeutic algorithm and could contribute to the identification of high-risk tumors.
**ENDOMETRIAL CANCER II**

**ESGO7-0275**

**PROGNOSTIC FACTORS FOR DISEASE RECURRENCE IN EARLY ENDOMETRIAL CANCER**

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**Aims**

The purpose of this study is to evaluate the clinicopathologic factors of early (International Federation of Gynecology and Obstetrics (FIGO) I-II stage) endometrioid endometrial adenocarcinoma (EM CA) in single institution and to identify factors affecting recurrence and prognosis.

**Method**

A single-center retrospective study of FIGO stage IA-IIB 102 EM CA patients who underwent comprehensive surgical staging from June 1995 to August 2016 was conducted. Non-endometrioid type and double primary cancer were excluded. We selected several clinicopathologic factors including age, CA-125, depth of myometrial invasion (DMI), tumor grade, lymphovascular space invasion (LVSI), and status of estrogen receptor/progesterone receptor (ER/PR). Univariate and multivariate Cox proportional hazard model and Kaplan-Meier estimates were used for analyzing all clinicopathologic factors related to the risk of disease recurrence.

**Results**

The median age was 55.05 years (range, 35 to 81 year). And the median follow-up time was 35 month (range, 2 to 155). Fifteen patients (10.78%) showed disease recurrence. Three patients, distant and 12 patients, locoregional metastasis were included. In univariate analysis, tumor grade (P=0.0045) and LVSI (P=0.0374) were associated with disease recurrence. Multivariate analysis demonstrated an association between any type of recurrence and LVSI (hazard ratio [HR], 6.308; 95% confidence interval [CI], 1.851-11.484).

**Conclusion**

LVSI is highly associated with disease recurrence in early EM CA. As such, the presence of LVSI may indicate the need for adjuvant systemic therapy in patients with early stage disease.
ENDOMETRIAL CANCER II

ESGO7-0365

THE OUTCOMES OF FERTILITY SPARING TREATMENT FOR EARLY STAGE WELL-DIFFERENTIATION ENDOMETRIAL ENDOMETRIOID ADENOCARCINOMA

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Aims

The purpose of present study is to evaluate the outcomes of oral progestin treatment in women diagnosed with early stage grade 1 endometrial endometrioid cancer (G1EEC), who wish to preserve their fertility, in a single institute.

Method

We reviewed the medical records of patients that had been treated using oral progestin between 2010 and 2016. Women with disease limited to endometrium and no evidence of metastasis on pelvic magnetic resonance imaging scans were included. Endometrial biopsies were taken at follow-up periods.

Results

We identified 24 young women with G1EEC. The median age was 33 years old (range, 23 to 42), and the median treatment duration was 9 months (range, 3 to 24). Eighteen patients (75.0%) achieved complete remission (CR; median time to CR was 6 months; range, 3 to 12), only 1 patient (5.6%) with CR had recurrence at 40 months. Five patients with CR had subsequent levonorgestrel intrauterine device insertion due to no fertility desired yet. A total of 8 patients finally received surgery (4 non-responders, 2 after childbearing, 1 recurrence, 1 after ART failure). Eight of 16 CR patients attempted conception and 4 (50%) became pregnant with 5 live births. The proportion achieving pregnancy in our study cohort was 16.7% (4 of 24). Till now, all patients are alive with a median follow-up period of 37 months (range, 12 to 81).

Conclusion

We demonstrated high efficacy of fertility-sparing treatment with oral progestin. Low recurrent rate may be related to prolonged use of levonorgestrel intrauterine device. Further studies are necessary for clarification.
IMPORTANCE OF ULTRASOUND MARKERS IN THE RISK ASSESSMENT OF LYMPH NODE INVOLVEMENT IN ENDOMETRIAL CANCER

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Aims

To evaluate ultrasonographic tumor and invasion markers (myometrial invasion [uMI; ≥ 0.5 myometrium], tumor area [AREA, cm²], tumor volume [SPE-VOL, cm³], tumor free distance [uTFD, mm]) and endomyometrial irregularity [EMIR] as predictors of lymph nodes involvement (LNI) in epithelial endometrial cancer (EC).

Method

One hundred and sixteen consecutive EC patients were included into this prospective study between January 2011 and November 2012. 2D transvaginal ultrasound and surgical treatment according to Mayo Clinic algorithm was applied in all patients. The study group and 86 G1-G2 endometrioid low risk (LR) as well as G3 endometrioid and serous type (high risk, HR) subgroups underwent separate statistical analyses regarding accuracy of ultrasound markers in predicting LNI. P value of <0.05 was statistically significant.

Results

LNI was found in 20/116 (17%) patients. In univariate analysis, only uMI, EMIR and uTFD were significant variables with accuracy of 70.7% (p<0.003), 67.2% (p<0.001) and 63.8% (p<0.02) in predicting LNI, respectively. The model combining ≥ 2 any of the factors did not increase accuracy. For LR tumors significant variables were uMI and EMIR with accuracy of 74.4% (p<0.001) and 70.9% (p<0.02), whereas for HR no of the factors were significant in univariate analysis.

Conclusion

uMI and EMIR may be useful predictive ultrasound markers, especially in LR tumors. The preoperative histology defining HR EC prevails over informative value of ultrasound. It would be of interest whether histologic counterparts of ultrasound factors (i.e. depth of invasion, type of growth) are of independent predictive or prognostic value in LR and HR tumors.
Aims

The aim of this retrospective study was to examine the recurrence rates and patterns in patients with endometrial cancer in our hospital and evaluate the usefulness of routine follow-up procedures for the detection of recurrent disease following treatment of endometrial carcinoma.

Method

We conducted a retrospective descriptive study including all patients with a diagnosis of recurrent endometrial cancer treated at the Department of Gynecologic Oncology from the University Hospital of the Canary Islands between 2000 and 2014.

Results

The mean age of these patients at the time of treatment of their initial tumor was 67.72 years.

The most common site of recurrence was vaginal vault (28.4) followed by lymph nodes in 19 cases (23.45%) and carcinomatosis (23.45%). The distant metastases occurred in 20 cases (24.69%) and in fourteen patients there were more than one site of recurrence.

The recurrences were diagnosed in 66.7% and 80.2% within 2 and 3 years after primary treatment, respectively.

41% of patients had symptomatic recurrent disease (33 cases).

Half of the patients were diagnosed by pelvic examination (51%), the remaining 49% of relapses were found by elevated tumor markers (28/81 cases, 34.56%), by imaging procedures (7/81 cases, 8.64%) and only 5 cases by Papsmears (6.17%).

Conclusion

In our study, the vast majority of relapses occurred in the first three years of follow-up (80.2%). The results show that routine vaginal cytology was only beneficial in 6.2% of recurrences, so it can be concluded that surveillance by vaginal cytology is ineffective for the detection of relapses of endometrial cancer.

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Aims

Identify morphological and immunohistochemical features as predictive markers of recurrence in endometrial endometrioid cancer (EEC).

Method

Retrospective study of a single-center clinical series of 72 patients treated for EEC at the Department of Gynecologic Oncology of the University of Turin, between the 1st of January 2012 to 31st of December 2014. The histological specimens have been revalued in blind by a pathologist to define: FIGO stage, histological grading, number of mitosis (at 40HPF and 10HPF), Ki-67% expression and morphological features. In addition the tumor aggressiveness and its recurrence has been analyzed in relation to the proliferation boost: this was defined as the percentage of the cells in mitosis during the interphase.

Results

The analysis revealed a strong association between the Ki-67% expression (p= 0.015) and disease free survival (DFS). Proliferation boost results to be the best marker of recurrence (p= 0.007) with OR 1.93 (95% CI 1.86-1.99; p = 0.013). The only two morphological variables that showed a correlation with the recurrence are the LVSİ (p= 0.032) and the pattern of infiltration (p= 0.012). At multivariate analysis the FIGO stage and the proliferation boost result independent predictors of DFS with OR 4.04 (95% CI 1.41-11.59; p= 0.009) and OR 5.01 (95% CI 1.42-17.75; p= 0.012) respectively.

Conclusion

The integration of FIGO stage and proliferation boost is feasible and could be used as predictive factor of recurrence in EEC.
ENDOMETRIAL CANCER II

ESGO7-0132

RISK FACTORS FOR DIFFICULTIES IN OFFICE ENDOMETRIAL CYTOLOGICAL SAMPLING

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Aims

Endometrial cytology is useful for the diagnosis of endometrial cancer. This study aims to evaluate factors associated with difficulties in endometrial cytology sampling.

Method

204 women that underwent endometrial cytological sampling with the Endogyn curette (Biogyn S.N.C., Mirandola, Italy) were included in the study. Difficulty (strenuousness) in obtaining the sample was graded into a five-level scale-score. Various risk factors were examined in association with the strenuousness score; multivariate ordinal logistic regression analysis was conducted. Statistical analysis was performed with Stata/SE statistical software (Stata Corp., College Station, TX, USA).

Results

Postmenopausal status (adjusted OR=2.91, 95%CI: 1.72-4.92, p<0.001) and previous invasive/surgical procedures in the cervix (adjusted OR=2.23, 95%CI: 1.20-4.15, p=0.011) were independently associated with higher difficulty score. On the other hand, participants’ phase of the menstrual cycle, endometrial thickness, obesity, current hormone use and the reproductive history of women were not significantly associated with the difficulty in conducting the procedure.

Conclusion

Difficulties during endometrial sampling are observed in postmenopausal women, as well as in women with previous surgical procedures in the cervix.
ENDOMETRIAL CANCER II

ESGO7-0230

SENTINEL NODE MAPPING IN ENDOMETRIAL CANCER: A SINGLE CENTER EXPERIENCE OVER 200 CASES OF HYSTEROSCOPIC INJECTION OF TRACERS

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Aims

To analyze detection-rate(DR) and diagnostic-accuracy (A) of sentinel-nodes(SLN)s mapping following hysteroscopic-injection of tracer.
To compare DR and A between tracers used: ICG and Tc99m.

Method

Retrospective evaluation of Prospectively collected data of Consecutive patients with endometrial cancer underwent SLNs mapping following hysteroscopic-peritumoral-injection of tracer+/full surgical-staging. Evaluation of DR(overall-bilateral-aortic) and A among the entire cohort and comparison between tracers.

Results

202 procedures were performed. Mean age: 60 years(28-82); mean BMI: 26.8 Kg/m2(15-47). In 133 cases(65.8%) hysterectomy and mapping procedure were performed laparoscopically. The overall-DR of the technique was 93.2%(179/192) (10 cases excluded: 9 equipment failure; 1 vagal reaction). Bilateral pelvic mapping was found in 59.7% of cases(107/179) and was more frequent in the ICG group(72.8%vs 53.3%;p:0.012). In 50.8% of cases(91/179) SLNs mapped both to pelvic and aortic nodes, and in 5 cases(2.8%) only in the aortic area. Mean number of detected SLNs was 3.7(1-8).

22 patients(12.3%) had nodal involvement: 10-(45.5%)macrometastases; 5-(22.7%)micrometastases; 7-(31.8%)ITCs. In 6 cases(27.3%) only aortic nodes were positive; in 5 cases(22.7%) both pelvic and aortic nodes and in 11 cases(50%) only pelvic area was involved.

Three false negative results were found, all in the Tc99m group. All had isolated aortic metastases with negative pelvic nodes.

Overall-sensitivity was 86.4% and overall-negative-predictive-value(NPV) was 98.1%.

No differences in terms of overall-DR, overall-sensitivity and overall-NPV were found between the two tracers. (Table)

| Table: Accuracy of hysteroscopic SLNs procedure |
|------------------|------------------|------------------|------------------|
|                  | Global (192)     | Tc99m (139)      | ICG (87)         |
| Excluded         | 19 (1.9%)        | 8 (5.9%)         | 2 (2.9%)         |
| DR               | 170/192 (90.2%)  | 120/127 (94.5%)  | 104/105 (99.7%)  |
| Overall sensitivity | 88.1% (95%CI 84.4-100) | 98.2% (95%CI 94.8-100) | 98.1% (95%CI 93.1-100) |
| Overall NPV      | 94.1% (95%CI 91-100) | 97.9% (95%CI 93-100) | 100%             |
| Overall FN rate  | 5/22 (22.7%)     | 5/19 (26.3%)     | 0 (0%)           |
*after first 16 cases thanks to equipment improvement DR reached 95.5% (17/18)

Conclusion

Hysteroscopic-injection of tracer for SLNs mapping in endometrial cancer is as accurate as cervical injection with a higher DR in the aortic area. ICG improved bilateral DR. Further investigation is warranted on this topic.
HIGH VISCERAL FAT PERCENTAGE IS ASSOCIATED WITH POOR OUTCOME IN ENDOMETRIAL CANCER


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Aims

Despite evidence of increased endometrial cancer (EC) risk in obese women, the impact of obesity and fat distribution pattern on clinical and histological phenotype is poorly understood. We therefore evaluated abdominal fat volumes and fat distribution quantified by computed tomography (CT), in relation to tumor characteristics and outcome.

Method

227 EC patients with preoperative contrast-enhanced abdominal CT scans and comprehensive clinicopathological data were included. Total abdominal fat volume (TAV), subcutaneous abdominal fat volume (SAV) and visceral abdominal fat volume (VAV) were quantified, and visceral fat percentage calculated (VAV%=[VAV/TAV]x100). Waist circumference (WC) and liver density (LD) were measured, and body mass index (BMI) calculated. Data for estrogen, progesterone and androgen receptor (ER/PR/AR) expression by immunohistochemistry were available for 149 tumors, and global gene expression data for 105 tumors.

Results

High BMI, TAV, SAV, VAV and WC, and low LD, were associated with markers of less aggressive disease, including low-grade endometrioid tumors and PR and AR positivity (all p≤0.03). High VAV% was associated with high age (p=0.01) and aneuploidy (p=0.01), and independently predicted reduced disease-specific survival (HR 1.05, 95% CI 1.00-1.11, p=0.041). Tumors from patients with low VAV% showed enrichment of gene sets related to immune activation and inflammation.

Conclusion

High abdominal fat volumes and markers of obesity are associated with less aggressive endometrial cancer. High VAV% independently predicts reduced EC survival. Tumors arising in patients with low VAV% show enrichment of immune and inflammation related gene sets, suggesting that the global metabolic setting may be important for tumor immune response.
THE ROLE OF COMPREHENSIVE SURGICAL STAGING IN SEROUS ENDOMETRIAL CANCER: A PROSPECTIVE EXPERIENCE

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Aims

To evaluate the role of comprehensive surgical staging in serous endometrial carcinoma

Method

Data of consecutive patients diagnosed with serous carcinoma of the endometrium undergoing surgery between 2000 and 2016 at Fondazione IRCCS Istituto Nazionale Tumori of Milan (Italy) were prospectively collected and reviewed. Disease-free and overall survival outcomes were evaluated using Kaplan-Meier and Cox proportional hazard models.

Results

Overall, 101 patients were included. Forty-nine (48.5%) patients had gross peritoneal disease and they had cytoreductive procedures. Among the 52 (51.5%) patients with apparent uterine confined disease 22 (42.3%) patients were upstaged. Five (9.6%) patients had microscopic disease located in the adnexal regions; while, seven (13.4%) and 10 (19.2%) were upstaged due to the presence of microscopic peritoneal and retroperitoneal disease, respectively. Considering factors predicting disease-free and overall survival, we observed that presence of extra-uterine disease significantly impact on patients’ outcomes (p<0.05). Deep of myometrial invasion (HR: 2.00 (95%CI: 1.16, 3.46); p=0.013), LVSI (HR: 1.99 (95%CI: 0.95, 4.14); p=0.065), and peritoneal disease (HR: 2.09 (95%CI: 1.06, 4.12); p=0.032) were associated with disease-free survival at univariate analysis. Via multivariate analysis, only peritoneal disease influenced disease-free survival (HR: 2.25 (95%CI: 1.11, 4.55); p=0.023). Similarly, peritoneal disease was the only factor predicting for overall survival (HR: 3.28 (95%CI: 1.75, 6.17); p<0.001).

Conclusion

In apparent early stage serous endometrial cancer, peritoneal and retroperitoneal staging allow to identify patients with disease harboring outside the uterus. Owing to the high prevalence of extra-uterine disease in apparent early stage serous endometrial carcinoma, comprehensive staging should be mandatory.
Aims

Two distinct types of endometrial carcinoma (EC) with different etiology, tumor characteristics and prognosis are recognized. We investigated if the prognostic impact of comorbidity varies between these two types of EC. Further, we studied if the recently developed ovarian cancer comorbidity index (OCCI) is useful for prediction of prognosis in EC.

Method

This nationwide cohort study was based on data from 5369 type I and 1219 type II EC patients diagnosed in Denmark in 2005-15. Patients were assigned a comorbidity index score according to the Charlson comorbidity index (CCI) and the OCCI. Kaplan Meier survival statistics and adjusted multivariate Cox regression analyses were used to investigate the differential association between comorbidity and overall survival in type I and II EC.

Results

The distribution of comorbidities varied between the two EC types and a consistent negative association between increasing level of comorbidity and survival was observed for both types. Cox regression analyses revealed a significant interaction between stage and comorbidity indicating that the impact of comorbidity varied with stage. In contrast, the interaction between comorbidity and EC type was not significant. Both the CCI and the OCCI were useful measurements of comorbidity but the CCI obtained a better statistical fit in the multivariate model.

Conclusion

This study demonstrates that comorbidity is an important prognostic factor in type I as well as in type II EC though the overall prognosis differs significantly between the two types of EC. The prognostic impact of comorbidity varies with stage but not with type of EC.
ENDOMETRIAL CANCER II

ESGO7-1210

PREOPERATIVE CT AND MR IMAGING TO DETECT LYMPH NODE (LN) METASTASIS AND DEEP MYOMETRIAL INFILTRATION IN ENDOMETRIAL CANCER (EC) PATIENTS

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Aims

In a prospective study of sentinel lymph node (SLN) mapping (1) all patients underwent preoperative imaging with CT (thorax + abdomen) and MR (pelvis). The aim was to evaluate the diagnostic performance of the preoperative imaging.

Method

Consecutive patients with apparently early stage EC were included and underwent robot-assisted laparoscopic HBSO with ICG fluorescence SLN mapping including extended pathology (serial sectioning and immunohistochemistry) on H-E negative SLNs. The result of preoperative CT and MR imaging combined was compared to the histopathologic LN metastasis status and myometrial infiltration depth in the uterine surgical specimen.

Results

Among the 108 patients included in the study 17 (16 %) had LN metastasis. Only 8 had a corresponding true positive imaging result (sensitivity 47 %, PPV 57 %), and among those 92 LN negative patients 6 had a false positive imaging result (specificity 93 %, NPV 91 %). 48 patients (44 %) had > 50 % myometrial infiltration depth on histology, 25 of whom were correctly identified on preoperative imaging. The PPV and NPV were 76 % and 70 %, respectively.

Conclusion

Due to inaccuracy, CT and MR preoperative imaging alone is not sufficient for rational treatment planning.

ENDOMETRIAL CANCER II

ESGO7-1322

RISK OF ENDOMETRIAL CANCER IN POSTMENOPAUSAL WOMEN UNDERGOING DIAGNOSTIC HYSTEROSCOPY: ROLE OF AUB AND ENDOMETRIAL THICKNESS


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Aims

to investigate the predictive value of endometrial thickness on the risk of endometrial cancer in postmenopausal women according to the presence or absence of AUB history. Secondly, to estimate the weight of BMI, hormone replacement therapy, hypertension and diabetes mellitus on the risk of cancer.

Method

We conducted a prospective, observational study from June 2012 to June 2014 on a cohort of postmenopausal patients undergoing diagnostic hysteroscopy with endometrial biopsy. Patients were included if a recent endometrial thickness measurement was available. For each patient we collected general features and history.

Results

435 patients were included in the study; 329 asymptomatic with endometrial thickness $\geq 4$ mm (ET_Group), 106 with AUB (AUB_Group), of which 58 with endometrial thickness $\geq 4$ mm (AUB_Subgroup1) and 48 with ET $< 4$ mm (AUB_Subgroup2). We found higher prevalence of cancer in AUB_Group in comparison to ET_Group (15.2% vs 3.7%; p<0.001) and in AUB_Subgroup1 than AUB_Subgroup2 (20.7% vs 8.5%; p<0.001). Sensitivity and specificity of endometrial thickness for cancer detection in AUB patients resulted 75% and 48.3%. In ET_Group we found a correlation between endometrial thickness and BMI with cancer risk. The best cut-off of endometrial thickness for cancer diagnosis was 11 mm (100% sensitivity and 80% specificity).

Conclusion

In asymptomatic women hysteroscopy should be indicated exclusively when endometrial thickness is $\geq 11$ mm, especially in case of overweight. In women with AUB the risk of cancer is considerably high even if endometrial thickness is $< 4$ mm, therefore diagnostic hysteroscopy is always recommended in these patients.

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ENDOMETRIAL CANCER II

ESG07-1326

ENDOMETRIAL SURVEILLANCE IN TAMOXIFEN USERS: ROLE, TIMING AND ACCURACY OF HYSEROSCOPIC INVESTIGATION: OBSERVATIONAL LONGITUDINAL COHORT STUDY
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Aims

To determine the role of endometrial hysteroscopy in relation to the ultrasound, clinical and histological features of the endometrium during tamoxifen(TAM) use.

Method

We performed an observational longitudinal cohort study (2007–2012) that investigated the endometrium of 151 TAM users with hysteroscopy and histology. For all patients, ultrasound endometrial thickness(ET), gynecological history, years of adjuvant treatment and indications for hysteroscopy were recorded.

Results

Hysteroscopic findings showed that 100% of patients referred for simple follow-up had no evidence of endometrial disease. A strong correlation was found between history of abnormal uterine bleeding (with or without endometrial thickening) and hysteroscopic suspicion of endometrial atypia, confirmed by histology. Hysteroscopy had 83.3% sensitivity, 99% specificity, 83.3% positive-predictive-value(PPV) and 99% negative-predictive-value(NPV) in detecting endometrial atypia. No correlation was found between ET>5mm without bleeding and histological atypia. Similarly, the duration of treatment was not related to ET and histological atypia. Endometrial stromal hyperplasia was detected by histology in 70.5% of patients with ET between 5 and 10mm. In contrast, no atypia was detected when ET was <5mm. Ultrasound performed using a 5mm cut-off threshold for ET showed 100% sensitivity, 15% specificity, 4% PPV and 100% NPV in detecting endometrial atypia, while a 10mm cut-off threshold resulted in 84% sensitivity, 69% specificity, 10% PPV and 99% NPV.

Conclusion

Low-risk TAM users do not require different endometrial surveillance than general population. Hysteroscopy could play a fundamental role in determining the endometrial status of patients before the initiation of TAM treatment and in assessing the endometrial status of patients when bleeding occurs.
CRUDE LYMPH VASCULAR INVASION (LVSI) IS PROGNOSTIC FOR SURVIVALS AND RECURRENCES IN THE MAINLY NON-RADIATED DANISH ENDOMETRIAL CANCER POPULATION. A DANISH ENDOMETRIAL CANCER DATABASE STUDY

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Aims

LVSI is a strong independent prognostic factor for survivals and recurrences in early stage endometrial cancer. We examine the effect of LVSI on overall (OS), cancer-specific (CSS) and recurrence-free (RFS) survivals in the Danish population of 4521 endometrial cancer patients, only rarely given radiation.

Method

28.9% had lymph node resection (LN-resection). LVSI-status was reported to the database for 1946 cases and another 1521 were found in the pathology reports, leaving 1054 (23.3%) unknown. Therefore, three groups were examined by Kaplan-Meier and COX-analysis; LVSI-positive, LVSI-negative, LVSI-unknown

Results

3467 cases had known LVSI-status and of these 20.4% were LVSI-positive. For stage I, 11.3 % were LVSI-positive and this increased with risk-group (low-risk; 5.7%, intermediate-risk; 20.5%, high-risk: 23.6%). For LVSI-negative/LVSI-positive/LVSI-unknown the 5-years-OS were 85.9%/56.0%/77.7%, CSS: 93.8%/63.9%/86.5% and RFS: 89.2%/55.3%/80.4% and for stage I: OS: 87.8%/72.3%/86.5%, CSS: 95.7%/82.8%/95.5% and RFS: 91.4%/74.2%/91.0%.

In univariate analysis LVSI significantly increased the risk of dying by 4.02, whereas a metastatic lymph node increased the risk by 3.15.

In multivariate analysis LVSI was an independent prognostic factor for survivals and recurrences in all patients, in non-LN-resected, LN-resected and in lymph node metastatic patients. For non-LN-resected stage I, LVSI was an independent prognostic factor for all three risk groups, but in LN-negative LVSI was only a prognostic factor in intermediate-risk not in the low- or high-risk.

Conclusion

LVSI is a strong independent prognostic factor for OS, CSS and RFS. For lymph node negative stage I, LVSI was a strong independent prognostic factor for survivals and recurrences for intermediate risk, but not for low- or high-risk.
ENDOMETRIAL CANCER II

ESG07-1051

2D ULTRASOUND THRESHOLD PREDICTIVE OF FOCAL LESIONS REQUIRING ADVANCED HYSTEROSCOPIC TECHNIQUES IN CASES PRESENTED WITH POSTMENOPAUSAL BLEEDING OR INCIDENTAL ASYMPTOMATIC THICKENED POSTMENOPAUSAL ENDOMETRIUM

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Aims

to evaluate the frequency of detecting focal endometrial lesions requiring advanced hysteroscopic technique in PMB by 2D pelvic ultrasound. It assesses the value of Myosure in the outpatient setting compared to the Gynaecare scope.

Method

234 outpatient hysteroscopies done by one experienced operator from March 2014 to March 2017 for PMB and asymptomatic thickened endometrium were analysed for the frequency of finding cancer or precancer against various endometrial thresholds. The cases were analyzed whether done by Gynaecare scope (178/234) vs. Myosure (56/234) comparing outcome measures.

Results

The incidence of cancer was 11/234 (4.7%). The hysteroscopies to pick one cancer or precancer is approximately 6:1. The presence of focal lesion (polyps, fibroid, elevation, abnormally thickened endometrium) raises as the thickness of the endometrium increased; 8% at < 4mm thickness with no cancer and 9.5% at the zone of 4-5mm with one case of precancer (hyperplasia), and 24.2% at the zone of 5-6mm with 50% risk of cancer or precancer. From the thickness of > 6mm the risk of focal lesion is >40% with 39-53% risk of cancer or precancer.

Adverse events happened in 38/234(16.2%) and severe complication in 7/234(2.99%), with no difference in both groups. Only 1.7% were unsatisfied with the experience and satisfaction rate was comparable in both groups with less pain during the procedure and shorter duration in the Myosure group.

Conclusion

The threshold to hysteroscopy in PMB can be set at ET >5mm with a role for pipele under that. The likelihood to need Myosure treatment is > 40% when endometrium is >6mm.
ENDOMETRIAL CANCER II

ESG07-0759

DIAGNOSTIC ACCURACY BETWEEN PREOPERATIVE IMAGING AND SENTINEL LYMPH NODE BIOPSY DURING ROBOTIC OR LAPAROSCOPIC SURGERY IN ENDOMETRIAL AND CERVICAL CANCER LYMPH NODE METASTASIS

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Aims

Appropriateness assessment of Sentinel Lymph Node Biopsy application in endometrial and cervical cancer.

Method

Performed a retrospective review of patients with cervical cancer and endometrial cancer who diagnosed and treated at a single institute. All cases underwent preoperative PET/CT or MRI followed by definitive robotic (da Vinci®) or laparoscopic surgical therapy including SLNB with Indocyanine green (ICG) fluorescence detection using Firefly® and NIR/ICG.

Results

The 89 patients underwent intraoperative sentinel nodes mapping. Deposition of ICG into at least one lymph node was observed in 100% of studied cases. Most common detected lymph metastasis locations in SLNB were obturator area 50%(9/18). And 35.6% obturator lymph node metastasis was found in all lymph node metastasis. Tumor size was not related with SLNB positive. Sensitivity, specificity, positive predictive value and negative predictive value were evaluated among preoperative PET/CT, preoperative MRI and sentinel lymph node frozen biopsy. In three variables (PET/CT, MRI, SLNB), Overall detection sensitivity were 50.0%, 31.3%, 81.3%. Specificity were 98.0%, 94.0%, 99.3%. Positive predictive value were 72.7%, 35.7%, 92.9%. Negative predictive value were 94.8%, 92.8%, 98.0%. False positive rate were 2.0%, 6.0%, 0.7%. False negative rate was 50.0%, 68.7%, 18.7%.

Conclusion

Individualized treatment to reduce therapy-associated morbidity is an important consideration in the surgical treatment. SLNB with ICG mapping is more accurate method than conventional imaging tools. SLNB has gained more acceptance and may offer an alternative to complete pelvic lymphadenectomy in the future.
ENDOMETRIAL CANCER II

ESGO7-0891

PROGNOSTIC FACTORS IN ENDOMETRIAL CARCINOMA TYPE-I AND TYPE-II

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Aims

Evaluate the surgical prognostic factors of different histological subtypes in endometrial cancer.

Method

Patients diagnosed with endometrial carcinoma that underwent oncological surgery in our hospital from 1st January 2013 to 31st December 2016 were included.

This is a descriptive study, where histological subtypes type-I (endometrioid) and type-II (serous papillary and clear cells) are analyzed, valuing the percentages of myometrial invasion and lymph node metastasis in each cases.

Results

The histologies were 69 Type-I or endometrioid type (77.53%), and 13 Type-II or non-endometrioid type (15.85%): 10 serous papillary (11.23%); 1 clear cell (1.12%), and 2 carcinosarcoma (2.25%). The average age was 68.85.

Myometrial invasion >50% was found in the 46.15% (6/13) of Type-II group, while in patients with Type-I was only 28.98%(20/69). Myometrial invasion <50% was found in the 71.01%(49/69) of patients included in Type-I group, and in the 53.84%(7/13) of patients in the Type-II group.

Regarding lymph node metastasis, there was 30.77%(4/13) of patients with positive lymph node metastasis in Type-II group, while only 2.89%(2/69) were affected by lymph node metastasis in Type-I group.

Conclusion

The main predictors of lymph node and distant metastasis are the depth of myometrial invasion and the degree of tumor differentiation.

Regarding the different histological types of endometrial carcinoma, type-I carcinomas tend to be well differentiated forms of carcinoma, and their prognostic is better, with a higher rate of cure. Type-II carcinomas, on the other hand, generally correspond to more aggressive forms, with a higher percentage of lymph node metastasis and a deeper myometrial invasion, as revealed in our study.
ENDOMETRIAL CANCER II

ESGO7-0617

DOES TUMOR DIAMETER AFFECT SIGNIFICANTLY SURVIVAL OUTCOMES IN STAGE I ENDOMETRIOID ENDOMETRIAL CANCER? A PROSPECTIVE COHORT STUDY.
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Aims

To study the prognostic value of tumor diameter ≥ 2cm on survival outcomes in patients with surgically staged I endometrioid endometrial cancer.

Method

A prospective study was conducted during 1996-2016 enrolling patients with endometrioid endometrial cancer treated in the 3rd Department of Obstetrics and Gynaecology. Epidemiological, histopathological and survival outcome of patients were prospectively recorded in a computerized database. Primary outcome of the study was to assess the prognostic impact of tumor diameter ≥ 2cm on overall survival and recurrence of disease. This was separately studied for low-risk cases (grade 1 or 2 invading<50% of myometrium) and intermediate or high-risk cases (grade 3 and grade 1 or 2 invading ≥ 50% of myometrium). Cox regression analysis was used to examine potential impact of tumor diameter on survival parameters.

Results

There were 183 cases of surgically staged I endometrial cancer treated during the period of the study. Mean age of patients was 62.5 ± 10.4 years. Regarding low-risk cases (N=112), tumor diameter was not significantly correlated with risk for recurrence and overall survival (P=.44 and P=.49). Similarly, no significant impact of tumor diameter ≥ 2cm was indicated on risk for recurrence and overall survival in intermediate or high-risk patients as well (P=.61 and P=.62).

Conclusion

Tumor diameter ≥ 2cm may not to be an independent prognostic factor affecting overall survival and risk for recurrence.
ENDOMETRIAL CANCER II

ESGO7-1071

PELVIC VS. PELVIC AND PARAAORTIC LYMPHADENECTOMY FOR INTERMEDIATE AND HIGH-RISK ENDOMETRIAL CANCER: SYSTEMATIC REVIEW AND META-ANALYSIS.
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Aims

To compare overall survival and disease-free survival between intermediate and high-risk endometrial carcinomas treated with pelvic and paraaortic vs. only pelvic lymphadenectomy.

Method

A computerized datasearch was performed in Pubmed and Scopus databases. Terms used for search were “endometrial cancer” or “endometrial carcinoma” or “endometrial adenocarcinoma” AND “para-aortic lymph*” or “paraaortic lymph*”. In the present analysis we included studies having as primary endpoint to compare survival outcomes of intermediate and high-risk endometrial carcinomas treated with pelvic and paraaortic (PVAL) vs. only pelvic lymphadenectomy (PVL). Non-english studies, animal studies, studies involving only low-risk cases and studies restricted to cases of certain surgical stage were excluded. Prospective or retrospective character of study was not set as exclusion criterion. Primary outcomes were overall survival (OS) and disease-free survival (DFS).

Results

Out of 460 studies identified after computerized datasearch with key-phrases, there were 378 remaining after duplicates removed, 112 assessed for eligibility and finally 5 studies included in the meta-analysis. Quality of studies was assessed as low. A total of 1,489 cases were included, of which 633 concerned cases treated with PVAL and 856 treated with PVL. Overall survival was significantly increased in the group of PVAL vs. PVL (RR:1.175 with 95% CI:1.096-1.256, P<.001). Similarly, the group of PVAL presented an 11.9% increase in DFS compared with PVL (RR:1.119 with 95% CI:1.053-1.171, P<.001).

Conclusion

Pelvic and paraaortic lymphadenectomy is associated with improved overall survival and disease-free survival compared with only pelvic lymphadenectomy. Further prospective RCTs should be performed in order to improve quality of evidence.
ADVANTAGES OF LAPAROSCOPIC SURGERY VERSUS OPEN SURGERY IN ENDOMETRIAL CANCER - 3 YEAR SINGLE INSTITUTION DATA

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Aims

Laparoscopic surgery is being used in gynecologic oncology for total hysterectomy, bilateral salpingo-oophorectomy and lymph node dissection for endometrial cancer (EC). The purpose of this study is to compare the feasibility and complications among women undergoing open and laparoscopic hysterectomy for endometrial cancer.

Method

We carried out a single center retrospective study using Belarus cancer register database between 2013 and 2016 on all women diagnosed with uterine cancer, classifying women in groups as either laparoscopically or open surgery treated.

Results

Laparoscopic surgery has more advantages versus open surgery in Endometrial Cancer Patients. The total for 3 years 378 laparoscopic and 1724 open hysterectomies were performed, including 56 operations with laparoscopic pelvic lymphadenectomy and 432 with open pelvic lymphadenectomy surgeries. The average duration of laparoscopic operation – 73 min. (40-180 min.), the average volume of blood loss – 51.9 ml (15-330 ml) were registered. Conversion to open surgery was in 4 cases; bladder injury – in 2, trauma of a sigmoid colon – in 1, bleeding – in 1 case. The average duration of open surgery – 74 min (50-174 min), average blood loss – 75.4 ml (20-950ml). Duration of lymphorrhea in laparoscopic operations was 3.4 days vs 6.3 days in open surgery. Laparoscopic surgery has benefits over open surgery in patients with morbid obesity with BMI more than 35 kg/m² in surgical wound complications (1 vs 15) and thromboembolic complications (0 vs 5 cases).

Conclusion

Laparoscopy for EC retains its advantages over open surgery, especially in case of obesity patients.
ETHNIC DIFFERENCES IN THE MUTATIONAL LANDSCAPE OF ENDOMETRIAL CANCER

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Aims

Background: Endometrial cancer (EC) is the commonest gynaecological malignancy in the UK and the incidence in Leicester is particularly high. Our previous work has shown that British South Asian (BSA) and White British (WB) women are diagnosed with a similar distribution of Type I/II cancers but BSA women are significantly younger in age compared to WB women.

Objectives: To determine whether BSA and WB women diagnosed with EC harbour different mutational profiles.

Method

DNA was extracted from formalin-fixed, paraffin embedded (FFPE) tissue from 32 patients. Ion Torrent targeted next generation sequencing (tNGS) was performed using a bespoke tNGS panel interrogating 10 commonly mutated genes in EC.

Results

A total of 99 mutations were found in this cohort (3.1/patient). The most commonly mutated genes were PIK3CA and PTEN with 53% and 47% of patients, respectively. None of the BSA patients carried a POLE mutation compared to 23% of the WB patients (p=0.15). ARID1A mutations were also less frequent in BSA patients (10% versus 36%, p=0.21).

Conclusion

ARID1A and POLE mutations were more frequent in WB versus BSA patients. Although the trend did not reach significance, it raises interesting clinical questions since it is known that POLE mutations are associated with better prognosis. It has been suggested that ARID1A mutations are associated with mutations in the PI3K pathway. Since many targeted therapies are focused on this frequently mutated pathway, a possible implication is that BSA patients may not respond as well to these newer agents. Analysis in a larger cohort is ongoing.
ENDOMETRIAL CANCER II

ESGO7-0921

ENDOMETRIAL CANCER TISSUE HAS A UNIQUE PHOSPHOLIPID SIGNATURE IDENTIFIABLE USING DESORPTION ELECTROSPRAY IONISATION (DESI) IMAGING

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Aims

Endometrial cancer (EC) is the fourth most common gynaecological cancer in Europe. Strongly associated with obesity, incidence of endometrial cancer is rising. DESI-MSI (Desorption Electrospray Ionisation-Mass Spectrometry Imaging) is one mass spectrometry imaging technique that allows direct correlation between biochemical changes within a tissue and histological features, providing topographically localised biochemical information.

Method

Fresh frozen endometrial samples (benign, cancer) were analysed using DESI-MSI. Peaks of interest were identified from mass spectra, matched with histopathological tissue annotations and clinical data, which was combined to generate a reference database from which principal component analyses (PCA) and maximum margin criterion (MMC) were performed highlighting the biochemical differences between the sample groups analysed.

Results

59 fresh frozen sections were analysed using DESI-MSI, of which 47 (79.7\%) were endometrial tumour tissues and 12 (20.3\%) were benign. Clear distinction of the different tissue types (tumour-associated stroma versus tumour) was identified within each sample. Benign endometrial samples and endometrial cancer samples produced unique spectra which enabled clear separation in PCA-cross validated MMC analyses. Cross-validation resulted in 91.5\% sensitivity and 98.0\% specificity for the correct classification of EC. Phosphatidylinositol, PI (34-0), was more abundant in tumour tissue, and phosphatidylglycerol, PG (44:1), more abundant in benign tissue.

Conclusion

DESI-MSI can discriminate benign endometrial versus tumour tissue by identifying unique lipodomic profiles. Our analysis contributes to knowledge of lipid metabolism in cancer and can identify potential lipid markers. These markers can be useful in identifying patients at risk in whom signalling pathways involved in carcinogenesis are overexpressed.

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ENDOMETRIAL CANCER II

ESGO7-0912

THE ROLE OF FROZEN SECTION IN UTERINE CANCER STAGING - EVALUATING ITS ACCURACY

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Aims

Surgical staging, treatment and prognosis of uterine corpus malignancies are highly dependent on disease severity and spread, factors that can be intraoperatively assessed by frozen section (FS). We aimed to determine the accuracy of FS in surgical staging and agreement with permanent section (PS); to evaluate the association between adverse prognostic intraoperative findings with final histopathology.

Method

Retrospective chart analysis from January 2007 to March 2017 of all uterine corpus malignancies diagnosed in a tertiary university hospital. Kappa (K) statistics and proportions of agreement (PA) with 95% confidence intervals were applied. Exclusion criteria were absence of FS, clinically advanced disease, coexisting second malignancy.

Results

A total of 205 cases were identified. Regarding myometrial depth invasion, substantial agreement between FS and PS was found (K=0.63), which was higher for tumours confined to the inner half of myometrium (PA=0.92) and lower for serosa invasion (PA=0.33). The sensitivity and specificity for involvement of the outer half was 74% and 99%. For cervical stromal involvement, a sensitivity and specificity of 65% and 99% was found. Regarding adverse prognostic oncological factors: the rate of adjacent organ invasion was higher in mesenchymal tumours (50%); lymph node involvement was more frequent in serous (45%) and mixed cell adenocarcinoma (40%), followed by mullerian mixed tumours (33%). Positive ascitic fluid was more frequent in mixed (50%) and miscellaneous (33%) categories.

Conclusion

Particularly in low risk disease and epithelial tumours, comprehensive surgical staging with FS seems beneficial. For locally aggressive tumours, preoperative imagiological staging might have a promising role.
ENDOMETRIAL CANCER II

ESGO7-0810

CLINICAL DECISION-MAKING BASED ON PREOPERATIVE ENDOMETRIAL SAMPLING IN ENDOMETRIAL CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Aims

To determine the agreement between preoperative endometrial sampling and final diagnosis for tumor grade and subtype.

Method

MEDLINE, EMBASE, ClinicalTrials.gov and the Cochrane library were searched from inception to January 1, 2017, for studies that compared tumor grade and histological subtype in preoperative endometrial samples and hysterectomy specimen. In eligible studies the index test included office endometrial biopsy, hysteroscopic biopsy or dilatation & curettage; the reference standard had to be hysterectomy. Outcome measures included tumor grade, histological subtype or both.

Results

Two independent reviewers assessed the eligibility of the studies. Risk of bias was assessed (QUADAS-2). A total of 45 studies (12,459 patients) met the inclusion criteria. Pooled agreement rate for tumor grade was 0.67 (95% confidence interval [CI] 0.60–0.75) and Cohen’s k was 0.45 (95% CI 0.34–0.55). Agreement between hysteroscopic biopsy and final diagnosis was higher (0.89, 95% CI 0.80–0.98) than for office endometrial biopsy (0.73, 95% CI 0.60–0.86) and dilation and curettage (0.70, 95% CI 0.60–0.79). Lowest agreement rate was found for grade 2 endometrial carcinomas (0.61, 95% CI 0.53–0.69). Downgrading was found in 25% and upgrading was found in 21% of the endometrial samples. Agreement for histological subtypes was 0.95 (95% CI 0.94–0.97) and 0.81 (95% CI 0.74–0.92) for the preoperative endometrioid and non-endometrioid carcinomas respectively.

Conclusion

The moderate agreement between preoperative endometrial sampling and final diagnosis should be taken into account when selecting the most appropriate surgical treatment procedure.
ENDOMETRIAL CANCER II

ESG07-0263

CLINICOPATHOLOGIC CHARACTERISTICS OF ENDOMETRIAL CARCINOMA METASTATIC TO THE OVARY COMPARED TO ENDOMETRIAL CARCINOMA WITH SYNCHRONOUS OVARIAN CARCINOMA

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Aims

To characterize the clinicopathologic characteristics and outcomes of sporadic synchronous endometrial and ovarian cancers (SEOC) patients compared to endometrial carcinoma with metastasis to the ovaries.

Method

Cases with carcinoma in the endometrium and ovary who underwent primary surgery at our institution between 06/1993 and 09/2014 were identified. Pathology reports were reviewed to determine the pathologist’s assessment of whether the ovarian carcinomas were likely synchronous or metastatic. Stage IV were excluded.

Results

76 cases were identified. 19 were SEOCs and 57 cases were classified as endometrial carcinoma with ovarian metastasis (ECOM). Median age was 52 (range: 32-71) and 63 (range: 43-89) years, respectively (p=0.4). Non-endometrioid histology was seen in only 21% of SEOC as compared to 58% in ECOM (P=0.006). No myoinvasion was noted in 32% SEOC compared to only 9% ECOM (P=0.01). Endometriosis was noted in 58% SEOC compared to 4% ECOM (P<0.0001). Median follow-up time was 44.2 mo (range: 0.4-201.4) for the entire cohort. The 4-year progression-free survival (PFS) was 82% (SE+/9.5) for SEOC and 51.6% (SE+/7) for ECOM group (p=0.06). 4-year overall survival (OS) was 94.7% (SE+/5.1) for SEOC and 69.8% (SE+/6.2) for ECOM (p=0.046). 4-years PFS for endometrioid histology only cases was 84% (SE+/10.6) for SEOC vs 77.8% (SE+/8.87) for ECOM (p=0.97). 4-years OS for endometrioid histology was 93.3% (SE+/8.4) for SEOC vs 81.9% (SE+/8.2) ECOM (p=0.3).

Conclusion

SEOC was associated with more favorable endometrial factors and endometriosis, these are likely dissemination by retrograde flux. SEOC was associated with better survival outcomes but not when analyzing endometrioid histology alone.
Aims

The risk of endometrial cancer (EC) in BRCA mutation carriers is unclear. Whether risk-reducing surgery should include hysterectomy (TH) at the time of bilateral salpingo-oophorectomy (BSO) is controversial.

Method

We analysed our prospectively maintained clinical database of BRCA mutation carriers >20 years of age. Expected EC rate was calculated using national data standardised by age, year and geographical region from date of BRCA1/2 test report (true prospective group) and from 01/01/1980-31/12/2015 (full dataset). Women were censored at time of death, hysterectomy or date of last follow up. Observed EC cases were verified with the national cancer registry.

Results

There were 2156 women (BRCA1 n=1107, BRCA2 n=1049) and over 51,185 total women years at risk (median: 23.5yrs). Median age at last follow up was 51yrs (IQR 42, 60). In total, 160 underwent risk-reducing TH-BSO (median 42.5yrs, IQR 38, 48) and a further 447 underwent BSO without TH (median age 45yrs, IQR 40, 52) and were followed up for a median 6.2 years. Fourteen women were diagnosed with EC; two had high-grade serous pathology. None were recorded in the BSO group. We found no evidence for an increased risk of EC overall (E: 9.8, O: 14; OR: 1.42 95% CI: 0.78-2.39, p=0.24), nor in the prospective group from mutation report (E: 3.64, O: 2; OR: 0.55 95% CI 0.07-1.98) where there were only two endometrioid cancers in 8724.5 years follow-up.

Conclusion

We found no evidence for an increased risk of EC amongst BRCA mutation carriers, although the cohort is still young.
ENDOMETRIAL CANCER II

ESGO7-0224

CLUSTERIN IMMUNOEXPRESSION IS ASSOCIATED WITH EARLY STAGE ENDOMETRIAL CARCINOMAS

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Aims

Clusterin has anti-apoptotic, regeneration and migration stimulating effects on tumor cells. This study investigates the relation between clusterin expression and the clinicopathological parameters in endometrial carcinomas.

Method

Seventy one cases of previously diagnosed endometrial carcinoma (including 59 endometrioid adenocarcinoma, 9 serous adenocarcinoma, 1 clear cell adenocarcinoma, and 2 malignant mixed Mullerian tumor) and 30 tissue samples of non-cancerous endometrium (including 16 proliferative endometrium, 10 secretory endometrium and 4 endometrial polyps) were employed for clusterin detection using tissue microarrays and immunostaining.

Results

A total number of 23 (32.4%) cases were positive for clusterin immunostaining. Brown granular cytoplasmic expression of clusterin was detected in 33.9% of endometrioid adenocarcinomas, 22.2% papillary serous endometrial carcinomas. Three (10%) control cases showed granular cytoplasmic expression. Positive clusterin immunostaining was found more frequent in well differentiated and stage I endometrial carcinomas, showing significant statistical association (p-value = 0.036 and p-value = 0.002 respectively). Significant difference in clusterin expression was observed between tumor cases and control group (P-Value = 0.019), i.e., endometrial carcinomas cases are more than four times likely to show positive clusterin immunostaining (odds ratio 4.313 with 95% confidence interval 1.184–15.701). This study did not find relation between clusterin expression and disease recurrence, survival or any of the other clinicopathological parameters in endometrial tumors. The results of our study confirms the diagnostic values of clusterin in supporting the diagnosis of endometrioid carcinoma.

Conclusion

When clusterin is expressed in endometrial tumors, it is associated with lower stage. The correlation of clusterin with tumor stage suggests involvement of this molecule in endometrial tumor progression.
ENDOMETRIAL CANCER II

ESGO7-0107

ROBOT-ASSISTED LAPAROSCOPY VERSUS LAPAROTOMY FOR INFRA-RENAL PARAAORTIC LYMPHADENECTOMY IN WOMEN WITH HIGH-RISK ENDOMETRIAL CANCER: A RANDOMIZED CONTROLLED TRIAL (RASHEC)

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2Linköping University, Department of Oncology and Department of Clinical Experimental Medicine, Linköping, Sweden
3Karolinska Institutet/Karolinska University Hospital, Department of Oncology and Pathology/Department of Pathology and Cytology, Stockholm, Sweden

Aims

To investigate if robot-assisted laparoscopic surgery (RALS) was non-inferior to laparotomy (LT) in harvesting infrarenal paraaortic lymph nodes in patients with presumed stage I-II high-risk endometrial cancer.

Method

Patients with histologically proven endometrial cancer, presumed stage I-II with high-risk tumor features, were randomized to hysterectomy, bilateral salpingo-oophorectomy, pelvic and paraaortic lymphadenectomy by either RALS or LT. Primary outcome was paraaortic lymph node count. Secondary outcomes were perioperative events, postoperative complications and total health care cost.

Results

Overall 120 patients were randomized and 96 patients were included in the per protocol analysis. Demographic, clinical and tumor characteristics were evenly distributed between groups. Mean (±SD) paraaortic lymph node count was 20.9 (±9.6) for RALS and 22 (±11, p=0.45) for LT. The difference of means was within the non-inferiority margin (−1.6, 95% CI -5.78, 2.57). Mean pelvic node count was lower after RALS (28±10 vs. 22±8, p<0.001). There was no difference in perioperative complications or readmissions between the groups. Operation time was longer (p<0.001) but total blood loss less (<0.001) and hospital stay shorter (<0.001) in RALS group than LT group. Health care costs for RALS was significantly lower (mean difference $1,568 USD/€1,225 Euro, p<0.05).

Conclusion

Our results demonstrate non-inferiority in paraaortic lymph node count, comparable complication rates, shorter hospital length and lower total cost for robot-assisted laparoscopic surgery over laparotomy. Generalizability of the latter finding requires a high-volume setting and high surgical proficiency. In women with high-risk endometrial cancer confined to the uterus, RALS is a valid treatment modality.
ENDOMETRIAL CANCER II

ESGO7-1375

PROGNOSTIC FACTORS AND TREATMENT OUTCOMES IN SURGICALLY-STAGED NON-INVASIVE UTERINE CLEAR CELL CARCINOMA: A TURKISH GYNECOLOGIC ONCOLOGY GROUP STUDY


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2Turkish Gynecologic Oncology Group, Gynecologic Oncology, İstanbul, Turkey
3Turkish Gynecologic Oncology Group, Gynecologic Oncology, İzmir, Turkey
4Turkish Gynecologic Oncology Group, Gynecologic Oncology, Antalya, Turkey

Aims

To assess the prognosis of surgically-staged non-invasive clear cell carcinoma (UCCC), and to determine the role of adjuvant therapy.

Method

A multicenter, retrospective department database review was performed to identify patients with UCCC who underwent surgical treatment between 1997 and 2016 at 8 Gynecologic Oncology centers. Demographic, clinicopathological, and survival data were collected.

Results

A total of 232 women with UCCC were identified. Of these, 53 (22.8%) had surgically-staged non-invasive UCCC (UCCC with no myometrial invasion). Twelve patients (22.6%) were upstaged at surgical assessment, including a 5.6% rate of lymphatic dissemination (3/53). Of those, 1 had stage IIIA, 1 had stage IIIC1, 1 had stage IIIC2, and 9 had stage IVB disease. Of the 9 women with stage IVB disease, 5 had isolated omental involvement indicating omentum as the most common metastatic site. UCCC limited only to the endometrium with no extra-uterine disease was confirmed in 41 women (73.3%) after surgical staging. Of those, 13 women (32%) were observed without adjuvant treatment whereas 28 patients (68%) underwent adjuvant therapy. The 5-year disease-free survival rates for patients with and without adjuvant treatment were 100% vs. 74.1%, respectively (p=0.06).

Conclusion

Extra-uterine disease may occur in the absence of myometrial invasion, therefore comprehensive surgical staging including omentectomy should be the standard of care for women with UCCC regardless of the depth of myometrial invasion. Larger cohorts are needed in order to clarify the necessity of adjuvant treatment for women with UCCC truly confined to the endometrium.
Table 1. Baseline characteristics of all patients

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, years (median)</td>
<td>63 (42-84)</td>
</tr>
<tr>
<td>Menopausal status, N</td>
<td></td>
</tr>
<tr>
<td>Postmenopausal</td>
<td>50 (94.2%)</td>
</tr>
<tr>
<td>Premenopausal</td>
<td>3 (5.7%)</td>
</tr>
<tr>
<td>Grade (median)</td>
<td>3 (0-14)</td>
</tr>
<tr>
<td>Histopathology, N</td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>38 (71.7%)</td>
</tr>
<tr>
<td>Mixed</td>
<td>15 (28.3%)</td>
</tr>
<tr>
<td>Serum CA 125 (median U/ml)</td>
<td></td>
</tr>
<tr>
<td>Normal (&lt;35 U/ml)</td>
<td>12.5 (5-135)</td>
</tr>
<tr>
<td>High (&gt;35 U/ml)</td>
<td>31 (58.5%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>8 (15.7%)</td>
</tr>
<tr>
<td>Tumor size</td>
<td></td>
</tr>
<tr>
<td>≤20 mm</td>
<td>18 (34%)</td>
</tr>
<tr>
<td>&gt;20 mm</td>
<td>29 (54.7%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Positive peritoneal cytology, N</td>
<td>6 (11.3%)</td>
</tr>
<tr>
<td>LVI</td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>7 (12.2%)</td>
</tr>
<tr>
<td>Negative</td>
<td>44 (58.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>2 (3.8%)</td>
</tr>
<tr>
<td>Number of LNs removed</td>
<td></td>
</tr>
<tr>
<td>Number of pelvic LNs removed</td>
<td>49 (15-100)</td>
</tr>
<tr>
<td>Number of para-aortic LNs removed</td>
<td>26 (10-63)</td>
</tr>
<tr>
<td>Stage, N</td>
<td></td>
</tr>
<tr>
<td>IA</td>
<td>41 (77.4%)</td>
</tr>
<tr>
<td>IIA</td>
<td>11 (19.9%)</td>
</tr>
<tr>
<td>IIB</td>
<td>1 (1.9%)</td>
</tr>
<tr>
<td>IVB</td>
<td>9 (17.5%)</td>
</tr>
<tr>
<td>Extramurine disease, N</td>
<td></td>
</tr>
<tr>
<td>Present</td>
<td>12 (22.4%)</td>
</tr>
<tr>
<td>Absent</td>
<td>41 (77.6%)</td>
</tr>
</tbody>
</table>

**Abbreviations:**
N: Number
LVI: Lympho-vascular space invasion
LN: Lymph node

Table 2. Adjuvant treatment modalities and DFS for women with UCCC limited to the endometrium

<table>
<thead>
<tr>
<th>ADJUVANT THERAPY</th>
<th>N (%)</th>
<th>Recurrence</th>
<th>DFS (5-year)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemotherapy only</td>
<td>28 (68%)</td>
<td>0</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>(paclitaxel+platinum)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiotherapy only</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRT</td>
<td>16 (39%)</td>
<td>0</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>EBRT</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRT+EBRT</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemoradiotherapy</td>
<td>4 (10%)</td>
<td>1</td>
<td>74%</td>
<td></td>
</tr>
<tr>
<td>CT+BRT</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT+EBRT</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO ADJUVANT THERAPY</td>
<td>13 (32%)</td>
<td>1</td>
<td>74%</td>
<td></td>
</tr>
</tbody>
</table>

**Abbreviations:**
N: Number
DFS: Disease-free survival
BRT: Brachytherapy
EBRT: External beam radiotherapy
CT: Chemotherapy
A FEASIBILITY STUDY OF SENTINEL LYMPH NODE MAPPING BY CERVICAL INJECTION OF A TRACER IN JAPANESE WOMEN WITH EARLY STAGE ENDOMETRIAL CANCER

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Aims

The aim of this study was to investigate the feasibility of sentinel lymph node mapping characterized by a cervical tracer injection in endometrial cancer.

Method

This retrospective study was carried out using data for 57 patients with endometrial carcinoma who had undergone intraoperative sentinel lymph node mapping and subsequent surgical staging. Technetium colloid and/or indocyanine green was injected into the uterine cervix and a gamma-detecting probe and/or photodynamic eye camera system was used intraoperatively to locate hot spots.

Results

Of the 57 patients, 52 (91.2%) had FIGO Stage I disease. Successful unilateral or bilateral mapping occurred in 54 patients (94.7%) and 46 (80.7%), respectively. The median number of sentinel lymph nodes detected was two (range, 0–5). Following sentinel lymph node mapping, 41 patients (71.9%) underwent pelvic lymphadenectomy alone and 16 (28.1%) full lymphadenectomy. The median number of lymph nodes resected was 17 (range, 8–110). Sentinel lymph nodes were involved in four patients (7.0%), two with macrometastasis and two with low-volume metastases. The sensitivity and negative predictive value for detecting lymph node metastasis were both 100%.

Conclusion

Sentinel lymph node mapping with the use of cervical tracer injection is highly feasible in Japanese women with early stage endometrial cancer.
LYMPHOCELE AFTER PELVIC LYMPHADENECTOMY FOR PATIENTS WITH ENDOMETRIAL CANCER

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4North-Western State Medical University named after I.I Mechnikov, Oncological department, Saint-Petersburg, Russia

Aims

To identify the incidence of lymphocele after pelvic lymphadenectomy in patients after laparoscopic and open abdominal surgery for endometrial cancer.

Method

648 endometrial cancer patients underwent hysterectomy and bilateral pelvic lymphadenectomy with laparoscopic and open approach in N.N. Petrov Research Institute of Oncology from 2010 to 2016. The median age of patients at surgery was 59.8 (25–88) years. Median BMI was 32.7 (18.31–60.97) kg/m2. A total of 327 patients after laparoscopic surgery were compared to 321 patients after open surgery group. In both groups the majority of patients were at stage IA and IB (89.3% in the laparoscopic group and 69.7% in the laparotomic group). Metastases in pelvic lymph nodes were detected in 4.89% and 10.9% of patients respectively. Ultrasound examination of the pelvis for all patients after surgery was performed.

Results

The overall incidence of lymphoceles was 320/648 (49.4%): 141/320 (44.06%) after laparoscopy and 179/320 (55.9%) after open surgery (p=0.01). Symptomatic lymphoceles were found in 15 (4.6%) and 21 (6.5%) patients after laparoscopic and open surgery respectively. The mean size (largest diameter) of lymphoceles was 43.7 mm (1–155 mm). There was a significant size difference between asymptomatic (mean size 39.9 mm; 1–114 mm) and symptomatic lymphoceles (mean size 82.3 mm; 32–155 mm) [p=0.02].

Conclusion

The incidence of lymphocele after lymphadenectomy for endometrial cancer is high (49.4%). Most of them are asymptomatic (88.9%). Laparoscopic approach in endometrial cancer surgery is associated with a lower occurrence of both asymptomatic and symptomatic lymphoceles compared to open surgery.
HYPOXIA AND HYPERGLYCAEMIA ARE ASSOCIATED WITH METFORMIN RESISTANCE IN ENDOMETRIAL CANCER
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1Division of Molecular and Clinical Cancer Sciences, School of Medical Sciences, Manchester, United Kingdom
2Division of Pharmacy and Optometry, School of Health Sciences, Manchester, United Kingdom
3Department of Histopathology, Central Manchester University Hospitals Foundation Trust, Manchester, United Kingdom
4Division of Pharmacy and Optometry, School of Health Science, Manchester, United Kingdom

Aims

Obesity and insulin resistance are key drivers in the pathogenesis of endometrial cancer (EC). Metformin reduces tumour proliferation in vitro and following short-term pre-surgical administration in patients with EC. We hypothesised that metformin’s anti-tumour activity is driven by effects on mitochondrial function and affected by glucose and oxygen concentrations.

Method

Ishikawa and HEC1A EC cell lines were used in cell viability, flow cytometry and mitochondrial assays to test the cytostatic and mitochondrial function effects of metformin at varying glucose (0.5-25mM) and oxygen (1%-21%) concentrations. In patients, baseline serum glucose and insulin levels were measured before treatment with metformin in a pre-surgical study. Baseline tumour hypoxia (HIF-1α, CA-9) and change in mitochondrial mass (TOMM-20) was measured by immunohistochemistry in endometrial tumours.

Results

In vitro, metformin’s dose-dependent cytostatic effects (p<0.01) were reduced by high glucose and hypoxia (p<0.05-0.001). These conditions suppressed basal and mitochondrial respiration in mitochondrial assays (p=0.017). In vitro, metformin increased mitochondrial mass (p<0.0001) but decreased mitochondrial function (p<0.001) at low glucose concentrations (p<0.01), while treatment in patients was associated with increased mitochondrial mass (p=0.03). There was no association with baseline glucose or insulin levels but metformin response was reduced in hypoxic tumours (p=0.03).

Conclusion

Supraphysiological concentrations of metformin are required for cytostatic effects in high glucose culture conditions. Metformin response is reduced in low oxygen concentrations, both in vitro and in patients. Metformin targets mitochondrial function, however in high glucose, a switch to glycolysis may contribute to metformin resistance. Understanding these metabolic adaptations can help identify patients likely to benefit from metformin.
ENDOMETRIAL CANCER II

ESG07-1358

EFFICACY OF ENDOMETRIAL CANCER FOLLOW-UP: AN EXPERIENCE FROM A TERTIARY CARE HOSPITAL IN ITALY

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Aims

To review the experience of a tertiary university hospital on endometrial cancer follow-up in a 10 year period.

Method

We retrospective review our institutional experience of follow up between September 2006 and September 2016 for patients treated for endometrial carcinoma and critically analyzed how to improve the clinical practice and the quality of life, reducing the public spending. Patients have been examined with a frequency of 4-5 months for the first 2 years, 6-8 months between third and fifth year, every 12 months between fifth and tenth year.

Results

367 patients were enrolled. The recurrence rate was 8.18% with the highest recurrence rate in stage IIIC (36.4%). Only six patients (20%) showed symptoms before the diagnosis with no difference in recurrence free survival between asymptomatic and symptomatic patients. Among the asymptomatic endometrium recurrences, the diagnosis was made with imaging clinical examinations in the 87.5% of cases. Vaginal cytology did not detect any disease recurrence in case of central asymptomatic endometrium recurrences. There were no relapses after the fifth year of follow-up.

Conclusion

Considering the necessity of a spending reduction for the National Health System, we recommend a more careful modulation of the number of examinations and of required tests based on risk factors and on the patient's prognostic. In accordance with literature, the use of vaginal cytology in endometrial cancer follow-up should be reduced. The absence of recurrence after the fifth year of follow-up might suggest to reduce the length of follow-up programme.
ENDOMETRIAL CANCER II

ESGO7-1066

THE INFLUENCE OF SOME CLINICAL FACTORS ON SURVIVAL OF ENDOMETRIAL STROMAL SARCOMA PATIENTS.

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2Grigoriev Institute of medical radiology, Radiation therapy, Kharkov, Ukraine
3Grigoriev Institute of medical radiology, Clinical oncology, Kharkov, Ukraine

Aims

analyse clinical cases of uterine sarcoma patients, who were diagnosed for the first time and underwent treatment between January 1997 and December 2016 in the clinic of «Grigoriev Institute for Medical Radiology of NAMS of Ukraine».

Method

There was evaluated the treatment results of 42 uterine endometrial stromal sarcoma patients stage IA-IVB (T1-3NxM0-1). All the patients underwent surgery, radiotherapy and/or chemotherapy. The treatment efficacy was assessed by the incidence-rate, recurrence-rate, disease-free and overall survival, site of recurrence and metastasis.

Results

the progression index was 22.2 ± 1.0 % at stage I, 50.1 ± 1.7 % at stage II, 66.7 ± 1.7 % at III stage, and 62.5 ± 1.8 % at stage IV, with the period of observation up to 60 months. The recurrence-rate after combined or complex treatment in ESS patients stage I–IV was 42.9 ± 7.6 %. loco-regional recurrence was detected in 16.7 ± 5.8 % of patients, distant metastases – in 26.2 ± 6.8 %.

Conclusion

The progressive disease in term before 6 months was noted in 80 % of patients with stage II and IV. The 5-year non-progressive survival, without taking into consideration the stage of disease, was 57.1 %. The treatment regimen has no influence on relapse-rate in ESS patients.
ENDOMETRIAL CANCER II

ESGO7-1199

RECURRENCE PREDICTION SCORE: DEVELOPMENT AND VALIDATION OF A SYSTEM TO PREDICT BASELINE RISK OF RECURRENCE IN STAGE I-II ENDOMETRIAL CARCINOMA

K. Takahashi1, M. Yunokawa2, I. Kuno1, Y. Yoneoka1, T. Tsukada1, M. Kobayashi1, K. Tate1, H. Shimizu1, T. Uehara1, M. Ishikawa1, S.I. Ikeda1, T. Kato1

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2Cancer institute hospital of JFCR, Medical Oncology Department, Tokyo, Japan

Aims

To develop and validate the 3-year recurrence prediction score (RPS) system for predicting the baseline risk of recurrence in stage I-II endometrial carcinoma.

Method

We reviewed 427 patients with FIGO stage I-II endometrial carcinoma who underwent surgery without any adjuvant therapy at our institution from 2005 to 2013. Multivariate analysis was performed using clinicopathological factors to identify the risk factors for 3-year recurrence-free survival (RFS) in 251 patients treated in odd-numbered years (test cohort). We assigned score points to each risk factor based on Cox regression analyses and the sum of the risk factor score points was defined as the RPS system. The scoring system was applied to 176 patients treated in even-numbered years (validation cohort).

Results

The significant risk factors were age ≥60 years, pathological type II, cervical stromal invasion, and positive peritoneal cytology and Cox regression analysis revealed that the regression coefficients of each factor were almost same, and we defined each score points as 1. Score distribution and the 3-year RFS rate for each RPS are shown in Table 1 and Table 2. The 3-year RFS was significantly higher in the low-RPS group (RPS 0-1) than in the high-RPS group (RPS 2-3) (97.7% vs. 71.1%, p < 0.01) (95.2% vs. 79.9%, p < 0.01) in both test and validation cohort (Figure 1).

Table 1: Score distribution

<table>
<thead>
<tr>
<th>RPS Group</th>
<th>Test cohort</th>
<th>Validation cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPS score</td>
<td>n = 251</td>
<td>score</td>
</tr>
<tr>
<td>Low-RPS</td>
<td>101 (40.0%)</td>
<td>78 (44.3%)</td>
</tr>
<tr>
<td>1</td>
<td>118 (47.0%)</td>
<td>68 (38.6%)</td>
</tr>
<tr>
<td>2</td>
<td>26 (10.4%)</td>
<td>24 (13.8%)</td>
</tr>
<tr>
<td>3</td>
<td>6 (2.4%)</td>
<td>6 (3.4%)</td>
</tr>
</tbody>
</table>

Table 2: 3-year Recurrence Free Survival

<table>
<thead>
<tr>
<th>RPS Group</th>
<th>Test cohort</th>
<th>Validation cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPS score</td>
<td>n = 251</td>
<td>score</td>
</tr>
<tr>
<td>Low-RPS</td>
<td>100%</td>
<td>98.7%</td>
</tr>
<tr>
<td>1</td>
<td>95.8%</td>
<td>91.1%</td>
</tr>
<tr>
<td>2</td>
<td>79.9%</td>
<td>83.3%</td>
</tr>
<tr>
<td>3</td>
<td>33.3%</td>
<td>62.5%</td>
</tr>
</tbody>
</table>

Figure 1: Recurrence Free Survival of Test cohort (A) and Validation cohort (B).

Conclusion

The RPS system showed significant reproducibility for predicting the baseline risk of recurrence using multiple risk factors.
A FEASIBILITY OF LAPAROSCOPIC SURGERY WITH PELVIC LYMPHADENECTOMY FOR EARLY-STAGE ENDOMETRIAL CANCER

N. Takahashi1, E. Yoshioka1, A. Mochizuki1, Y. Kasamatsu1, N. Kado1, M. Abe1, M. Takekuma1, Y. Hirashima1
1Shizuoka Cancer Center, Gynecology, Shizuoka, Japan

Aims

To investigate feasibility of laparoscopic surgery with pelvic lymphadenectomy for endometrial cancer.

Method

Laparoscopic surgery for endometrial cancer hadn't been covered by insurance until 2014 in Japan. Since 2015, we have performed laparoscopic surgery (LPS) for 93 endometrial cancer patients. Pelvic lymphadenectomy were performed for 35 of them. We judge the adaptation of lymphadenectomy for endometrial cancer from frozen-section results (Table 1). Insurance allows to perform total laparoscopic hysterectomy (TLH)+bilateral salpingo-oophorectomy (BSO)+pelvic lymphadenectomy, not to perform para-aortic lymphadenectomy. We compared them with 102 patients by laparotomy (LPT) with pelvic lymphadenectomy for endometrial cancer performed 2011-2016 about age, body mass index (BMI), operative time, blood loss, resected lymph nodes, intraoperative and postoperative complications.

Table 1. Lymphadenectomy for endometrial cancer

<table>
<thead>
<tr>
<th>Grade</th>
<th>Invasion</th>
<th>Depth a</th>
<th>Depth b</th>
<th>Depth c</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 1</td>
<td>none</td>
<td>PL A</td>
<td>PL A+PAL A</td>
<td></td>
</tr>
<tr>
<td>Grade 2</td>
<td>PL A</td>
<td>PL A</td>
<td>PL A+PAL A</td>
<td></td>
</tr>
<tr>
<td>Grade 3, others</td>
<td>PL A+PAL A</td>
<td>PL A+PAL A</td>
<td>PL A+PAL A</td>
<td></td>
</tr>
</tbody>
</table>

* TA H-BSO was performed for all patients.
* TA H: total abdominal hysterectomy
* BSO: bilateral salpingo-oophorectomy
* PL A: pelvic lymphadenectomy
* PAL A: para-aortic lymphadenectomy
* others: carcinoma in situ, clear cell adenocarcinoma, etc.

Results

Patient characteristics were not significantly different between two groups (median age: 58 (39-76) for LPT vs 58 (24-78) for LPS, BMI: 23 (16-36) vs 28 (17-35), respectively). The median operative time was 341 min (225-596), blood loss 12 ml (0-191), resected lymph nodes 45 (18-78) in LPS, and 266 min (163-48), 325 ml (72-1018), 44 (24-82) in LPT. The operative time in LPS was longer (p < 0.01), although blood loss was less than LPT (p < 0.01). And resected lymph nodes were almost equal between the two groups.

The statistic difference on intra and perioperative complications between the two was not significant. (blood transfusion: 6.4% vs 0%; p = 0.08; injuries of other organ: 0% of both groups)

Also, the statistic difference on post-operative complications was not significant as well (surgical site infection 4.9% vs 0%, p = 0.28; pelvic peritonitis 6.9% vs 8.7%, p = 0.78; ileus 0% of both groups).

Conclusion

Laparoscopic surgery with pelvic lymphadenectomy for endometrial cancer was feasible compared with conventional laparotomy.
A PREDICTION MODEL OF SURVIVAL FOR PATIENTS WITH BONE METASTASIS FROM UTERINE CORPUS CANCER
S. Takeshita¹, T. yukiharu¹, K. hidenori¹, S. chisa¹
¹Hokkaido Cancer Center, Gynecology, Sapporo, Japan

Aims

The aim of the study was to establish a predictive model of survival period after bone metastasis from endometrial cancer.

Method

A total of 28 patients with bone metastasis from uterine corpus cancer were included in the study. Data at the time of bone metastasis diagnosis, which included presence of extraskeletal metastasis, performance status, history of any previous radiation/chemotherapy, and the number of bone metastases were collected. Survival data were analyzed using Kaplan–Meier methods and Cox proportional hazards models.

Results

The most common site of bone metastasis was the pelvis (50.0%), followed by lumbar spine (32.1%), thoracic spine (25.0%), and rib bone (17.9%). The median survival period after bone metastasis was 25 weeks. The overall rate of survival after bone metastasis of the entire cohort was 75.0% at 13 weeks, 46.4% at 26 weeks, and 42.9% at 52 weeks. Performance status of 3–4 was confirmed as an independent prognostic factor (HR, 3.5; 95% CI, 1.41–8.70) and multiple bone metastases tended to be associated with poor prognosis (HR, 2.4; 95% CI, 0.95–5.97). A prognostic score was calculated by adding up the number of these two factors. The 26-week survival rates after bone metastasis were 88.9% for those with a score of 0, 45.5% for those with a score of 1, and 0% for those with a score of 2 (p=0.0006).

Conclusion

This scoring system can be used to determine the optimal treatment for patients with bone metastasis from endometrial cancer.
EXPRESSSION OF THE PUTATIVE CANNABINOID RECEPTOR GPR55 IS INCREASED IN ENDOMETRIAL CARCINOMA

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2University of Leicester, Endocannabinoid Research Group- Reproductive Sciences Section- Department of Cancer Studies and Molecular Medicine, Leicester, United Kingdom
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5Sidra Medical and Research Centre, Department of Obstetrics and Gynaecology, Doha- Qatar, Qatar

Aims

The GPR55 receptor is a potential key player in malignant transformation involving human tumours. Aim of this study was to evaluate GPR55 expression in endometrial carcinoma (EC).

Method

A total of 27 endometrial biopsies (21 ECs (15 type 1, six type 2)) and six normal age-matched controls atrophic endometrium were recruited. Samples were divided into two: one for this study and one for histological confirmation of diagnosis. GPR55 transcript levels were measured using Taqman multiplex qRT-PCR. Immunohistochemistry was performed using commercially available GPR55 antibodies. Statistical testing was performed using one-way ANOVA followed by Dunn's ad hoc post-test or Mann-Whitney U-test.

Results

GPR55 transcript levels were significantly raised (p<0.0020) in the EC when compared with atrophic tissues. Sub-analyses revealed that GPR55 transcript level in patients with type 1 disease were significantly elevated compared to control patients (p<0.0007), but were not elevated in patients with type 2 disease (p<0.1320). Furthermore, GPR55 transcript levels in patients with grade 1 and 2 EC type 1 were statistically significantly elevated (p<0.01) and (p<0.05), respectively, but not in grade 3 type 1 EC and type 2 (serous and carcinosarcoma) samples. IHC showed GPR55 immunoreactivity to be markedly increased in EC samples compared to atrophic endometrium, with differential staining intensities; atrophic< type 2 < type 1 EC, mirroring the transcript levels.

Conclusion

This study demonstrates that, GPR55 expression is elevated in EC and may play a role in the aetiopathogenesis of EC. GPR55 could be an invaluable as a diagnostic tool and a potential therapeutic target.
Endometrial Cancer II

ESGO7-0369

Implications of Para-Aortic Lymph Node Metastasis in Patients with Endometrial Cancer Without Pelvic Lymph Node Metastasis

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1Hokkaido Cancer Center, Gynecologic Oncology, Sapporo, Japan

Aims

The aim of this study was to confirm the incidence and implications of a lymphatic spread pattern involving para-aortic lymph node (PAN) metastasis in the absence of pelvic lymph node (PLN) metastasis in patients with endometrial cancer.

Method

We carried out a retrospective chart review of 754 patients with endometrial cancer treated by surgery at Hokkaido Cancer Center between 2003 and 2016. Of these patients, 380 (50.4%) who underwent PLN dissection and PAN dissection were reviewed retrospectively. We determined the probability of PAN metastasis in patients without PLN metastasis and investigated survival outcomes of PLN−PAN+ patients.

Results

The median numbers of PLN and PAN removed at surgery were 41 (range: 11–107) and 16 (range 1–65), respectively. Sixty-four patients (16.8%) had lymph node metastasis, including 39 (10.3%) with PAN metastasis. The most frequent lymphatic spread pattern was PLN+PAN+ (7.9%), followed by PLN+PAN− (6.6%), and PLN−PAN+ (2.4%). The probability of PAN metastasis in patients without PLN metastasis was 2.8% (9/325). The 5-year overall survival rates were 96.5% in PLN−PAN−, 77.6% in PLN+PAN−, 63.4% in PLN+PAN+, and 53.6% in PLN−PAN+ patients.

Conclusion

The likelihood of PAN metastasis in endometrial cancer patients without PLN metastasis is not negligible, and the prognosis of PLN−PAN+ is likely to be poor. The implications of a PLN−PAN+ lymphatic spread pattern should thus be taken into consideration when determining patient management strategies.
NEW ASPECTS IN PREVENTION AND EARLY DIAGNOSTIC OF ENDOMETRIAL CANCER IN A FIRST-DEGREE RELATIVES FROM FAMILIES WITH LYNCH SYNDROME.

I. Tripac
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Aims

Accumulation of malignant neoplasms in families with Lynch syndrome, creates the need for screening for the early diagnosis and prevention of hereditary cancer.

Prevention and early diagnosis of endometrial cancer in families with high cancer risk will reduce the incidence and mortality of women with hereditary predisposition to endometrial cancer.

Method

Material and methods: We retrospectively followed 361 women who were recruited to the National Register of Cancer Families between 2007-2013, including data on 145 families of probands with endometrial cancer (38 cases), ovarian cancer (36), colorectal cancer (CRC) (31 cases), Breast cancer (20 cases) and multiple primary malignant neoplasms (MPMN) (20 cases). As the control, the age-adjusted population frequencies of endometrial cancer were used. The work used clinical, instrumental and laboratory methods of investigation.

Results

Results: A total of 18 endometrial cancer cases with a frequency of 4.9 ± 1.14% were observed. Compared with women without family history, we found an increased risk of endometrial cancer for women from families with Lynch syndrome, which exceeds the population frequency by 490 times. The peak of the maximum incidence of women with endometrial cancer falls at the age of 45-52 years, while the peak incidence of EC in probands falls on the older age of 59-62 years.

Conclusion

Conclusions: A high percentage of accumulation of malignant pathology, including EC, among women from families with Lynch syndrome, underlines the necessary of screening for the early diagnosis and prevention of cancer in these families.
Aims

The EFFECT project is a multi-centric prospective observational registration project evaluating the quality and effectiveness of uterine cancer treatments in Belgium.

Method

41 quality indicators (QI) were selected based on literature and consensus of national experts. Data was collected through an online registration module (optional) developed by the Belgian Cancer Registry. All patients diagnosed with uterine cancer in the 2012-2016 period were eligible. QI descriptive statistics and funnel plots are reported here.

Results

3316 new diagnoses were registered by 58 hospitals. Median age was 69 years and main histology was endometrioid adenocarcinoma (71.7%). 98.1% of cases were discussed at a multidisciplinary team meeting (low variability between hospitals); 86.0% of surgical patients had a pre-operative biopsy (high variability, see figure QI 4); 78.4% of patients with clinical stage I underwent a TH/BSO (high variability); 52.6% of clinical stage I endometrial carcinoma patients had minimally invasive surgery (high variability). 74.4% of stage I grade III patients had lymphadenectomy (high variability). 30-day post-operative mortality was 0.4%.

Figure: Funnel plot showing the proportion of surgical patients who had a pre-operative biopsy (QI 4), showing all hospitals (dots) and Belgian average (86.0%, solid black line).
Conclusion

QoC of uterine cancer is heterogeneous in Belgium, with surgical management being particularly variable. Further analysis will assess whether QoC has improved over the study period.
ENDOMETRIAL CANCER II

ESGO7-1257

THE IMPACT OF GRADE IN ENDOMETRIOID ENDOMETRIAL CANCER INVADING CERVICAL STROMA AFTER HYSTERECTOMY AND BSO.

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¹Center for Gynecologic Oncology Amsterdam CGOA- location AMC, Gynaecologic Oncology, Amsterdam, The Netherlands

Aims

To determine the impact of grade on recurrence pattern and survival in endometrial cancer patients with cervical stromal invasion and to analyze the literature to determine the spread pattern, risk on and pattern of recurrence in the same group with grade 1.

Method

A retrospective study was performed where 97 consecutive patients, treated by hysterectomy/BSO and adjuvant radiotherapy (RT) were analyzed with respect to age, grade, type of (adjuvant) treatment, presence of extra uterine disease and outcome. Literature studies, where it was possible to separately analyze grade 1 tumors, were analyzed regarding extra uterine disease, recurrence pattern and survival in relation to type of (adjuvant) treatment.

Results

34 patients (34.7%) had grade 1, 39 (40.3%) grade 2 and 24 (24.0%) grade 3. Extra uterine disease was found in 17%, 38% and 46% of grade 1, 2 and 3 patients respectively. Overall survival was significantly better in grade 1 versus grade 2, 3 patients (82.7% vs 63.2%, p=0.027). Only 1 patient with grade 1 died from disease. One study from literature was found, reporting specifically on 20 grade 1 tumors where only 1 recurrence was reported.

Conclusion

Grade 1 patients with endometrial cancer and cervical stromal invasion have an excellent prognosis. It is debatable if complete staging and/or adjuvant treatment, especially pelvic RT, results in a better outcome for this subgroup. Because all patients had adjuvant RT the role of staging and adjuvant RT remains unclear. The scarce literature confirms the excellent prognosis of the grade 1 subgroup but more detailed data are needed.
ENDOMETRIAL CANCER II

ESGO7-0859

SENTINEL NODE BIOPSY IN ENDOMETRIAL CANCER WITH CERVICAL AND FUNDAL ICG INJECTION

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Aims

To describe a novel sentinel lymph node (SN) tracer injection procedure featuring cervical and fundal green indocyanine (ICG) injection for endometrial cancer.

Method

Between June 26th 2014 and October 31st 2016, 111 patients underwent laparoscopic surgery for endometrial cancer at our Institution. In all cases SN biopsy with dual cervical and fundal ICG injection was performed. All SLN were processed with an ultrastaging technique. 69 patients also underwent total pelvic and paraaortic lymphadenectomy.

Results

The overall SN detection rate was 92.79% (103/111). The overall pelvic SN detection rate was 89.19% (99/111) and the bilateral pelvic SN detection rate was 61.26% (68/111). Paraaortic SN were detected in 59.46% (66/111). Isolated paraaortic SN detection was 4% (4/111). We found macroscopic Lymph Node metastases (LN) 11 patients (9.9%). In another 10 patients microdisease was present in LNs, raising global LN affectation to 18.92. There were 1 false negative case in wich SN was negative with a positive aortic lymphadenectomy, and another positive case in linphadenectomy in wich was not detected the SN. The S was 94.44%, E 100%, VPN 97.83% and LHR(-) 0.06.

| Overall SN Detection Rate | 92.79% | 103/111 |
| Pelvic SN Detection Rate | 89.19% | 99/111 |
| Bilateral Pelvic SN Detection Rate | 61.26% | 68/111 |
| ParaAortic SN Detection Rate | 59.46% | 66/111 |

<table>
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<th>Suprarrenal</th>
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<tbody>
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<td>Positive</td>
<td>Total</td>
</tr>
<tr>
<td>Lateralasc</td>
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<td>1</td>
</tr>
<tr>
<td>Peduncle</td>
<td>29</td>
<td>3</td>
</tr>
<tr>
<td>Vessels</td>
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<td>0</td>
</tr>
<tr>
<td>Pelvis</td>
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<td>4</td>
</tr>
<tr>
<td>Lateralv</td>
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<td>0</td>
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<th>Pelvic SN</th>
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<td>Total</td>
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<td>Total</td>
</tr>
<tr>
<td>Common lnc</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>External/Ilac</td>
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<td>2</td>
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<tr>
<td>Int/Exa</td>
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<td>1</td>
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<tr>
<td>Total 204</td>
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<td>10</td>
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<tr>
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<td>(N)</td>
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<td></td>
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<tr>
<td>-----------------------</td>
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<td>---------------------</td>
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<td>0 Macrometastasis</td>
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<tr>
<td></td>
<td></td>
<td>2 Ultrastaging</td>
</tr>
<tr>
<td>Intermediate &amp; High Risk: EC Positive SN</td>
<td>17</td>
<td>7 Macrometastasis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 Ultrastaging</td>
</tr>
<tr>
<td>• Pelvic Positive SN</td>
<td>10</td>
<td>2 Macrometastasis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 Ultrastaging</td>
</tr>
<tr>
<td>• Aortic Positive SN</td>
<td>3</td>
<td>1 Macrometastasis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Ultrastaging</td>
</tr>
<tr>
<td>• Pelvic &amp; Aortic Positive SN</td>
<td>4</td>
<td>4 Macrometastasis**</td>
</tr>
</tbody>
</table>

**1 case Aortic macrometastasis and also pelvic micrometastasis.

Conclusion

SLN biopsy with cervical and fundal ICG injection offers good overall detection rates and provides an improved mapping of the aortic area. SN ultrastaging increases the number of positive nodes.
ENDOMETRIAL CANCER II

ESGO7-1325

IMPROVING USAGE AND ADHERENCE BY CONVERTING THE ENDOMETRIAL CANCER GUIDELINE INTO DECISION TREES
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2IKNL, Oncology, Maastricht, The Netherlands
3IKNL, Research, Rotterdam, The Netherlands
4IKNL, ICT, Utrecht, The Netherlands
5NKI-AVL, Gynecologic Oncology, Amsterdam, The Netherlands
6Catharinaziekenhuis Eindhoven, Gynecologic Oncology, Eindhoven, The Netherlands

Aims

Oncological guidelines are often large documents with a huge amount of information on diagnostic procedures and treatment options. Due to this amount of information, inconsistencies are common and the recommendations in the guidelines are difficult to find. When new information based on relevant clinical trials becomes available it is difficult to implement this in these guidelines. Representing guidelines as decision trees is a way to overcome these hurdles. The aim of our study is to examine the feasibility of converting the Dutch multidisciplinary endometrial cancer guideline recommendations into easily accessible decision trees to facilitate guideline usage in daily practice.

Method

We converted the most recent Dutch endometrial cancer guideline into data driven decision trees using a structured method where nodes represent data-items and leaves represent recommendations and/or references to other decision trees.

Results

In total we developed 23 decision trees (www.oncoguide.nl). Currently, the decision trees are updated by professionals involved in treating patients with endometrial cancer. Furthermore, we identified information gaps which we can use in designing new trials and we were able to standardize terminology throughout the recommendations.

Conclusion

Converting guidelines into decision trees is feasible but also challenging. With the decision trees it is now possible to: 1) decide on treatment options easily in daily clinical practice, 2) use this information for shared decision making with the patient, 3) substantiate, document and/or evaluate a treatment advice, 4) use information for discussion at a multidisciplinary tumour board and 5) identify information gaps for which clinical trials could be developed.
LOWER UTERINE SEGMENT INVOLVEMENT AS A PROGNOSTIC FACTOR ON ENDOMETRIAL CANCER

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4Hospital Universitario 12 de octubre, Obstetrics and Gynecology: Gynecologic Oncology and Endoscopy, Madrid, Spain
5Hospital Universitario 12 de octubre, Obstetrics and Gynecology: Gynecological Oncology and Endoscopy, Madrid, Spain

Aims

To evaluate the impact of the low uterine segment on both overall survival (OS) and recurrence-free survival (RFS) on patients diagnosed of endometrial cancer

Method

We reviewed 327 consecutive cases of endometrial malignancies diagnosed and treated at our institution between 1/1/2001 and 31/12/2014 with follow-up until January 2016. Patients received as primary treatment hysterectomy and double adnexectomy and on cases of intermediate to advanced risk (ESGO criteria), pelvic and para-aortic lymphadenectomy and/or adjuvant therapy was performed. A univariate Cox regression analysis was established to study both OS and RFS.

Results

87 patients presented with low uterine segment involvement (LUS). A univariate Cox regression model showed that tumors with LUS were 1.47 to 3.76 times more likely to relapse than those without it (p=0.01). Relapse rate for those with LUS was of 34.9% vs 18.6% on the rest of the study population.

RFS were, respectively 65.1% and 81.4%, being these differences statistically significant (p<0.01). Patients with LUS involvement were 1.52 to 4.10 times more likely to die than those without it (p<0.01). Mortality rate was statistically significantly higher on patients with LUS involvement 32.5% vs. 17.3% (p<0.01) and OS was of 67.5% and 82.7% respectively.

Conclusion

Although LUS has not been deeply studied on literature, it was been associated with lymphovascular invasion, RFS and OS. According to our study, LUS is a negative prognostic factor on both RFS and OS on endometrial cancer. Further studies are needed to evaluate its implications on treatment and prognosis on patients diagnosed of endometrial cancer.
HISTEROSONICALLY GUIDED ENDOMETRIAL SAMPLING ON ENDOMETRIAL CARCINOMA: ACCURACY AND IMPLICATIONS

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³Hospital Universitario 12 de octubre, Pathology Department, Madrid, Spain

Aims

To determine accuracy of preoperative endometrial sampling guided by histeroscopy.

Method

We reviewed 327 consecutive cases of endometrial malignancies treated at our institution between 1/1/2001 and 31/12/2014. Histology and tumoral grade were compared on preoperative and final reports. Cases where preoperative biopsy was not recorded or tumoral grade not informed were excluded.

Results

Histological and FIGO tumoral grade on preoperative and final reports are shown on Table 1 and 2 respectively.

Table 1.

<table>
<thead>
<tr>
<th>Endometrioid histology</th>
<th>Final histology</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endometrioid</td>
<td>Mucinous</td>
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</tr>
<tr>
<td>Endometrioid</td>
<td>217</td>
<td>241</td>
</tr>
<tr>
<td>Serous</td>
<td>5</td>
<td>34</td>
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<tr>
<td>Clear cell</td>
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<td>18</td>
</tr>
<tr>
<td>Undifferentiated</td>
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<tr>
<td>Simple-hyperplasia with atypia</td>
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<tr>
<td>Complex-hyperplasia without atypia</td>
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<td>16</td>
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<tr>
<td>Other</td>
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</tr>
<tr>
<td>Total</td>
<td>252</td>
<td>319</td>
</tr>
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</table>

Table 2.

<table>
<thead>
<tr>
<th>Preoperative grade</th>
<th>Final grade</th>
<th>Total</th>
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<tr>
<td>G1</td>
<td>G2 G3</td>
<td>126</td>
</tr>
<tr>
<td>G1</td>
<td>61 48 17</td>
<td></td>
</tr>
<tr>
<td>G2</td>
<td>2 21 10</td>
<td>33</td>
</tr>
<tr>
<td>G3</td>
<td>7 9 62   78</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>70 78 89 237</td>
<td></td>
</tr>
</tbody>
</table>

Concordance on histology was found on 80.2% (256/319) of cases. On tumoral grade it was of 60.8% (144/237) and on 31.6% (75/237) an upgrade was observed on the final report. Global grade-histology concordance between preoperative and postoperative report was of 60.8% (144/237).

Conclusion

Hysteroscopy is still the gold standard technique for preoperative endometrial sampling although it isn’t exempt from inaccuracy on diagnosis.
A CHINESE MULTI-CENTRIC RESEARCH ON FERTILITY-SPARING THERAPY OF ENDOMETRIAL CANCER AND COMPLEX ATYPICAL HYPERPLASIA

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1Peking University People’s Hospital, Department of Obstetrics and Gynecology, Beijing, China

Aims

This multi-centric retrospective cohort study aims to provide experience for fertility-sparing therapy of endometrial cancer (EC) and complex atypical hyperplasia (CAH).

Method

Patients ≤40, diagnosed with IA (confined to endometrium) G1EC and CAH, plus ER and PgR positive were enrolled and treated according to procedure.

Results

Totally 15 national hospitals 68 patients were enrolled including 37 EC and 31 CA. (1) Oncologic and fertility outcome: Complete remission (CR) rate is 94%. With treatment time prolonged to 12, 15 and 18 months, CR rate increases to 85%, 91% and 94%. Pregnant rate is 46.9% and live birth rate is 40.6%. (2) Recurrence and retreatment: After median follow-up of 48 months, fifteen patients relapse (25.4%). Secondary CR rate is 79%, with the similar CR time as primary treatment (34vs.26 weeks, P=0.604). Secondary relapse rate is 30% after 48 months’ follow up. (3) Analysis of correlated factors: EC (compared to CAH, RR0.23, P=0.015), complicated with diabetes (RR0.06, P=0.017), BMI≥25kg/m2 (RR0.31, P=0.049) are risk factors of CR failure at 6-months treatment. Multivariate analysis shows maintenance therapy significantly decrease recurrence rate (OR0.08, P=0.019). GnRHa combined with progesterone as second-line therapy when mono-agent reacts poorly seems decrease recurrence rate (OR0.013, P=0.143). Assisted reproductive benefits pregnancy rate(54.4%vs.15.6%, P=0.018).

Conclusion

Fertility-preserving therapy for young IAG1 EC and CAH has high CR rate although is easy to relapse. Retreatment has the similar response as primary treatment. Simultaneous GnRHa could be considered as second-line therapy. We recommend maintenance therapy after CR and consider ART to promote conception.
ROBOTIC VERSUS LAPAROSCOPIC TRANSPERITONEAL PARA AORTIC LYMPHADENECTOMY IN GYNECOLOGIC CANCERS: A SINGLE INSTITUTE EXPERIENCE

V. gallotta1, K. Gaballa2, C. Conte1, A. Federico1, A. Biscione1, M.T. giudice1, S. pelligra1, V. Chiantera3, G. vizzielli1, S. Guell Alletti, A. Fagotti1, G. Scambia1, M.G. Ferrandina1

1Università Cattolica del Sacro Cuore, Gynecologic oncology, Roma, Italy
2Oncology Center Mansoura University, Surgical Oncology, Mansoura, Egypt
3University of Palermo, Gynecologic Oncology, Palermo, Italy

Aims

To evaluate the surgical and pathological outcomes of patients underwent transperitoneal para-aortic lymphadenectomy (PAL) for gynecological cancer patients with minimally invasive approach.

Method

Between 2012 and 2016, 184 patients underwent robotic transperitoneal (R-PAL) (n=78) and laparoscopic transperitoneal (L-PAL) (n=106), 43 for cervical cancer (23.3%), 31 for endometrial cancer (16.8%) and 110 (59.7%) for ovarian cancer in Gemelli hospital in Rome. The patients were retrospectively evaluated and compared.

Results

78 patients underwent R-PAL were compared to 106 patients underwent L-PAL. The study showed no significant difference between the 2 groups in terms of age, BMI, and preoperative characteristics. In all series 24 (13%) patients had BMI > 32. The Median operative time for both groups was 237.5 minutes for R-PAL and 220 for L-PAL (p=0.446). Median blood loss was 100 in R-PAL and 80 in L-PAL (p=0.693). Only one patient was converted to open approach in the robotic group. The rate of intraoperative complications in the whole series was 2.7% with no significant difference between the 2 groups (P=0.652). The rate of the postoperative complications in the whole series was 16.8 % with slightly higher rate in robotic group (p=0.045). In all series, the pathological results showed presence of lymph node metastasis in 18 (9.7%) patients, with no difference between the two groups.

Conclusion

The present study showed feasibility, safety of minimally invasive approach for PAL.

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ENTEROSORPTION AS A SUPPORTIVE TREATMENT DURING EXTERNAL RADIOTHERAPY IN PATIENTS WITH UTERINE AND CERVICAL CANCER

V. Matkovic1, K. Katic1, A. Corusic1, R. Likic2

1Clinic for Obstetrics and Gynecology- University Hospital Centre Zagreb, Department of gynaecologic oncology, Zagreb, Croatia
2University Hospital Centre Zagreb, Department of Clinical Pharmacology- Zagreb, Croatia

Aims

The most common adverse reactions of external pelvic radiotherapy include: frequent stools, frequent urination, dysuria, tenesmus, abdominal pain and blood count changes. To reduce them, patients should mind their diet, take enough fluids and use medications. One of the possibilities is Enterosgel, a selective enterosorbent.

Method

We administered Enterosgel as a part of a clinical study "The role of Enterosgel in prevention of gastrointestinal adverse reactions of percutaneous radiation". 90 patients with uterine or cervical cancer, treated by external pelvic radiotherapy, were divided into 2 groups: the first group included 46 patients who were given 45 g of Enterosgel per day, and the second group included 44 patients who didn’t take Enterosgel. We monitored the following parameters: ECOG, body weight, diarrhoea, nausea, leukocytes, thrombocytes and erythrocytes count and potassium and sodium levels.

Results

There was no statistically significant difference between the two groups for blood count, electrolytes levels and ECOG. We found a statistically significant difference for body weight, number of diarrheal stools and number of days without nausea. Compared to patients who weren’t taking Enterosgel, patients in Enterosgel group lost 0.49 to 2.17 kg less (p-value = 0.00234), had 0.47 to 6.29 less diarrheal stools (p-value = 0.02325), and had 1.03 to 5.71 less days with nausea (p-value = 0.005588).

Conclusion

Preliminary results indicate that Enterosgel can be recommended as a supportive treatment during pelvic radiation, because it is well tolerated and effectively reduces gastrointestinal problems and weight loss. However, additional studies that will include more patients are needed.
MISCELLANEOUS II

ESGO7-0407

RIVER FLOW INCISION: A MODIFIED INCISION TECHNIQUE FOR DECREASING MORBIDITY OF ILIO-INGUINAL DISSECTION

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Aims

Ilio-Inguinal LND is an important component of surgical treatment for Ca Penis, Vulva, Primary cutaneous cancer, STS, melanoma etc. Skin flap necrosis is one of the most common complications after IILND with reported frequency up to 65% in published literature. Our experience with a modified surgical approach of River flow incision has been most successful in eliminating flap necrosis.

Method

A modified skin incision was used to perform IILND in 74 prospective patients. Irrespective of primary histology or timing, same technique was used in all cases. Two curvilinear parallel skin incisions were made; each sited about 4 cm above and below inguinal ligament. Flaps were raised below Scarpa's fascia. LND was performed in both inguinal and iliac basin with a standard technique. All patients were followed up prospectively for 30 days after surgery and complications if any, were recorded according to Clavien-Dindo System of reporting surgical complications.

Results

74 patients underwent 104 ILND from July 2012 till Dec 2016. Unilateral dissection was performed in 44 patients and 30 underwent bilateral ILND. There was only one instance of flap necrosis/loss. Complications recorded were Seroma (14.4%), Lymphedema (4.8%), Surgical site infection (4.8%), Deep vein thrombosis (2.7%), partial wound dehiscence (7.9%), partial skin flap loss (2%) all corresponding to Clavien–Dindo Grade 1 & 2.

Conclusion

‘River Flow’ Incision is a simple but effective surgical modification which has enabled us to perform therapeutic ILND safely. Avoidance of flap necrosis, significantly decreased morbidity and almost no learning curve are highlights of this modification of surgical technique.
IDENTIFICATION OF INGUINO-FEMORAL SENTINEL LYMPHNODE IN VULVAL CANCER: SINGLE INSTITUTE EXPERIENCE
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Aims

to investigate the implications of biopsy taking prior performing identification and excision of inguino-femoral sentinel lymphnode in vulval cancer, according to ESGO guidelines.

Method

Retrospective study of all patients with presumed stage 1 vulval cancer who underwent identification and excision of inguinal sentinel lymph node in our institute, between 1/3/2015 and 31/1/2017. Data collection included patients demographics, tumour location and characteristics, lymphoscintigraphic and histopathological features, and surgical outcomes.

Results

We identified 30 cases of median age 63.1 years (range 34-92 y.o). Preoperative imaging excluded distance disease. Tumour has been previously excised in 46.7% of the cases. Identification of a both hot and blue lymph node was achieved in 93.3% cases. In 2 (6.7%) cases a sentinel lymph node could not be identified by lymphoscintigraphy and therefore a full lymphadenectomy was performed. Both cases were from the subgroup of patients with previously excised primary tumors, with a failure rate of 14.3% vs 0% of those with incisional biopsies, p<0.05. None of them had final positive lymph nodes. 3 out of 28 (10.7%) sentinel lymph nodes were positive. There were no cases (0%) with groin wound healing problems, lymph cyst or lymphoedema. There were no grade 3-4 complications or deaths (0%). There is no groin recurrence in a median of 11 months follow up (range 1-22).

Conclusion

It is important to counsel patients regarding the failure to surgically identify the sentinel lymph node, in case that an excisional biopsy has been performed, and proceed with full lymphadenectomy.
COMBINED RUPIVACAINE PERI-INCISIONAL INJECTION AND INTRAPERITONEAL NEBULIZATION: A NEW EFFECTIVE TOOL IN PAIN CONTROL AFTER LAPAROSCOPIC SURGERY IN GYNECOLOGY: A RANDOMIZED CONTROLLED CLINICAL TRIAL

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Aims

To evaluate the efficacy of intraoperative topical ropivacaine in the control of post-operative pain in the first 48 h after operative laparoscopy for benign adnexal or uterine pathologies.

Method

We conducted a prospective, randomized, double-blind, placebo-controlled clinical trial. Patients received a standard dose of topical ropivacaine (injected at the three portal sites and atomized in the abdominal cavity) or placebo. We measured the intensity of pain in the first 48 hours using VAS (visual-analogue-scale). Moreover, we evaluated shoulder tip pain, the request for rescue analgesics, time to discharge from recovery room, time to mobilizing on the ward and time to return to daily activities. Patients were divided into two groups (Group_A: benign adnexal pathologies; Group_B: benign uterine diseases) and assigned to Subgroup_1 (ropivacaine) and Subgroup_2 (placebo).

Results

A total of 187 women were included: 93 in Group_A and 94 in Group_B. Forty-seven patients entered Subgroup_A1, 46 Subgroup_A2, 48 Subgroup_B1 and 46 Subgroup_B2. Subgroup_A1 experienced lower post-operative pain at 4 (p=0.008) and 6 h (p=0.001) as well as a faster return to daily activities (p=0.01) in comparison with Subgroup_A2. Both Subgroup_A1 and Subgroup_B1 showed lower shoulder tip pain (respectively, p=0.032 and p=0.001) as well as shorter time to mobilizing on the ward after surgery (respectively, p=0.001 and p=0.01). The remaining variables analysis did not show significant results.

Conclusion

Combined topical analgesia with ropivacaine could represent a new safe and effective tool in the control of post-operative pain in gynecological laparoscopic surgery. Given the greater benefits for adnexal surgery, this strategy may be more suitable for this class of patients.
Aims

Objective. To identify clinical features of women who developed three or more primary malignancies including genital tract (GT) cancers.

Method

Methods. We retrospectively studied women with three or more primary malignancies including GT cancer who were treated since 2001 to 2016.

Results

Results. Of the 16 patients, 15 developed triple cancers and 1 quintuple cancers. The most common GT cancer was endometrial cancer (n=13), and 4 of the patients had synchronous ovarian cancer. Cervical and peritoneal cancer were observed in 2 and 1 patient, respectively. Fifteen patients developed non-GT cancer as their first cancer. The age at diagnosis of first cancer ranged 21-69 years (median, 52 years), and the age at diagnosis of the first GT cancer ranged 46-80 years (median, 65 years). The most common non-GT cancer was breast cancer (n=9), followed by colon (n=5), gastric (n=3) and thyroid cancer (n=3). Subsequent non-GT cancers were observed only in endometrial cancer patients (n=5: gastric, breast, lung, pancreas, and external ear). Six patients had a first-degree relative with gastric or colon cancer, and one had a first-degree relative with breast cancer. Two breast cancer patients treated with tamoxifen developed endometrial cancer. Quintuple cancer (esophagus, tongue, breast, cervix, and low-pharynx) developed in an ex-smoker.

Conclusion

Conclusions. The most common GT cancer in patients with three or more primary malignancies was endometrial cancer. Hereditary factors, tamoxifen, and older age appear to be associated with developing these cancers. Smoking and HPV infection seem to be linked with multiple cancers in a cervical cancer patient.
THE FeASIBILITY OF LAPAROSCOPIC SURGERY AND SAME-DAY DISCHARGE IN GYNECOLOGIC ONCOLOGY FOR OBESE AND VERY OBESE PATIENTS

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Aims

Surgical interventions are the mainstay of treatment for many gynecological cancers. Minimally invasive surgery offers many potential advantages, including same day discharge. However, performing laparoscopic pelvic surgery in obese patients remains challenging.

Objective: To examine the feasibility and safety of performing laparoscopic gynecologic-oncology procedures with same day discharge in obese and morbidly obese patients.

Method

A retrospective study of patients who underwent laparoscopic surgeries by a gynecologic oncologist from January 2012-June 2016, at a designated cancer centre. Using BMI, patients were categorized as non-obese (BMI<30 kg/m²), obese (BMI30-40kg/m²) and morbidly obese (BMI≥40 kg/m²). Intra and post-operative complications and length of hospital stay were recorded. Group differences were compared with Kruskal-Wallis nonparametric test or Fisher exact test. Univariate and multivariate regressions were done for same day discharge.

Results

Of 497 patients, 288 were non-obese (58%), 162 obese (33%) and 47 morbidly obese (9%). Complex surgical procedures were performed in 58.0% of obese patients and 55.3% of morbidly obese patients. Conversion to laparotomy occurred in less than 9% of all patients with no group differences. Low intra-operative (9-11%) and severe post-operative (2%) complication rates were observed with no group differences. Of 182 (36.7%) patients who had same day discharge, younger age and shorter procedure length increased the likelihood of same day discharge success (p<0.01). Obese patients had a much lower rates of same day discharge compared to non-obese patients (30.2% vs. 69.8%, OR 3.2).

Conclusion

While laparoscopic gynecologic-oncology procedures for obese patients are safe and feasible, much lower success of same day discharge was observed.
ANALYSIS OF EFFICACY AND SAFETY OF OLARATUMAB + DOXORUBICIN OR DOXORUBICIN ALONE IN PATIENTS WITH UTERINE LEIOMYOSARCOMA: RETROSPECTIVE ASSESSMENT OF THE PHASE 1B/2 STUDY JGDG

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Aims

Olaratumab (olara), a recombinant human IgG1 monoclonal antibody that specifically inhibits PDGFRα activation, has demonstrated improvement in median overall survival (mOS) in combination with doxorubicin (dox), compared to doxorubicin alone in a Phase 1b/2 Study. Since leiomyosarcoma (LMS) was the most common soft tissue sarcoma (STS) subtype in the study, we sought to characterize the safety and efficacy of olara+dox in the uterine LMS subpopulation.

Method

A retrospective review was performed on the Phase 2 portion of the study to identify patients with uterine LMS. Kaplan-Meier and Cox methods were used for OS and progression-free survival (PFS). Safety was assessed using CTCAE 4.0.

Results

Fifteen patients with uterine LMS (olara+dox N=8, dox N=7) were identified in the intent to treat population. Median OS was 25.0 (95% CI: 4.9, not estimated [n/e]) and 11.4 (3.6, n/e) months for olara+dox and dox (HR [95% CI] 0.61 [0.175, 2.144]), respectively. Median PFS was 2.7 (95% CI: 1.1, 11.0) and 3.6 (1.0, n/e) months for olara+dox and dox (HR [95% CI] 0.93 [0.245, 3.541]), respectively. The grade≥3 adverse events (AE) observed in 2 or more olara+dox treated uterine or non-uterine LMS patients were: anemia, neutropenia, thrombocytopenia, and fatigue. Grade≥3 febrile neutropenia occurred in 3 patients with uterine and in 1 patient with non-uterine LMS.

Conclusion

Although small cohort size limited definitive conclusions, the clinically meaningful improvement in mOS and safety profile in the uterine LMS population with olara+dox versus dox alone is consistent with that previously reported in the overall STS population.
Aims

To assess safety and efficacy of stereotactic ablative radiotherapy (SABR) for gynaecological cancers in the West of Scotland.

Method

Patients with gynaecological cancers treated with SABR were identified from ARIA database for the period February 2014 to December 2016. Electronic and paper records were scrutinised to record demographic information, indication for treatment, dose and fractionation, toxicities (acute and late), and outcome.

Results

Ten patients were identified, age from 41 to 75 years (median age 52). A total of 12 treatment sites included primary lesions (2 as boost in radical treatment schedule – 1 patient refused brachytherapy, 1 was unfit for Anaesthetic, 1 in metastatic setting for symptom control), central recurrences (2 vaginal, 1 parametrial), and oligometastatic sites (2 pelvic nodes, each treated separately, 1 psoas muscle, 1 abdominal wall lesion, 1 patient with 2 peritoneal deposits, each treated separately). Doses ranged from 1200cGy in 2 fractions (boost in patient who refused a second Brachytherapy insertion) to 3530cGy in 5 fractions.

Four patients had previous radical radiotherapy to Pelvis and SABR was a re-treatment.

Toxicity from this treatment was minimal; there was no G3 toxicity recorded following SABR after a median follow-up of 18 months. Three patients demonstrated excellent clinical or radiological response, 4 demonstrated partial response, and 2 had no response, 4 patients subsequently died, including both where there was no response. Conclusion

Preliminary results demonstrate the feasibility, tolerability and safety of SABR in Gynaecological malignancies, even in those who have previously received full dose Pelvic radiation.
MALNUTRITION AND SARCOPENIA: RISK FACTORS FOR SHORTER SURVIVAL IN PATIENTS TREATED WITH PELVIC EXENTERATION FOR RECURRENT GYNECOLOGICAL MALIGNANCY.

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Aims

Pelvic exenteration is a highly morbid procedure performed as the last option for cure in selected patients with recurrent or persistent gynaecological malignancies. Due to a lack of objective factors predicting outcome, patient selection is in part based on subjective criteria. The aim of the present study was to investigate the prognostic value of malnutrition and sarcopenia on the outcome of patients with recurrent gynaecological malignancies treated by pelvic exenteration.

Method

We retrospectively evaluated muscle body composite measurements based on pre-operative CT scans, pre-operatively filled out questionnaires stratifying the risk for malnutrition, and clinical-pathological parameters in 65 consecutive patients with recurrent gynaecological malignancies treated by pelvic exenteration. Selected parameters were investigated for their predictive value for postoperative morbidity by logistic regression analyses. Relevant parameters were included in uni- and multivariate survival analyses.

Results

In 32 and in 34 patients pre-operative CT scans and questionnaires were available for analyses, respectively. We found (1) low muscle attenuation (MA) – an established factor for muscle depletion – and (2) malnutrition, based on a pre-operative questionnaire, to be independently associated with shorter overall survival (p=0.006 and p=0.008, respectively). Interestingly, MA was significantly lower in overweight and obese patients (p=0.04). We did not find any of the investigated factors to be predictive for post-operative morbidity.

Conclusion

The present study suggests, that pre-operative low MA and malnutrition, based on CT scan and questionnaire, are associated with shorter survival in patients with recurrent gynaecological malignancies treated with pelvic exenteration. Further studies are needed to validate these findings in larger cohorts.
IS NERVE-SPARING SURGERY REALLY NERVE SPARING? A VIDEO OF THE PELVIC NERVOUS SYSTEM AFTER LAPAROSCOPIC DISSECTION OF A THIEL-EMBALMED SPECIMEN TREATED BY A NEW PROCEDURE

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Aims

The inability to visualize the small caliber nerve fibers makes nerve-sparing surgery very difficult. We demonstrate the anatomic path of the pelvic autonomic nerves by laparoscopic dissection of a female cadaver using a technique that allows advanced description of small nerves.

Method

A Thiel-embalmed female cadaver was dissected laparoscopically. After opening of the retroperitoneal space the pelvis was immersed with nitric acid. This facilitated the dissection of the connective tissue and the subsequent preparation was performed only with rinsing and suction. The autonomous nerves were followed up to the visceral organs. The relationships of the nerves to arteries, viscera and ligaments were documented.

Results

The superior hypogastric plexus was situated anteriorly and below the aortic bifurcation. It branched into the left and right hypogastric nerve connecting the superior to the inferior hypogastric plexus. Other afferences of the inferior hypogastric plexus were the sacral and pelvic splanchnic nerves. We detected an impar hypogastric nerve stretching medially to the mesorectum. Furthermore, we identified a delicate network of nerves originating from the hypogastric nerve and stretching medially towards the rectum.

Conclusion

Precise knowledge of the neuroanatomy of the pelvis is important to reduce morbidity after surgery. Thiel fixation and preparation with nitric acid permitted dissection of the nerves up to the intraorganic branches. With our technique, we demonstrate that the area medially below the superior hypogastric plexus – commonly used as an anatomical cleavage point – isn’t devoid of nerves. This suggests that nerve-sparing surgery may not be as nerve sparing as sometimes presumed.
ESTABLISHMENT AND CHARACTERISATION OF PATIENT-DERIVED XENOGRAFT MODELS FOR MALIGNANT GYNECOLOGIC TUMORS

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Aims

The patient-derived xenograft (PDX) models have been used in the oncologic field to develop new therapeutic agents, which preserve tumor microenvironment and tumor characteristics, and well reflect patient's histological features. In this study, we attempted to establish PDX models derived from malignant gynecologic tumor patients' surgical specimens implanted into severe immunodeficient mice.

Method

Between April 2016 and March 2017, a total of 15 separate clinical samples (13 malignant ovarian tumors, 1 fallopian tube cancer and 1 uterine carcinosarcoma) were collected and implanted subcutaneously in NSG mice. Surgical tumor tissues were cut into pieces of 2 to 3 mm and transplanted within one day. Three patients had received chemotherapy and/or radiation therapy before surgery.

Results

A total of 8 PDX models (6 malignant ovarian tumors including malignant-transformation of mature cystic teratoma, 1 fallopian tube cancer and 1 uterine carcinosarcoma) were established for a take rate of 53%. The latency time to development of clinically apparent disease from the time of initial implantation varied from 1 to 4 months. Regarding malignant-transformation of mature cystic teratoma, the xenograft tissue was replanted into six nude mice, and after engraftment, two mice were irradiated and other 2 mice were administered cisplatin. Four weeks later, the tumors were sampled and analyzed histologically. Even in nude mice, tumor morphology was maintained. This PDX model's responses to antitumor treatment were similar to those of the patient.

Conclusion

Further evaluation of the PDX models for malignant gynecologic tumors will contribute to the development of treatment strategies.
Aims

Endometriosis-associated malignant transformation in abdominal surgical scar is very rare and aggressive phenomenon. Our review aims to provide a clinical overview, focusing on risk factors affecting survival.

Method

We performed a systematic review based on prior reviews and case reports regarding the phenomenon published as abstracts in English, since 1980 up to 2016. Overall we identified 47 cases, and we included another case from our institution. We analyzed the data, focusing on risk factors that might affect overall survival.

Results

All the patients reported in the literature, had a uterine surgery, mainly caesarean-section (CS). The average time-lag from first surgery to the diagnosis of cancer was about 19-years. Clear-cell carcinoma was the most prevalent histology (67%), followed by endometrioid adenocarcinoma (15%). Most of the patients were treated by extensive surgery and chemotherapy and/or radiation. Overall 5-years survival was about 40%. The median survival was 42 months. Although our review is currently the largest in the literature, we cannot draw any statistical significant results due to the limited number of patients reported. On multiple logistic-regression model and Cox-regression model we found a tendency towards less favorable prognosis with clear-cell histologic type in the first 3 years (p=0.169) and tumor diameter larger than 8 cm in non-clear-cell histology, 18 months post diagnosis (p=0.06).

Conclusion

Endometriosis-associated malignant transformation in abdominal scar is rare and aggressive. It is mostly related to CS scars, and is diagnosed many years post-surgery. Clear-cell histology tends to endure worse prognosis. The treatment is mainly, extensive surgery and adjuvant chemotherapy and/or radiotherapy.
THE BELGIAN REGISTRY FOR GESTATIONAL TROPHOBLASTIC DISEASES: CENTRAL PATHOLOGICAL REVIEW

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Aims

We aimed to compare local pathology reports of gestational trophoblastic diseases (GTD) with central pathological reviews.

Method

This prospective observational study used the data of the Belgian register for GTD between July 2012 and January 2017. We compared pathology reports of local pathologists with the central review by the pathologists of the Belgian Registry. Of a total of 332 patients, 2 were excluded (one with suspicion of mole not otherwise specified and one extra-uterine pregnancy with increased hCG level without proven molar pregnancy), 21 data missing and 6 without pathology. Pathology slides of 303 patients were reread by a central pathologist.

Results

Our data showed a disagreement between local and central pathologist in 66 cases (24%). Downgrading (e.g. complete mole to abortion) was observed in 30 cases (46%), upgrading (e.g. complete mole to choriocarcinoma) was observed in 36 cases (55%). After primary diagnosis of a partial mole or complete mole, rate of agreement was 59.5% and 88.5% respectively. The diagnosis of choriocarcinoma (n = 8) was confirmed in 75%. There was one initial diagnosis of invasive mole, which was downgraded to a complete mole. When the local pathologist diagnosed a placental site trophoblastic tumour, the expert agreed in 2 out of 3 cases. The only epithelioid trophoblastic tumour at initial diagnosis was confirmed by the central pathologist.

Conclusion

A review of the pathology report by a central pathologist changed the diagnosis of patients with GTD in 24%. The revised diagnosis had an important impact on the follow-up and treatment of these patients.
THE BELGIAN REGISTRY FOR GESTATIONAL TROPHOBLASTIC DISEASES: CURATIVE EFFECT OF A SECOND CURETTAGE

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Aims

We assessed the curative effect of a second curettage in patients with persistent hCG serum levels after first curettage for a gestational trophoblastic disease (GTD).

Method

This prospective observational study used the data of the Belgian register for GTD between July 2012 and January 2017. We analysed the data of patients who underwent a second curettage. We included 313 patients in the database. Seventeen patients were excluded for various reasons (no pathology report, no information about treatment or lost to follow-up). Primary endpoints were need for second curettage and chemotherapy.

Results

There were 85 partial moles and 147 complete moles diagnosed. Choriocarcinoma and invasive mole was diagnosed in ten and three patients respectively. Placental site trophoblastic tumour and epithelioid trophoblastic tumour was diagnosed each in two patients.

Thirty-seven patients of the study population (12%) underwent a second curettage, 21 patients (57%) needed no further treatment afterwards. Sixteen patients (43%) needed postoperatively further chemotherapy. Of these patients 12 (75%) were cured with single-agent chemotherapy and 4 patients (25%) needed multi-agent chemotherapy. Patients with hCG levels below 5000 IU/L undergoing a second curettage were cured without chemotherapy in 65% versus 45% of patients with hCG level more than 5000 IU/L. Of the ten patients with a hCG level below 1000 IU/L, eight were cured without chemotherapy.

Conclusion

Patients with persistent trophoblastic diseases with persistent hCG level can benefit from a second curettage to avoid chemotherapy, especially when the hCG level is lower than 5000 IU/L and even more if hCG level is below 1000 IU/L.
MISCELLANEOUS II

ESGO7-0115

A NATIONAL, PROSPECTIVE OBSERVATIONAL STUDY OF FIRST RECURRENCE AFTER PRIMARY TREATMENT FOR GYNECOLOGICAL CANCER IN NORWAY


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Aims

Gynecological cancer patients are routinely followed up for 5 years after primary treatment. However, the value of such follow-up has been debated, as retrospective studies indicate that first recurrence is often symptomatic and occurs within 2-3 years of primary treatment. We prospectively investigated time to first recurrence, symptoms at recurrence, diagnostic procedures, and recurrence treatment in gynecological cancer patients after primary curative treatment.

Method

Clinicians from 21 hospitals in Norway interviewed 680 patients with first recurrence of gynecological cancer (409 ovarian, 213 uterine, and 58 cervical cancer patients) between 2012 and 2016. A standardized questionnaire was used to collect information on self-reported and clinical variables.

Results

Within 2 years of primary treatment, 72% of ovarian, 64% of uterine, and 66% of cervical cancer patients were diagnosed with first recurrence, and 54%, 67%, and 72%, respectively, had symptomatic recurrence. 46% of symptomatic patients failed to make an appointment before their next scheduled follow-up visit.

Conclusion

This is the first prospective, nationwide study to systematically record information on gynecological cancer recurrences. Most recurrences occurred within 2 years of primary treatment; the mean annual incidence rate for years 3-5 after primary treatment was <7%. Sixty percent of patients experienced symptomatic recurrence, but 46% of the symptomatic patients failed to make an appointment earlier than scheduled. Hospital-based follow-up is resource-demanding and may lead to delayed diagnosis of recurrence. Our results imply that shorter hospital-based follow-up should be considered, and patient self-management encouraged.
MISCELLANEOUS II
ESGO7-1309

MICROENVIRONMENT IN TUMOR-DRAINING LYMPH NODES FROM PATIENTS WITH HPV-RELATED VULVAR CANCER
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Aims

Usual VIN (uVIN), responsible for 20% of the vulvar cancers, is caused by a persistent human papillomavirus (HPV) infection. A better understanding of the microenvironment in relation to lymph node metastasis is essential for the development of effective immunotherapeutic strategies for these tumors.

Method

In the present study, we investigated the microenvironment of tumor-draining lymph nodes of HPV-related vulvar cancer patients, by comprehensive four-color flow cytometry-based phenotyping and enumeration of different T cell subsets by studying expression levels of activation markers (ICOS and HLA-DR), co-inhibitory markers (CTLA-4 and PD-1), and FoxP3+ regulatory T cells (Tregs) levels in tumor-negative (LN-, n=6) versus tumor-positive lymph nodes (LN+, n=5) obtained after surgery as primary treatment.

Results

We found significantly more double-negative CD4+CD8+ T cells, significantly more FoxP3+ Tregs, and a lower CD8+ T cell/ FoxP3+ Treg ratio in LN+ compared to LN-. Assessment of the expression of the immune checkpoints CTLA-4 and PD-1 on the T cell subsets showed selective up-regulation of CTLA-4+CD4+ T cell rates in LN+ versus LN- (p<0.03).

Conclusion

Higher frequencies of suppressive T cell subsets (CD4+CD8+ and FoxP3+ Tregs) and CTLA-4+CD4+ T cells are present in LN+ compared to LN- from patients with HPV-related vulvar cancer. Undoubtedly, the numbers of included samples in this study will have to be increased to obtain higher statistical power, but our preliminary data clearly point to the potential of (local) CTLA-4 blockade in the treatment of early-stage or locally advanced vulvar carcinoma, in order to counter apparent immune suppression.
COMPARISON OF GENE MUTATIONAL ANALYSES, INCLUDING BRCA1 ALTERATIONS, IN TWO PROSPECTIVE STUDIES IN NEWLY DIAGNOSED VERSUS PLATINUM-RESISTANT OVARIAN CANCER

methods and results

Aims

We compared prevalences of various genomic alterations in patients with epithelial ovarian cancer treated in two prospective clinical trials, ROSiA (single-arm: front-line bevacizumab-containing therapy [Oza 2016; NCT01239732]) and PENELOPE (placebo-controlled phase III: chemotherapy ± pertuzumab for low HER3 mRNA-expressing platinum-resistant disease [Kurzeder 2016; NCT01684878]), to explore genomic profiles predicting for platinum resistance.

Method

Pre-treatment tissue samples were analysed using FoundationOne® (Foundation Medicine). The distribution of mutational load was compared between trials using a bootstrapped Kolmogorov-Smirnov test. Relative prevalences of gene alterations in >5% of patients were compared using Fisher's exact test. Benjamini-Hochberg false-discovery rate (FDR) adjustment for multiplicity was applied using a 10% threshold for statistical significance.

Results

Samples from 141 PENELOPE and 154 ROSiA patients were evaluable. The mean mutational load was 3.64/megabase and 4.48/megabase, respectively; the difference bordered on statistical significance (bootstrapped Kolmogorov-Smirnov test p=0.097). The figure shows mutational profiles by trial. There were marked differences between PENELOPE and ROSiA for alterations in BRCA1 (16/141 [11.3%] vs 34/154 [22.1%], respectively; odds ratio 0.45) and MYC (20/141 [14.2%] vs 38/154 [24.7%]; odds ratio 0.50); neither
remained statistically significant after multiplicity adjustment (both FDR p=0.21).

**Conclusion**

Apparent qualitative and quantitative inter-trial differences in mutational profile, particularly *BRCA1* mutation, from diagnostic/archival samples may be attributable to prognosis and patient selection (poor-prognosis platinum resistant vs unselected newly diagnosed). No significant difference in mutational load was observed. Analyses by histological subtype and combined markers warrant exploration.
PRE-OPERATIVE RADIOIMIC MODELS ANNOTATE EPITHELIAL OVARIAN CANCER PROGNOSTIC PHENOTYPES
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Aims

CT images can be quantitatively analysed to describe intuitive features such as shape and texture. The features generated from such analyses (i.e. texture analysis or radiomic data) have been associated with prognosis and cellular pathways in many cancer types. The non-invasive and cost-effective nature of radiomic data make it a promising biomarker candidate for cancer patients. In this study, we aimed to investigate the clinical value of radiomic data as a potential biomarker in serous ovarian cancer.

Method

Here, we developed texture analysis software in-house and extracted 657 features from each CT scan. We collected radiomic data and comprehensive molecular information including copy number profile, proteomic and molecular subtype for over 200 primary serous ovarian tumours.

Results

We found that radiomic features of primary ovarian tumours closely correlated with ovarian cancer stage, grade and survival. Furthermore, we discovered that a subset of radiomic features correlated with molecular subtypes and PI3K pathways.

Conclusion

In summary, we demonstrated that radiomic data could be a potential diagnostic and prognostic biomarker to guide future therapy.
FDG-PET/CT IN THE PRE-OPERATIVE EVALUATION OF WOMEN WITH OVARIAN CANCER - EXPERIENCES WITH INCIDENTAL FINDINGS

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Aims

To assess the clinical impact of pre-operative FDG-PET/CT in women with ovarian, fallopian tube, or peritoneal cancer (OC) with special focus on consequences of incidental findings.

Method

Pre-operative FDG-PET/CT scans in the initial staging of women with OC performed from January 2011 - December 2012 were reviewed to evaluate the impact of incidental findings on additional examinations and the delay and change in planned treatment of OC. All incidental findings and decisions regarding further examination were registered at the first succeeding multidisciplinary team conference. Subsequent procedures were tracked via medical records.

Results

Of 209 included women, 44 (21.1%) presented with one or several incidental findings. Further examination was performed in 35 (79.5%). Malignancy was identified in 15/35 (42.9%), revealing metastases from OC (11), a synchronous primary cancer (3) and one recurrence of a previous cancer. The OC metastases were localized in the lungs, uterus, colon, vagina, and breasts. The remaining 20 women with incidental findings had two benign lesions and one pre-malignant lesion identified whereas no abnormality was found in 17 patients. A significant delay in time until treatment of median four days (range 1-83) was found when an incidental finding was further examined (p < 0.004).

Conclusion

In the present setting, with fast track access to additional diagnostics, further examinations of incidental findings by FDG-PET/CT delayed time to treatment of OC by median four days. The clinical implications of this must be balanced against the gain of detecting unrecognized malignancy in 15 of 209 patients (7.2%).
HIGH GRADE SEROUS OVARIAN CARCINOMAS ORIGINATE IN THE FALLOPIAN TUBE


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10Faculty of Medicine- Geneva University Hospital, Division of Clinical Pathology, Geneva, USA
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12Penn Ovarian Cancer Research Center- University of Pennsylvania Perelman School of Medicine, Department of Obstetrics and Gynecology, Philadelphia, USA

Aims

High-grade serous ovarian carcinoma (HGSOC) is the most frequent type of ovarian cancer and has a poor outcome. It has been proposed that fallopian tube cancers may be precursors of HGSOC but evolutionary evidence for this hypothesis has been limited. We aimed to provide insights into the origins of HGSOC.

Method

We performed whole-exome sequence and copy number analyses of laser-capture microdissected fallopian tube lesions (p53 signatures, serous tubal intraepithelial carcinomas (STICs), and fallopian tube carcinomas), ovarian cancers, and metastases from nine patients with HGSOC.

Results

The majority of tumor-specific sequence and structural alterations in ovarian cancers were present in STICs, including those affecting TP53, BRCA1, BRCA2 or PTEN genes. An evolutionary analysis revealed that p53 signatures and STICs were the precursors of ovarian carcinoma which in turn gave rise to metastatic lesions. In one patient we identified a second STIC as a metastasis in the fallopian tube opposite from the affected ovary. These analyses revealed a window of seven years between the development of a STIC and the initiation of ovarian carcinomas, with development of metastases following rapidly thereafter.

Conclusion

Our results provide insights into the etiology of ovarian cancer and have implications for the prevention, early detection and therapeutic intervention of this disease.
OVARIAN CANCER II

ESGO7-0780

CLINICAL SIGNIFICANCE OF C-MET AND PHOSPHO-C-MET IN OVARIAN CANCER
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Aims

C-Met is expressed in human ovarian cancer tissues and phosphorylation of c-Met activates signaling cascades that might affect the behavior of cancer cells. C-Met inhibitors are now under investigation. In this project, we evaluate the clinical significance of c-Met and phospho-c-Met in ovarian cancer.

Method

Tissue arrays consist of archived ovarian cancer tissues from 269 patients were stained with anti-Met mAb and anti-phospho-Met (Tyr1234/1235) mAb. The stainings were scored on a scale of 0 to 3+. High expression was defined as over 50% of moderate and intense staining. Patients’ charts were reviewed until April 2017 for analysis.

Results

Patients with late stage had significant increased lower expression in both c-Met and phospho-c-Met (P=0.0016 and 0.0037). Besides, low expression of c-Met also correlated with higher histological grade (P<0.0001). Lower progression-free survival were found in low expression of c-Met and phospho-c-Met (P=0.0024 and 0.0163) despite no significant difference in overall survival (P=0.1308 and P=0.5351).

Conclusion

High expression of c-Met and phospho-c-Met are associated with better progression-free survival.
RETROSPECTIVE ANALYSIS OF THE IMPACT OF PLATINUM DOSE MODIFICATIONS ON THE OUTCOMES OF STAGE I-IV OVARIAN CANCER PATIENTS

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Aims

The objective of this study was to evaluate the impact of platinum dose reduction and delays on progression free survival (PFS) and overall survival (OS) in patients with stage I-IV ovarian cancer.

Method

Medical records of patients with FIGO stage I-IV ovarian cancer were reviewed. PFS was calculated as the time from surgery until the date of progression or death, OS from surgery until the date of death. Last follow up was on 2016-05-30.

Results

Patients were divided into four platinum response status groups: 1) platinum refractory (N=19), OS 17 months (95% CI: 2.4-31.5); 2) platinum resistant (N=26) OS 20 months (95% CI: 15.1-24.8); 3) partially platinum sensitive (N=16 patients), OS 33 months (95% CI: 19.8-46.1); 4) platinum sensitive (N=39), OS not reached (Figure 1), P <0.0001.

Patients were divide into four chemotherapy delay/platinum reduction groups. 38 patients experienced no dose delay or reductions, OS was 40 months (95% CI: 23.8-56.1); 12 patients had a dose reduction, OS was 21 months (95% CI: 15.6-26.3); 38 patients had a delay, OS was 45 months (95% CI: 17.5-72.4); 12 patients had both schedule and dose modifications, OS was 33 months (95% CI: 29.8-36.2), P>0.05 (Figure 2). The main reason of chemotherapy modification was neutropenia (52%) (Figure 3).

Conclusion

There were no statistically significant OS differences the the four groups of chemotherapy modifications. Neutropenia is the mos common side effect affecting dose modifications.
OVARIAN CANCER II

ESGO7-1099

DIFFERENCES AND SIMILARITIES OF PSEUDOMYXOMA PERITONEI ORIGINATING IN THE OVARY OR GASTROINTESTINAL TRACT

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Aims

Primary mucinous ovarian tumours and mucinous ovarian metastases of the gastrointestinal(GI)-tract can be difficult to differentiate, especially in the presence of pseudomyxoma peritonei (PMP). We evaluated whether this differentiation is relevant for treatment and chance of recurrence.

Method

In this single-centre, retrospective study, 94 patients diagnosed with a mucinous ovarian tumour with or without PMP between January 2000 and February 2017 were reviewed. Demographics, clinical data, histological data and follow-up data were collected and analysed.

Results

Sixty-six (70%) mucinous tumours originated in the ovary, 23 (25%) were metastases from the GI-tract and 5 (5%) had an unknown origin. PMP occurred significantly more often in patients with metastases (70%) compared to patients with primary ovarian tumours (17%, p<0.05). Results of immunostaining, serum tumour marker measurements and treatment are shown in Table 1. There was no significance difference in the incident of recurrence between patients with primary ovarian tumours (33%) and patients with metastases (32%, p=0.930) and between patients with PMP (22%) and patients without PMP (39%, p=0.150). Follow up ranged from 3 months–12 years.

Conclusion

No serum tumour marker or immunostaining can differentiate with certainty between primary ovarian tumours and metastases from the GI-tract. The incidence of recurrence is independent of the origin and the presence of PMP, suggesting that both origins have similar biological behaviour and require similar diagnostic work up and treatment protocols.

<table>
<thead>
<tr>
<th>Patients with PMP</th>
<th>Primary ovarian tumour</th>
<th>GI-metastases</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Immunostaining (%-positive)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CK7</td>
<td>50%</td>
<td>29%</td>
</tr>
<tr>
<td>CK20</td>
<td>90%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Tumour markers (%-elevated)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEA</td>
<td>62%</td>
<td>100%</td>
</tr>
<tr>
<td>CA125</td>
<td>78%</td>
<td>88%</td>
</tr>
<tr>
<td>HIPEC procedure</td>
<td>64%</td>
<td>88%</td>
</tr>
</tbody>
</table>
ROLE OF TUMOR MARKERS IN CLINICAL RESPONSE TO THERAPY IN PATIENTS WITH EPITHELIAL OVARIAN CANCER (EOC)

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Aims

Overall survival at 5 years of epithelial ovarian cancer (EOC) is 41% and most of EOC recur several time, so it’s important to have a tool to predict the response to chemotherapy. The aim of the study is to evaluate the role of biomarkers as predictive factors for the patients with EOC, treated with chemotherapy.

Method

CA-125 and HE4 values were determined for each cycle of chemotherapy in 41 patients aged ≥18 with EOC and ≥3 cycles. The average value, the slope of the straight line passing through the values of the first and third cycle (point 1 and point 3) and the half-life of the markers were analyzed through univariate analysis and correlated with response according to RECIST criteria. To calculate p values, T student test was used. For the analysis of the curves a generalized linear model was used for repeated measures.

Results

The curves plotted with average of HE4 and CA-125 show a statistically significant difference between responders (RR) and non-responders (NN) groups (CA-125: p=0.008; HE4: p=0.005). Comparing HE4 (RR=46.5 die, NN=79.3 die; p=0.005) and CA-125 (RR=28.8 die, NN=53.8 die; p=0.004) half-lives, these results are independent predictors for response to chemotherapy. The slope of the curve passing through the points 1 and 3 is different for CA-125 (RR=-132.175; NN=-53.14) and HE4 (RR=-141.625; NN=-3.5).

Conclusion

In conclusion, serum levels of CA-125 and HE4 and their half-lives can predict the clinical response to chemotherapy, in patients treated for EOC.
Aims

Epithelial ovarian cancer (EOC) is the 2nd common gynaecological cancer and is the commonest cause of death. Standard treatment of EOC is combination of cytoreductive surgery and chemotherapy.

Recent studies (EORTC 55971 and CHORUS) suggest that complete cytoreduction should remain the objective when surgery undertaken.

The primary aim of this study is to evaluate if the use of the PlasmaJet (PJ) device enables increased cytoreduction rates in comparison to standard surgical technique (SST).

Secondary aims include morbidity and mortality data, Quality of life (QoL) and survival.

Method

Following ethics approval and clinical trials registration (NCT02376231 & ISRCTN26261491), patients recruited when discussing surgery after consent obtained, patient blinded randomised controlled trial, Baseline QoL and at various timepoints collected, Randomisation performed in theatre and patient blinded, Operative details and post op data collected.

Results

110 patients recruited with nearly half in each arm. 8 adverse events. Results suggest decreased bowel resection rate in PJ arm (p<0.05), reduced stoma rates despite higher cytoreduction rate (p,0.05) and higher diaphragm stripping (p<0.05) rates.

LOS was generally lower in PJ arm compared with SST. Analysis of QoL scores suggests significant improvement in QoL scores in the PJ arm.

Conclusion

This is the first RCT of PlasmaJet™ suggesting it may play a role in improving debulking rates while reducing morbidity. A larger multicentre RCT is being recruited to for further evaluation of the reduced stoma rates. Translational work is ongoing with the samples collected at the time of surgery to evaluate reasons behind the response in the PJ arm.
Aims

The PARP inhibitor olaparib is approved in the EU for maintenance therapy of BRCA-mutated (BRCAm+) platinum-sensitive relapsed ovarian cancer patients who are in response to their most recent platinum-based chemotherapy. So far, only limited data on real-world olaparib treatment are available.

Method

The German prospective, non-interventional study C-PATROL (NCT02503436) collects real-world clinical and patient-reported outcome data in BRCAm+ platinum-sensitive relapsed ovarian cancer patients treated with olaparib according to label. This first preplanned interim analysis (cut-off date: 06 April, 2017) provides data on safety and dosing under real-life conditions. Data were analyzed by descriptive statistics.

Results

This interim analysis comprises the first 75 patients (median age 61 [45 to 80] years; ECOG ≤1: 93.3%; patients with ≥2 relapses: 49.3%, patients with ≥3 prior platinum-based chemotherapeutic regimens: 53.3%) with ≥3 months observation after start of olaparib therapy. Patients started with a median daily dose of 800 [300 to 800] mg olaparib. For 70.7% of patients no dose reduction was reported. For 29.3% of patients dose interruptions (median duration 10.0 [2 to 51] days) were documented. Olaparib therapy was permanently stopped due to an adverse event in 3 patients. Treatment-emergent adverse events (all grades) were documented for 85.3% of patients. Anemia (34.7% of all patients), nausea (29.3%) and fatigue (26.7%) were the most common ones.

Conclusion

The current interim analysis indicates that under routine conditions olaparib is well tolerated with a manageable toxicity profile. The toxicity profile is in line with the results of the clinical trial program of olaparib.
MOVING BEYOND THE MICROSCOPE AND INTO PRECISION MEDICINE: ESTABLISHING PROOF-OF-PRINCIPLE FOR A “MOLECULAR” SECOND LOOK SURGERY IN OVARIAN CANCER

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Aims

Ovarian cancer (OvCa) survival has not improved over 4 decades nor has our ability to identify true treatment responders. We hypothesized that coupling ultra-deep sequencing technology to the theoretically powerful technique of second-look surgery (SLS) could transform a relatively low resolution cytopathology-based technique into a precision medicine tool of extreme sensitivity and specificity. The simultaneous goals would be to identify potentially drug targetable mutations at the start of treatment and then response to that treatment.

Method

We identified 10 patients with advanced-stage, high-grade serous OvCa who had previously undergone traditional SLS. Targeted next-generation panel sequencing (NGS) interrogating 56 cancer-relevant genes was used for ultra-deep sequencing primary and recurrent tumor specimens, blood, ascites fluid and peritoneal washes. All NGS-identified mutations were validated using an orthogonal technology, digital droplet PCR (ddPCR) or Sanger sequencing.

Results

26 tumor-specific mutations were identified including TP53 mutations in all patients. All five patients who originally had positive cytopathology from SLS were also positive by “molecular” SLS. Notably, mutations present in primary tumor were identified in both SLS and even tumor recurrences 2 years after initial presentation. Three of the five SL patients with negative cytopathology were re-diagnosed as molecular positive. Importantly, these mutations were detected in tumor recurrences 3 years later.

Conclusion

For the first time, we establish through targeted ultra-deep DNA sequencing that tumor-specific mutations present in a patient’s primary and recurrent tumors are detectable at the time of SLS. The clinical value of this enhanced molecular diagnostic approach will need to be defined in future studies.
Aims

Analyse how well untrained examiners – without experience in the use of International Ovarian Tumor Analysis (IOTA) terminology or simple ultrasound-based rules (simple rules) – are able to apply IOTA terminology and simple rules. And to assess the level of agreement between non-experts and an expert.

Method

This prospective multicentre cohort study enrolled women with ovarian masses. Ultrasound was performed by non-expert examiners and an expert. Ultrasound features were recorded using IOTA nomenclature, and used for classifying the mass by simple rules. Interobserver agreement was evaluated with Fleiss’s kappa and percentage agreement between observers.

Results

Fifty consecutive women were included. We observed 46 discrepancies in the description of ovarian masses when non-experts utilized IOTA terminology. Tumour type was misclassified often (n=22), resulting in poor interobserver agreement between the non-experts and expert (kappa=0.39, 95% CI 0.244-0.529, percentage of agreement =52.0%).

Misinterpretation of simple rules by non-experts was observed 57 times, resulting in an erroneous diagnosis in 15 patients (30%). The agreement for classifying the mass as benign, malignant or inconclusive by simple rules was only moderate between the non-experts and expert (kappa=0.50, 95% CI 0.300-0.704, percentage of agreement =70.0%). The level of agreement for all 10 simple rules features varied greatly (kappa index range: 0.08-0.74, percentage of agreement 66-94%).

Conclusion

Although simple rules are useful to distinguish benign from malignant adnexal masses, they are not that simple for untrained examiners. Training with both IOTA terminology and simple rules is necessary before simple rules can be introduced into guidelines and daily clinical practice.
PELVIC NODAL METASTASIS IN PRIMARY MALIGNANT SEX-CORD STROMAL TUMOURS OF THE OVARY: A SINGLE INSTITUTION EXPERIENCE

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Aims

To evaluate the incidence of pelvic nodal metastasis in patients with primary malignant sex-cord stromal tumours (SCSTs) of the ovary and add to the limited data available on nodal metastasis in ovarian SCSTs.

Method

A retrospective 5-year single institution review of patients with primary malignant ovarian SCSTs at The Gujarat Cancer and Research Institute (GCRI) between 2009 and 2014 was done. Information was collected regarding patient and tumour characteristics from pathology and medical records.

Results

A total of 48 patients were reviewed, 36 (75%) had granulosa cell tumour followed by fibroma-thecoma group (14.6%). All the nodal tissues examined in these patients were negative. Stage I (85.4%) was most common at presentation.

Table: Tumor characteristics as per histologic type

<table>
<thead>
<tr>
<th>Histology</th>
<th>Stage (%)</th>
<th>Median age (range)</th>
<th>Ovary involved (%)</th>
<th>Positive pelvic nodal metastasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Granulosa cell tumor</td>
<td>I - 19 (39.5) II - 8 (13.8) III - 2 (3.8) IV = 0</td>
<td>44 years (13 - 70)</td>
<td>Ri - 22 (51.1) LRT - 13 (28.1) Both - 1 (2.2)</td>
<td>0</td>
</tr>
<tr>
<td>Fibroma-thecoma</td>
<td>I - 7 (100) II = 0 III - 0 IV = 0</td>
<td>57 years (14 - 70)</td>
<td>Ri - 3 (42.9) LT - 4 (57.1) Both - 0</td>
<td>0</td>
</tr>
<tr>
<td>Serous - Leydig cell tumor</td>
<td>I - 6 (100) II = 0 III - 0 IV = 0</td>
<td>39 years (29 - 36)</td>
<td>Ri - 2 (40) LT - 2 (60) Both - 0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Ri - Right, Lt - Left

Conclusion

Our study supports the recommendation of recent published data regarding lack of lymph node metastasis in SCSTs and abandonment of lymphadenectomy for staging procedures of these tumours in primary upfront surgeries.
OVARIAN CANCER II

ESGO7-1222

IMPACT OF RIGHT UPPER QUADRANT CYTOREDUCTIVE TECHNIQUES FOR ADVANCED OVARIAN CANCER ON POSTOPERATIVE HEPATIC FUNCTION AND LIVER FAILURE

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Aims

The study evaluates postoperative hepatic function and risk of liver failure in patients with advanced ovarian cancer who underwent extensive right upper-abdominal cytoreductive surgery in the primary, relapsed or interval setting.

Method

Medical records were retrospectively reviewed for all women with primary or relapsed ovarian cancer (OC) between 01/2016-12/2016. All patients who underwent liver and/or right diaphragmatic cytoreduction were included in the present study.

Postoperative liver enzyme function (LFTs), as evaluated by alanine transaminase (ALT), alkaline phosphatase (ALP) and bilirubin (Bil), was reviewed and correlated with postoperative complications.

Results

A total of 39 patients were identified. 28 (72%) with primary OC had undergone upfront, 8 (21%) interval and 11 (28%) secondary/tertiary cytoreduction.

Thirty-one cases were high grade serous at FIGO IIIC (22/39). The surgical procedures were full-thickness diaphragmatic resection (n=26; 67%), right partial pleural resection (n=in 3; 12%), cardiophrenic lymph-node resection (n=2; 8%), liver capsule stripping with subcapsular tumor resection (n=22; 56%) and porta-hepatis tumor resection (2; 5%). All patients (39/39) had normal preoperative LFTs.

In 2 (56%) patients LFTs increased immediately and peaked on the 1st postoperative day. Mean value of the highest ALT across all patients was 89 (range: 6-244), ALP 56 (24-210) and Bilirubin 13 (4-27).

In 33 (85%) cases elevated LFTs normalized by 5th postoperative day with no major changes in bilirubin. No immediate complications were directly linked to right upper-quadrant cytoreduction. Two patients developed pulmonary oedema and atrial flutter that resolved with conservative management.

Conclusion

Right upper-abdominal debulking for OC is associated with a transient 50-100% increase (of upper normal limit) in liver-enzymes postoperatively, with little clinical implications. Due to the existing, albeit rare, risk of liver failure patients should be monitored carefully.
OVARIAN CANCER II

ESGO7-0411

COMPARISON OF DIAGNOSTIC PERFORMANCES OF HE4, RISK OF MALIGNANCY ALGORITHM AND MORPHOLOGY INDEX IN DISCRIMINATION OF OVARIAN ENDOMETRIOSIS FROM EPITHELIAL OVARIAN CANCER IN PREMENOPAUSAL WOMEN

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Aims

Comparison of the diagnostic performance of HE4 with the Risk of Malignancy Index (RMI) and Morphology Index (MI) in differentiation of ovarian endometriosis from epithelial ovarian cancers (EOC) in premenopausal women.

Method

Prospective, comparative study was conducted at the University Clinic of Obstetrics and Gynecology in Skopje. 164 premenopausal women were consecutively recruited and analyzed in three study groups: ovarian endometriosis-ASRM stage III and IV (37 cases), “other benign pelvic masses” (57 cases), EOC (11 cases) and one control group (59 healthy women). Morphology Index was calculated as a sum of the scores for tumor’s structure and tumor’s volume according to the Ueland’s criteria. RMI was calculated according to the Jacobs’ criteria. After ultrasonography, all subjects were blood sampled for HE4 and CA125. Surgery and histology verification of the material was performed. Group classification done according to the histologic results. Cut-offs for HE4, RMI and MI as follows: ≥70pmol, ≥25 and ≥5, respectively.

Results

Sensitivity, specificity, positive and negative predictive values and accuracy for ovarian endometriosis vs. EOC, for each of the tested markers are given accordingly: HE4 (81.82%; 100%; 100%; 94.87%; 95.83%); RMI (90.91%; 35.14%; 29.41%; 92.86%; 47.92%) and MI (100%; 75.68%; 55%; 100%; 81.25%).

Conclusion

HE4 performs best in discrimination of ovarian endometriosis from EOC in premenopausal women, but ultrasonography through MI is most sensitive method, detecting all cancer cases. Both HE4 and MI should be done for optimal management in a patient with pelvic mass.

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DESCRIBING INTRA-TUMOURAL HETEROGENEITY IN HIGH GRADE SEROUS OVARIAN CANCER

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Aims

High Grade Serous Ovarian Cancer (HGSOC) remains the leading cause of death among gynaecologic malignancies despite advances in surgical techniques and novel targeted regimens. Disparity in response to treatment is partially due to the vast spatial and temporal intra-tumoural heterogeneity (ITH) observed, making the development of longer term effective therapeutic approaches challenging. We aim to characterise this ITH to understand the molecular mechanisms behind peritoneal dissemination and to define the link between heterogeneity and patient outcome.

Method

Tumour deposits from multiple anatomical sites were collected from advanced (FIGO III/IV) HGSOC patients during maximal effort upfront debulking at a single institution. Tumour cells were extracted, cultured short-term in-vitro, treated with cisplatin and apoptosis and cell viability measured. Patients are tracked for relapse and relapse samples collected where possible.

Results

Thirty-eight patients (mean age: 60 years; range 32-91) were anatomically mapped. Mean number of tumour deposits collected was 8 (range: 4-16) across the entire peritoneal cavity and paracardiac lymph nodes. Phenotypic apoptosis assays showed vast heterogeneity in platinum response across different tumour deposits and individual patients in 64% of patients sampled to date (>2 standard deviation (SD) score of in-vitro cisplatin sensitivity). Correlation with clinical response showed a trend of low heterogeneity (low SD score) with higher probability of future development of platinum-resistant relapse.

Conclusion

Data from phenotypic assays demonstrate a spatial and temporal functional tumour heterogeneity in advanced HGSOC. This functional data coupled with parallel proteomic and genomic analysis will provide a definitive description of ITH and clonally evolved chemo-resistance in HGSOC.
DOES OVARIAN CANCER HAVE A DIFFERENT BEHAVIOR IN THE ELDERLY?

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Aims

The mean age at diagnosis of ovarian cancer (OC) is 66.7 years (yrs). However, a substantial proportion is above 75. Since increasing evidence arises that the immune system behaves differently in elderly, considering age in treatment might be relevant. This study provides an overview of OC patients aged above 75 to map histopathology, survival and treatment tolerance.

Method

Women with OC, diagnosed between 2005 and 2015, were included into two groups (above 75yrs (+75yrs) or below 75yrs (-75yrs)). Groups were matched for stage, year of diagnosis and histopathology.

Results

We included 129 patients +75yrs and 88 patients -75yrs. In the +75yrs, 17.05% refused initial treatment. In 69.77% chemotherapy was indicated, of which 3 patients underwent surgery but refused chemotherapy. The difference in delay in chemotherapy administration was non-significant between groups. Thrombocytopenia was more common in +75yrs receiving Carboplatin-Paclitaxel (TC) (p=0.012). For anemia and neutropenia no significant differences were found. A trend was seen to more neutropenic fever in the -75yrs who received Carboplatin (p=0.08). Recurrence occurred in 73.56% +75yrs who underwent the state-of-the-art treatment from which 15 patients chose palliation in second line, compared to 68.12% -75yrs from which only 5 chose palliation. There was no statistical age related difference in progression free survival (PFS) when patients received optimal treatment. The overall survival after 12 months was better in the -75yrs (p=0.0132).

Conclusion

The toxicity profile of TC or Carboplatin in the elderly is comparable to toxicity in younger patients. When elderly patients are treated with the state-of-the-art treatment PFS is similar to -75yrs.
OVARIAN CANCER INCIDENCE CORRECTED FOR OOPHORECTOMY

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Aims

Current reported incidence rates for ovarian cancer may significantly underestimate the true rate because of the inclusion of women in the calculations who are not at risk for ovarian cancer due to prior benign salpingo-oophorectomy (SO). We have considered prior SO to influence risk estimates for ovarian cancer and here report the effect of SO on population risk.

Method

Kentucky Health Claims Data, International Classification of Disease 9 (ICD-9) codes, Current Procedure Terminology (CPT) codes, and Kentucky Behavioral Risk Factor Surveillance System (BRFSS) Data were used to identify women who have undergone SO in Kentucky, and these women were removed from the at-risk pool in order to re-assess incidence rates. All age-adjusted rates were calculated based on the standard 2000 US population. The protective effect of SO on the population was determined on an annual basis for ages 5–80+ using data from the years 2009–2013. Analyses were done using SAS Statistical software version 9.4. and for programs calculating the complete prevalence rates from the KHCD data. Statistical tests were two sided with a p-value ≤ 0.05 for statistical significance.

Results

The corrected age-adjusted rates of ovarian cancer that considered SO ranged from 33% to 67% higher than age-adjusted rates from the standard population. Correction of incidence rates for ovarian cancer by accounting for women with prior SO gives a better understanding of risk for this disease faced by women.

Conclusion

The calculated rates of ovarian cancer were substantially higher when SO was taken into consideration than those obtained from estimates for the standard population.
PAIN PERSISTING AFTER THE RESOLUTION OF OVARIAN ABNORMALITIES

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¹University of Kentucky, Obstetrics & Gynecology, Lexington, USA

Aims

To determine whether pain continues when ovarian abnormalities spontaneously resolve.

Method

Ovarian abnormalities were identified in a population of 44,475 individuals that had received 270,302 ovarian screens by transvaginal ultrasonography. Participants reported the presence or absence of abdominal pain using a detailed questionnaire (CLINICAL OBSTETRICS GYNECOLOGY 55,36–42, 2012). Chi square testing was used for all comparisons.

Results

8067 women with 20303 ovarian abnormalities completed questionnaires with 2737 reporting symptoms of abdominal pain. Ovarian abnormalities included: cysts (n=5033), cysts with septations (n=1931), cysts with solid areas (n=900) or solid ovarian structures (n=203). Abnormalities were followed through 31627 sonographic exams (average=3.9 exams). The majority of women (96.2%, 2634/2737) reported resolution of pain when the ovarian abnormality spontaneously resolved. There were no differences in frequency of pain with regard to type of ovarian abnormality (P=.28153, table). For those reporting pain versus no pain after resolution, there were differences observed in BMI (P=.056) and volume of the abnormality prior to resolution (P<.0001), but not patient age (P=.19730). After the ovarian abnormality was no longer visualized, women were less likely to report pain with BMI <25 or when the abnormality had been small (<20mL).

<table>
<thead>
<tr>
<th>Type of Structure</th>
<th>Cyst</th>
<th>Cyst &amp; Septation</th>
<th>Cyst &amp; Solid</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>5033</td>
<td>1931</td>
<td>900</td>
<td>203</td>
</tr>
<tr>
<td>Scans, n=</td>
<td>21954</td>
<td>5907</td>
<td>3027</td>
<td>739</td>
</tr>
<tr>
<td>Resolved Structures, n =</td>
<td>1791</td>
<td>762</td>
<td>302</td>
<td>62</td>
</tr>
<tr>
<td>Reported pain after resolution</td>
<td>65 (3.6%)</td>
<td>30 (3.9%)</td>
<td>5 (1.7%)</td>
<td>3 (4.8%)</td>
</tr>
</tbody>
</table>

Conclusion

One third of women monitored by serial transvaginal sonography will have pain associated with their ovarian abnormality. When the abnormality is followed to resolution, associated abdominal pain will disappear in 96% of cases. The frequency of pain resolution does not appear to be related to the type of ovarian cyst, but may be associated with the volume of the ovarian abnormality.
OVARIAN CANCER II

ESGO7-0575

ULTRASOUND SURVEILLANCE OF OVARIAN ABNORMALITIES CHARACTERIZED BY STABLE MORPHOLOGY OR MORPHOLOGIES CHANGING BETWEEN CYSTS, SEPTATED CYSTS, CYSTS WITH SOLID STRUCTURE OR SOLID STRUCTURES

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Aims

To determine time to resolution of ovarian abnormalities that demonstrated either stable or changing morphologies.

Method

44,475 individuals received 270,302 ovarian screens by transvaginal ultrasonography. Ovarian abnormalities that demonstrated changes in morphology and resolved (n=1117) were compared to ovarian abnormalities with stable morphology that resolved (n=1800). Significance was determined by Chi square and t-testing.

Results

1117 resolving ovarian abnormalities, characterized by changes in structure, were examined: (cysts=503, cysts with septation(s)=396, cysts with solid areas=180, solid abnormalities=38). Resolving abnormalities received a total of 5658 scans by transvaginal sonography for an averaged 5.1 scans, see table. Resolution times of abnormalities with changing morphology paralleled those with a stable morphology (shown in parenthesis). Half of the cysts & cysts with septations that changed morphology resolved in ~24 months while over 75% resolved in 4+ years and the remainder took more than 5 years. Half of the unstable cysts with solid areas resolved in 8 months. Half of the unstable solid structures resolved in 18 months. Resolution time increased by 10 months with cysts and cysts with septations that had changes in morphology compared to those with unchanging morphology.

<table>
<thead>
<tr>
<th>Type of Structure</th>
<th>Cyst</th>
<th>Cyst &amp; Septation</th>
<th>Cyst &amp; Solid</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women, n=</td>
<td>292</td>
<td>215</td>
<td>104</td>
<td>21</td>
</tr>
<tr>
<td>Scans, n=</td>
<td>2643</td>
<td>1937</td>
<td>882</td>
<td>196</td>
</tr>
<tr>
<td>Structures, n =</td>
<td>503</td>
<td>396</td>
<td>180</td>
<td>38</td>
</tr>
<tr>
<td>Average Scan Number</td>
<td>5.3</td>
<td>4.9</td>
<td>1.2</td>
<td>5.2</td>
</tr>
<tr>
<td>Mean ± SEM, months (Unchanging structure)</td>
<td>36.4±1.7*</td>
<td>33.6±1.8*</td>
<td>25.3±1.4**</td>
<td>27.8±5.3**</td>
</tr>
<tr>
<td>Range (months)</td>
<td>0.9-234</td>
<td>0.6-219</td>
<td>0.4-167</td>
<td>0.7-132</td>
</tr>
<tr>
<td>Median (months)</td>
<td>23.8</td>
<td>22.3</td>
<td>7.7</td>
<td>16.8</td>
</tr>
<tr>
<td>75th percentile</td>
<td>49.6</td>
<td>42.3</td>
<td>16</td>
<td>30.4</td>
</tr>
<tr>
<td>90th percentile</td>
<td>85.4</td>
<td>76.6</td>
<td>39.2</td>
<td>94.8</td>
</tr>
</tbody>
</table>

* P<0.05; **not significantly different changing vs unchanging.

Conclusion

When the morphology of an ovarian abnormality is changing, time to resolution increases for cysts and cysts with septations. Half will resolve within 24 months regardless of complexity. Half of the remainder will resolve under a four year surveillance plan. The remainder will persist for more than 5 years before resolving and should be subject to continuing surveillance.
SYMPTOMS RELEVANT TO SURVEILLANCE FOR OVARIAN CANCER

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Aims

To examine how frequently and confidently healthy women report symptoms during surveillance for ovarian cancer.

Method

A symptoms questionnaire was administered to 24,526 women over multiple visits accounting for 70,734 reports. A query of reported confidence was included as a confidence score (CS). Chi square, McNemars test, ANOVA and multivariate analyses were performed.

Results

17,623 women completed the symptoms questionnaire more than one time and >9500 women completed it more than one four times for >43,000 serially completed questionnaires. Frequency of reported symptoms is in Table 1. Reporting ovarian cancer symptoms was ~245 higher than ovarian cancer incidence. The positive predictive value (0.073%) for identifying ovarian cancer based on symptoms alone would predict one malignancy for 1368 cases taken to surgery due to reported symptoms. Confidence on the first questionnaire (83.3%) decreased to 74% when more than five questionnaires were completed. Age-related decreases in confidence were significant (p < 0.0001). Women reporting at least one symptom expressed more confidence (41,984/52,379 = 80.2%) than women reporting no symptoms (11,882/18,355 = 64.7%), p < 0.0001. Confidence was unrelated to history of hormone replacement therapy or abnormal ultrasound findings (p = 0.30 and 0.89).

<table>
<thead>
<tr>
<th>Duration Period of Data Collection Studied 15 April 2008–23 June 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women screened</td>
</tr>
<tr>
<td>Symptoms questionnaires administered</td>
</tr>
<tr>
<td>Questionnaires reporting symptoms</td>
</tr>
<tr>
<td>Women reporting symptoms</td>
</tr>
<tr>
<td>Women never reporting symptoms</td>
</tr>
<tr>
<td>Women reporting symptoms on first symptoms questionnaire</td>
</tr>
<tr>
<td>Women reporting symptoms with no symptoms on first symptoms questionnaire</td>
</tr>
<tr>
<td>Women reporting symptoms on first symptoms questionnaire AND subsequently no symptoms reported</td>
</tr>
<tr>
<td>Women reporting symptoms on first symptoms questionnaire AND subsequently symptoms reported</td>
</tr>
<tr>
<td>Women reporting 3D symptoms on first symptoms questionnaire AND subsequently symptoms</td>
</tr>
</tbody>
</table>

Conclusion

The frequency of symptoms relevant to ovarian cancer was much higher than the occurrence of ovarian cancer. Approximately 80.1% of women expressed confidence in what they reported.
OVARIAN CANCER II

ESGO7-0811

UTERINE LAVAGE: AN OFFICE PROCEDURE WITH A PROMISING POTENTIAL FOR DIAGNOSING EARLY-STAGE OVARIAN CANCER THROUGH LIQUID BIOPSY

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Aims

To date, no screening strategy exists for early diagnosis of high-grade ovarian carcinomas (HGOC). In-line with the increasing evidence that HGOC originate from the fallopian tube, it is potentially possible to obtain tumor cells or tumor-associated biological molecules from a liquid-biopsy through uterine lavage. We aimed to develop the technique into a feasible test for early-HGOC detection in high-risk populations.

Method

Eligible patients were BRCA-mutation non-pregnant carriers, who have not undergone risk-reducing salpingo-oophorectomy. An intrauterine insemination-catheter (Insemi™-Cath, 3.5Frq13cm, Cook Inc. USA) was inserted into the cervical canals during routine office-visit. No anesthetic or analgesic was administered and no cervical dilatation/manipulation was used. Ten mL saline were infused into the uterine cavity and immediately retrieved. The liquid was analyzed for proteins, DNA and RNA biomarkers. Proteomic-profiling of microvesicles to characterize early “cancer signature” in biopsies are being developed.

Results

To date, we performed the lavage procedure on 18 patients who provided informed consent, some repeatedly during two consecutive follow-up visits. Time consumption was 1-2 minutes. Most patients reported no-or-minimal discomfort or pain. One lavage procedure was stopped due to pain, and two patients reported mild spontaneously-resolving abdominal pain. In all cases, enough fluid (average 4-5ml) was retrieved for further analysis, enabling the characterization of 2500 different proteins in a sample and providing enough DNA and mRNA to allow PCR and next-generation sequencing.

Conclusion

Our uterine lavage technique is an easy, low-burden, minimal-complication office-procedure, providing a potential method for obtaining liquid-biopsy for early detection of HGOC.
OVARIAN CANCER II

ESGO7-0683

BEVACIZUMAB- CONTAINING FIRST LINE CHEMOTHERAPY MIGHT REDUCE PROGRESSION-FREE SURVIVAL AFTER RECURRENCE IN ADVANCED EPITHELIAL OVARIAN CANCER

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2Meir Medical Center, Gynecologic Oncology, Kfar-Saba, Israel

Aims

Recently, the VEGF inhibitor Bevacizumab was added to the standard front-line therapy of high-grade epithelial ovarian carcinoma (HGEOC). Large randomized trials have shown Bevacizumab benefit, with both progression-free and overall survival. Yet, it was shown that tumor vessels can rapidly regrow after cessation of Bevacizumab, and tumor burden can then increase. We aimed to describe changes in progression free survival after recurrence (PFS2) in advanced stage HGEOC patients treated with and without Bevacizumab at first line.

Method

Included in this cohort study were all consecutive HGEOC patients who have had a debulking surgery between 2011-2015, with either stage 4 or stage IIIc with any residual disease. Sixty-seven patients were treated with carboplatin-paclitaxel. Forty-one patients who were diagnosed after 2013 were treated with carboplatin-paclitaxel-Bevacizumab as it was then approved in our country. Their clinical data was compared.

Results

The groups did not differ in either age at diagnosis, stage, rate of BRCA-mutation carriers or neoadjuvant chemotherapy use. Median follow up was 29 and 32 months in the patients treated with and without Bevacizumab respectively. Progression free survival (PFS) was longer in the Bevacizumab group (14.5 Vs. 10.5 months). Although response rate to second line was comparable, PFS2 in those who received Bevacizumab at first line was significantly shorter (5.9 vs.8.8 months).

Conclusion

According to our cohort, bevacizumab prolongs progression-free survival after first line in stages IIIc with residual disease and stage 4 HGEOC patients, yet it might interfere with PFS2.
NEGATIVE PARP IMMUNOHISTOCHEMISTRY AS A PREDICTOR OF PLATINUM SENSITIVITY IN OVARIAN CANCER

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Aims

We analysed PARP immunohistochemistry results and clinical data of 65 advanced (stage III and IV) ovarian cancer cases to clarify prognostic relevance of PARP expression.

Method

PARP protein expression was determined by immunostaining using a Leica Bond MAX Immunostainer (Leica Microsystems, Wetzlar, Germany) with rabbit polyclonal anti-PARP antibody (ab6079 330, Abcam, Cambridge, UK). Intensity and distribution of immunostaining was assessed by light microscopy (Leica DM2500 microscope, DFC 420 camera and Leica Application Suite V3 software; Leica) and evaluated with a four grade (0-3+) system. Mean progression-free survivals were generated for each groups of PARP expression.

Results

Thirty-five cases (53.8%) were chemotherapy naive and 27 of them (77%) showed no PARP expression. PARP expression among 30 cases following at least one prior line of chemotherapy was negative in 20 cases (67%). Mean PFS after first-line chemotherapy was 17.5 months. PFS of PARP 0, 1+, 2+ and 3+ cases were 18.4, 20.3, 7.8 and 7.4 months, respectively. Mean PFS after second-line chemotherapy was 11.8 months. Among PARP 0, 1+, 2+ and 3+ cases PFSs were 10.4, 12.8, 8.7 and 22.6 months, respectively. Restricting analysis to the population dichotomized by „any” or „no” PARP expression resulted in a significant difference in PFS achieved by first-line taxol-carboplatin chemotherapy (9.9 vs 19.2 months, respectively, p=0.0067). PFS achieved by the second-line chemotherapy also showed survival advantage for PARP negative cases (22.7 vs 13.8 months), however this difference was not statistically significant (p=0.4770).

Conclusion

PARP expression assessed by immunohistochemistry may predict platinum-sensitivity in ovarian cancer.
OPTICAL IMAGING FOR PERITONEAL METASTASES DETECTION IN OVARIAN CANCER: A PILOT STUDY

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¹Jules Bordet Institute, Surgery, Brussel, Belgium
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⁴Jules Bordet Institute, Data Centre and Statistic, Brussel, Belgium

Aims

Cytoreductive surgery (CS) is limited by the vision of the surgeon. Furthermore, no tools exist for the detection of tumoral cells in post neoadjuvant chemotherapy (NAC) residual scars (RS).

The aims of this study are to evaluate the role of ICG-Fluorescence Imaging (FI) for the detection of peritoneal metastasis and tumoral cells in RS (post NAC).

Method

Patients admitted for primary or interval CS with stage III/IVa from September 2013 to August 2016 were elected for the study. Free ICG (0.25 mg/kg) was IV injected intraoperatively before CS. Fluorescence intensity and tumor to background ratio (TBR) was calculated for all peritoneal nodules (PN) and RS.

Results

Twenty patients including 17 seropapillary adenocarcinoma, and 3 others type of tumors were included. A total of 108 PN and 25 RS were imaged, resected and analysed by histopathology. Amongst PN, 73 were malignant (67.6%) and 35 benign (32.4%). The mean of the TBR (ex vivo) was 1.8 (SD 1.3) in malignant nodules and 1.0 (SD 0.79) in benign nodules (p = 0.007). With a TBR cut-off of 1.3, sensitivity and specificity are respectively 72.6% (53/73) and 45.7% (16/35). Amongst the 25 RS, the mean TBR (in vivo) was 2.06 (SD 1.15) in malignant (n=2) and 1.21 (SD 0.50) in benign nodules (n=23). The positive predictive value of ICG-FI to detect tumoral cells in scars was 57.1%.

Conclusion

ICG-FI is able to discriminate between benign and malignant PN, but not sufficient specific for the detection of tumoral cells in RS post NAC.
AHIF, A HYPOXIA-INDUCED LONG NONCODING RNA, ENHANCES HYPOXIA EPITHELIAL OVARIAN CANCER PROLIFERATION BY INHIBITING APOPTOSIS

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¹Obstetrics and Gynecology Hospital of Fudan University, Obstetrics and Gynecology, Shanghai, China

Aims

Hypoxia is a common characteristic of solid tumor, and is a key stress that triggers apoptosis in many cancer types, including epithelial ovarian cancer (EOC). Previous studies discovered a hypoxia-upregulated long non-coding RNA (lncRNA), named “a natural antisense transcript of hypoxia-inducible factor 1 (aHIF)” in some tumors. However, the contributions of aHIF to EOC remain unknown. In this study, we aimed to investigate the expression, function and underlying mechanisms of aHIF under hypoxia conditions in EOC progression.

Method

Expression of aHIF in EOC tissues and its correlation with clinicopathological factors were examined. A series of in vitro and in vivo assays were performed to determine the function and mechanism of aHIF in hypoxia-induced EOC progression.

Results

Clinically, aHIF was overexpressed in EOC tissues relative to normal controls, and the overexpression correlated with advanced International Federation of Gynecologists and Obstetricians stage and high histological grade. In vitro, aHIF was upregulated by hypoxia in EOC cells. Under hypoxia conditions, aHIF knockdown inhibited cell proliferation and accelerated apoptosis. In vivo, aHIF knockdown inhibited tumorigenesis of EOC cells. Mechanically, Dysregulation of mitochondrial apoptosis pathway-associated genes including Caspase-9, Caspase-7, Bax and Bcl-2 by aHIF may partially explain aHIF-induced EOC progression under hypoxia conditions.

Conclusion

Our data offers convincing evidence for the first time that aHIF could enhance EOC proliferation by inhibiting apoptosis through aHIF-mitochondrial apoptosis pathway under hypoxia conditions. These results can help to understand hypoxia-induced EOC progression from the perspective of lncRNA.
ELNCRNA1, A LONG NONCODING RNA TRANSCRIPTIONALLY INDUCED BY OESTROGEN, PROMOTES EPITHELIAL OVARIAN CANCER CELL PROLIFERATION

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¹Obstetrics and Gynecology Hospital of Fudan University, Obstetrics and Gynecology, Shanghai, China

Aims

We previously identified a novel oestrogen (E2)-upregulated IncRNA, TC0101441, via microarray analysis. However, the detailed mechanism by which E2 upregulates TC0101441 and the role of TC0101441 in epithelial ovarian cancer (EOC) progression have not been elucidated. In the present study, we further analysed TC0101441, which we designated oestrogen-induced long non-coding RNA-1 (ElncRNA1), and investigate the function and underlying mechanisms of ElncRNA1 in E2-dependant EOC progression.

Method

A serial of assays were performed to determine the mechanism by which E2 upregulates ElncRNA1. ElncRNA1 expression in EOC tissues was examined. In vitro and in vivo functional assays were performed to elucidate the role of ElncRNA1 in E2-dependant EOC progression.

Results

E2 transcriptionally upregulates ElncRNA1 through the oestrogen receptor α (ERα)-oestrogen response element (ERE) pathway using RNA stability assays, bioinformatics-based searches for ERE binding sites, chromatin immunoprecipitation (ChIP) assays and dual luciferase reporter assays. Clinically, ElncRNA1 levels are significantly higher in EOC tissues than in normal ovarian surface epithelium. In vitro and in vivo loss-of-function assays revealed that ElncRNA1 promotes EOC cell proliferation. This pro-proliferation effect of ElncRNA1 was partially mediated by the regulation of Cyclin D1/CDK4/CDK6 pathway.

Conclusion

These findings provide the first evidence that E2 upregulates ElncRNA1 at the transcriptional level through the ERα-ERE pathway and that this novel E2-upregulated IncRNA has an oncogenic role in EOC growth. The placement of ElncRNA1 in the E2-ERα-ERE-Cyclin D1/CDK4/6 signalling pathway may provide greater insight into the effects of oestrogen on EOC progression from the perspective of IncRNA.
OVARIAN CANCER II

ESGO7-0818

C-REACTIVE PROTEIN AS A PREOPERATIVE DIFFERENTIAL DIAGNOSTIC MARKER IN PATIENTS WITH ADNEXAL MASSES

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Aims

Various serum tumor markers have been investigated as a preoperative differential diagnostic marker in women with adnexal masses. Serum C-reactive protein (CRP) is a widely used biomarker for inflammatory processes and was shown to be a valid prognostic biomarker in patients with epithelial ovarian cancer (EOC).

Method

CRP serum levels of 3234 patients with adnexal masses and subsequent surgery were investigated (patients with benign ovarian tumors: n= 2719; borderline tumor of the ovary [BTO]: n = 125; EOC: n = 390).

Results

Mean (standard deviation) serum CRP in patients with benign ovarian tumors, BTO, and EOC were 0.9 (2.5) mg/dL, 1.2 (2.5) mg/dL, and 3.7 (4.7) mg/dL, respectively (p < 0.001). Sensitivity and specificity for the combination of CRP and CA 125 was 80.1% and 90.8%, respectively. NPV (negative predictive value) and PPV (positive predictive value) was 92.2% and 76.9%, respectively. In univariate and multivariate analysis, CRP serum levels were independently associated with the diagnosis of BTO and EOC (HR 6.7 [5.2-8.5], p<0.001 and HR 2.2 [1.4-3.3], p < 0.001). The combination of CRP and CA-125 serum levels resulted in number needed to treat (NNT) of 1.5 (suspicious ultrasound and normal CRP and CA-125 serum levels compared to suspicious ultrasound and elevated CRP and CA-125 serum levels) to detect one additional case of EOC/BTO.

Conclusion

CRP serum levels independently predicted the presence of BTO and EOC in patients with adnexal masses. Particularly in combination with CA-125, CRP serum levels seem to be of additional value in the preoperative differential diagnosis of adnexal masses.
OVARIAN CANCER II

ESGO7-0150

ASSESSMENT OF THE RISK OF RELAPSE OF NEOPLASM OVARI (ARRNO): A NEW APPLICATION FOR CLINICAL PRACTICE

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Aims

The aim of the present study was to develop an algorithm of the assessment of the individual risk of ovarian cancer relapse after accomplishment of the first line therapy.

Method

A retrospective analysis of the data of 1103 patients (01.01.2010-01.01.2015) with ovarian cancer, who received primary cytoreductive surgery with combination of platinum-based chemotherapy in their first line of treatment was performed. The prognostic role of the following 12 parameters was studied: age, stage, tumour status (T), grade, hystotype, results of ultrasound and CT after first line chemotherapy, CA 125pre (before start of combined therapy) and CA 125post (after accomplishment of first line chemotherapy), HE 4pre (before start of combined therapy) and HE 4post (after accomplishment of the first line therapy), the level of cytoreduction (optimal, suboptimal and radical).

Results

After binary regression analysis we defined best data set: stage, hystotype, grade, pelvic ultrasound examination, CA 125pre and HE 4post. Based on the developed algorithm we designed an ARRNO score with AUC (area under the curve) was 0.761 (95%CI: 0.733-0.789). After ROC-analysis we defined as well 3 intervals, corresponding to the low (0-0.39), moderate (0.40-0.85) and high (0.86-1.0) risk of relapse. At the final step the ARRNO score was integrated into application for personal computers, which, in case of integration into internal network of hospitals, provides the possibility to assess the risk of relapse at the moment of accomplishment of the first line therapy.

Conclusion

ARRNO score provides oncologists with a new tool for the more sophisticated follow-up of patients with ovarian cancer.
LOW GRADE SEROUS OVARIAN CARCINOMA: AN EVALUATION OF PRACTICE PATTERNS

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Aims

Low Grade Serous Carcinoma (LGSC) is a rare subtype of ovarian cancer with a typically indolent and chemoresistant course. Optimal treatment strategies are unknown. Our objective was to identify differences in practice patterns amongst physicians who treat LGSC.

Method

A de novo survey was distributed to members of the Society of Gynecologic Oncology. Questions about demographics, management of primary and recurrent disease, and use of consolidation were included. Statistical analyses was performed using Chi-square and logistic regression.

Results

There were 235 respondents. 48% had completed fellowship within the last 10 years, 83% recommended somatic testing during treatment, and 67% always send patients for genetic counseling. Treatment preferences for primary disease varied by debulking status (Figure 1). 47% of practitioners use hormone antagonism as consolidation after primary treatment. Physician experience with LGSC did not influence the decision to use consolidation (OR 1.09 [0.60-1.97], p=0.78). In contrast to patients with platinum resistant disease, secondary cytoreduction was preferred for patients with long disease-free intervals following primary treatment (p<0.001). Hormone antagonism was the preferred treatment for platinum resistant disease (52.3%), with 18% of physician utilizing targeted agents in the recurrent setting.

Conclusion

There is significant variation in the management of LGSC among practitioners. Further efforts to improve knowledge and disseminate information about the optimal management of this disease should be encouraged.
OVARIAN CANCER II

ESGO7-1046

COMPARISON OF OVERALL SURVIVAL AND PROGNOSTIC FACTORS IN HIGH AND LOW GRADE OVARIAN SEROUS ADENOCARCINOMAS

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Aims

Low grade serous tumors are characterized by young age at diagnosis a slow growth pattern and despite a high level of chemoresistance a better prognosis as compared to high grade serous adenocarcinoma. We aim to examine overall survival in early and advanced stage low and high grade ovarian serous adenocarcinomas.

Method

Methods: Population based prospectively collected data on ovarian low grade serous adenocarcinomas (n=327) and high grade serous adenocarcinomas (n=2488) was obtained from the Danish Gynecological Cancer Database. Univariate Kaplan Meier and multivariate Cox-regression were used. Statistical test were 2-sided. P-values of <0.05 were considered statistically significant.

Results

Results: The overall survival was higher among low grade than in high grade ovarian adenocarcinomas in univariate (log rank < 0.0001) and multivariate cox analysis (HR 1.4 95% CI: 1.1-1.7). This association was strengthened in sub-analysis limited to stage Ib-IIb with no residual tumor (HR 2.2. 95% CI: 1.5-3.7), whereas no significant difference was observed in stage Ib-IIb with residual tumor or stage IIIc-IV (HR 0.8 95% CI: 0.5-1.6 and HR 1.2 95% CI 0.9-1.6, respectively). The cox analyses were adjusted for age at diagnosis, residual tumor (yes vs. no), stage and performance status, which were significant prognostic factors in all analyses.

Conclusion

Low grade ovarian serous adenocarcinoma have a better overall survival when diagnosed in early stages with no residual tumor, whereas no survival benefit was observed in cases with residual tumor or advanced stage disease as compared to high grade serous adenocarcinomas in analyses adjusted for age, residual tumor, stage and performance score.
Aims

To evaluate the effect of the "time to chemotherapy" (TTC) interval after debulking surgery on survival in patients with advanced ovarian cancer.

Method

We retrospectively studied data from 276 patients with International Federation of Gynecology and Obstetrics stage III or IV ovarian cancer who were consecutively treated between January 2006 and 2013. TTC was analysed and correlated with outcome.

Results

Median age at diagnosis was 54 years (range, 20–80 years), and 258 patients received postoperative platinum-based chemotherapy. The 25%, 50%, and 75% quartiles of intervals from surgery to start of chemotherapy were 18, 22, and 28 days, respectively. TTC [≤28 days versus >28 days; hazard ratio (HR) 1.578 (95% CI 1.057–2.355), P = 0.026], complete debulking with no gross residual disease [HR 0.419 (95% CI 0.274–0.640), P <0.05], and preoperative albumin level [HR 0.549 (95% CI 0.382–0.791, P=0.001] were significant prognostic factors for progression-free survival in multivariate analysis. While delayed TTC (>28 days) did not possess prognostic significance in patients without postoperative residual disease (n = 94), it significantly correlated with progression-free survival in patients with postoperative residual disease [n = 164, HR 1.893 (95% confidence interval 1.209–2.962), P = 0.005].

Conclusion

Our findings suggest that delayed initiation of chemotherapy might compromise progression-free survival in patients with advanced serous ovarian cancer, especially in case of gross residual disease. A prospective study randomizing patients to different time intervals could clarify the definitive relevance of the time between surgery and chemotherapy.
OVARIAN CANCER II

ESGO7-1137

PFKFB3 AND PLA2G3 KNOCKDOWN LEADS TO THE GENERATION OF LIPID LADEN GRANULAR OSMOPHILIC DEPOSITS AND MULTILAMELLAR BODIES IN OVARIAN CANCER


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Aims

The Aims of the study is to determine the effect of glycolysis inhibitor PFK-158 in ovarian cancer (OC). Among different regulators of this pathway, 6-PhosphoFructo-2-Kinase/Fructose-2,6-Bisphosphatases 3 (PFKFB3) a glycolytic enzyme that generates fructose-2,6-bisphosphate (F2,6BP) is recognized as an important control point in glycolysis.

Method

Using molecular techniques, we show that the active form of PFKFB3 (p-PFKFB3ser461) is overexpressed in chemo-resistant OC cell lines and resistant patient derived xenograft (PDX) models compared to chemo-sensitive cell lines. Treatment with PFK158 (PFKI), a specific inhibitor of PFKFB3 activity reduced glucose uptake, ATP and lactate production in addition to inhibiting colony forming ability in both carboplatin (Carb-Pt) and paclitaxel (PTX) resistant OC cell lines in vitro and significantly reduced tumor weight, ascites and metastasis compared to single drug treatments alone in vivo in the highly resistant HEYA8MDR xenografts.

Results

We show for the first time that PFKI promotes cell death by targeting the crosstalk between glycolysis and lipogenesis-two pathways active in OC by inducing autophagy resulting in the depletion of lipid droplets (LDs) in chemoresistant cells. PFKI downregulated the expression of both p-PFKFB3 and PLA2G3, involved in the biogenesis of LDs in several OC cell lines. TEM analysis revealed that genetic downregulation of PFKFB3 and or PLA2G3 resulted in the generation of granular osmiophilic deposits (GROD) and cholesterol rich multilamellar bodies (MLBs) respectively in the lysosomes, recapitulating lysosomal storage disorder phenotypes.

Conclusion

The functional consequence of this phenotype and the clinical implication of these results in the treatment of OC are currently under investigation.
OVARIAN CANCER II

ESGO7-1295

MYASTHENIA GRAVIS IN AN OVARIAN CANCER PATIENT: A POSSIBLE PARANEOPlastic MANIFESTATION CASE
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Aims

Gynecologic cancer rarely courses with neurological paraneoplastic symptoms. We describe one case of myasthenia gravis as a possible paraneoplastic manifestation of ovarian cancer preceding the neoplasm symptoms.

Method

Case Report

Results

A 61 years old patient with no comorbidities presented bilateral ptosis. Electromyography was suggestive of neuromuscular junction blockade. Dosage of anti-acetylcholine receptor antibody was greater than 20 nmol/L and other anti-neuronal antibodies were negative. She had no thymic image alterations and the use of pyridostigmine resulted in no clinical benefit response. After 30 days, the patient is hospitalized due to abdominal distension, dysphagia and progressive dyspnea. Abdominal tomography showed massive ascites and peritoneal thickening with greater pelvic component; CA-125 was 9561.8 U/mL and biopsy diagnosed an ovarian serous papillary adenocarcinoma. She had respiratory worsening and orotracheal intubation was necessary for 23 days. Plasmapheresis sessions and pulse therapy with methylprednisolone were implemented without clinical improvement. After the introduction of immunoglobulin and cyclophosphamide, ventilator parameters finally improved and CA-125 dropped to 899U/ml. According to tumor board decision, chemotherapy regimen was changed to carboplatin and paclitaxel. In the third cycle patient had no more myasthenic symptoms as well no medications were necessary for myasthenia. Cytoreduction surgery with R0 resection was performed and then 3 more cycles of chemotherapy. In the 6th month of follow-up she had complete resolution of the myasthenic condition, CA125 <35U/mL and normal abdomen images.

Conclusion

Until we know, this is probably the first reported case of possible causality between new diagnosis of ovarian neoplasm and myasthenia gravis as a paraneoplastic syndrome.
OVARIAN CANCER II

ESGO7-0144

THE PROGNOSTIC IMPACT OF NANOG EXPRESSION IN OVARIAN SEROUS CARCINOMA

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Aims

The ongoing research about cancer stem cells opened a new perspective on pathogenesis, diagnosis and treatment of ovarian cancer. The objective of this study was to assess the expression of cancer stem cell related marker NANOG (NANOG) in ovarian serous carcinoma and to evaluate its prognostic significance.

Method

The expression of NANOG was evaluated in ovarian tissues from 109 patients with ovarian serous carcinomas. NANOG expression was measured immunohistochemically in a tissue microarray. According to a sum of signal intensity and proportion we divided samples into four NANOG groups: negative, slightly positive, moderate positive and strongly positive. We analyzed the correlation between the clinical data and results from immunohistochemistry.

Results

The positive reaction of the NANOG was shown as yellow-brown particles located in the cytoplasm and sometimes in nucleus. In ovarian serous carcinoma 69.7% cases were NANOG positive. There was no difference in clinical manifestation, response to therapy or survival between the four NANOG groups. At several places especially in the vicinity of small putative stem cells we also observed changes on epithelial cells similar to epithelial-mesenchymal transition.

Conclusion

NANOG was significantly expression in ovarian serous carcinoma. In our study there was no correlation between the intensity of NANOG expression and prognosis of ovarian serous carcinoma. Presence of NANOG predominantly in cytoplasm might be explained by translocation of NANOG protein from nucleus to cytoplasm as cancer progresses. The epithelial-mesenchymal transition, a mechanism that might play an important role in the manifestation of ovarian cancer, should be further investigated.

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MOLECULAR PROFILING OF ENDOMETRIOSIS AND ENDOMETRIOSIS-ASSOCIATED OVARIAN CANCER (EAOC)

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Aims

Endometriosis appears to be associated with some specific histologic subtypes of epithelial ovarian cancer, especially clear cell and endometrioid adenocarcinoma. However, the pathogenesis of ovarian cancer development from endometriosis is not well understood. The purpose of this study is to investigate the molecular association of endometriosis and endometriosis associated ovarian cancer (EAOC).

Method

RNA was extracted from 36 paraffin tissue blocks comprising of endometriosis (n=8), atypical endometriosis (n=6) and endometriosis associated ovarian cancer (n=22). Lesion of endometriosis or cancer from whole paraffin-embedded tissue sections were obtained by Laser capture microdissection and differentially expressed genes were analyzed using RNA sequencing technology.

Results

Comparison of gene expression among endometriosis, atypical endometriosis and EAOC revealed different expression patterns by heatmap. 2,923 genes in EAOC and 125 genes in atypical endometriosis were differently expressed compared to endometriosis. 364 genes were up regulated and 296 genes were down regulated in EOAC compared to atypical endometriosis. Comparison merge revealed 6 percent of differently expressed genes were commonly upregulated in all three categories. Pathway analysis revealed that nine genes involving cell proliferation were positively regulated.

Conclusion

This study revealed gene alteration involving endometriosis and endometriosis associated ovarian cancer. These findings may be an important resource for studying the pathogenesis of ovarian cancer developing from endometriosis.
ESTABLISHMENT AND CHARACTERIZATION OF IMMORTALIZED HUMAN OVARIAN SURFACE EPITHELIAL CELLS USING LENTIVIRAL SYSTEM.

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Aims

Immortalization is a key difference that distinguishes cancer cell from normal cell. In cell line studies, normal cells like human ovarian surface epithelial cells (HOSE) are difficult to culture and limited due to the senescence nature of normal cell. The aim of this study is to establish normal ovary epithelial cell lines for the counterpart to research ovarian cancer.

Method

Immortalized human ovarian surface epithelial cells (IHOSE) were established by transfecting HPV E6/E7 and SV40 T antigen to short cultured HOSE using the lentiviral system. Cells were grown in Dulbecco’s Modified Eagle Medium in the presence of 10% fetal bovine serum and were cultured in 5% CO2 balanced air at 37°C. Thereafter, IHOSE were extracted genomic DNA and total RNA for DNA fingerprinting and RNA sequencing.

Results

Five IHOSEs that were arrived ten passages were established using the lentiviral system. Five IHOSEs were confirmed newly establishment using STR profiling. RNA sequencing was performed to identify IHOSEs characteristics, and gene expression changes were compared with HOSEs and ovarian cancer cell lines. IHOSEs have confirmed that the genes related to the cell cycle and DNA repair signal has changed more than HOSEs.

Conclusion

Newly established IHOSEs can be important research resources for the counterpart against molecular alternation of ovarian cancer.
OVARIAN CANCER II

ESGO7-0147

THE ROLE OF APPENDECTOMY IN MUCINOUS BORDERLINE OVARIAN TUMORS

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Aims

To determine the frequency of appendiceal involvement in patients undergoing surgery for mucinous borderline ovarian tumors (mBOTs), and to evaluate the associated morbidity, and the recurrence risk and survival after appendectomy.

Method

The hospital databases were searched for women who underwent adnexal surgery at the Department of Obstetrics and Gynecology of four Korean academic hospitals, and whose final or frozen diagnosis was mBOTs. A literature search was performed, using electronic database (MEDLINE and EMBASE), to assess the available evidence on performing an appendectomy in patients with mBOTs.

Results

Of the 473 included patients with mBOTs, 201 (42.5%) underwent appendectomy, 247 (52.2%) did not undergo appendectomy at the time of initial surgery, and 25 (5.3%) had previously undergone appendectomy. Among the 201 patients who underwent appendectomy, primary and metastatic appendiceal mucinous neoplasms were occurred in 1 patient each (0.5%), who showed a macroscopically abnormal appendix. Appendectomy itself was not associated with operative complications ($P = 0.082$), recurrence risk ($P = 0.964$), or survival ($P = 0.219$). Consistent with our findings, a comprehensive search of the literature revealed that the frequency of appendiceal involvement in mBOTs was less than 1% in either primary or metastatic appendiceal neoplasms.

Conclusion

If the appendix is grossly normal, an appendectomy seems unnecessary in patients with mBOTs.
OVARIAN CANCER II

ESGO7-0148

THE CLINICAL SIGNIFICANCE OF ELEVATED PREOPERATIVE CA125 OR CA19-9 IN BORDERLINE OVARIAN TUMORS

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Aims

To investigate whether elevated CA125 (≥35 U/mL) and CA19-9 (≥37 U/mL) suggest advanced-stage disease (defined as stage II or higher) or poor prognosis in patients with borderline ovarian tumors (BOTs).

Method

We retrospectively identified 591 patients with BOTs. Multivariate logistic regressions and Cox proportional hazard regressions were used to determine the clinicopathologic factors associated with the presence of advanced-stage disease and the prognostic factors associated with recurrence free-survival.

Results

CA125 was elevated more often in serous than in mucinous tumors (50.6% vs. 35.5%; P=0.003), whereas CA19-9 was elevated more often in mucinous than serous tumors (33.6% vs. 15.3%; P = 0.001). An elevated CA125 level was independently associated with the presence of advanced-stage disease in serous (P=0.005) and in mucinous BOTs (P=0.015). However, preoperative elevation of CA19-9, unlike CA-125, was not associated with advanced-stage disease. Elevated preoperative CA125 level (P=0.037) was an independent prognostic factor for recurrence-free survival in patients with serous BOTs. However, neither CA125 nor CA19-9 had prognostic significance in mucinous BOTs.

Conclusion

Elevated preoperative CA125, unlike CA19-9, is a diagnostic and prognostic biomarker associated with the presence of advanced-stage disease and risk of relapse in patients with serous BOTs.
OVARIAN CANCER II

ESGO7-0268

THE PROGNOSTIC ROLE OF PREOPERATIVE HYPONATREMIA IN PATIENTS WITH ADVANCED EPITHELIAL OVARIAN CANCER (EOC)

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Aims

To determine the impact of preoperative hyponatremia with regard to pre-, intra- and postoperative characteristics in patients with advanced primary epithelial ovarian cancer (EOC).

Method

All consecutive patients with EOC (FIGO stage III-IV) between 01/2011 and 12/2015 were prospectively included in the analysis. All data were collected in a prospectively maintained database. Hyponatremia was defined as serum sodium (Na) <135 mmol/l. Statistical analysis were mean and standard deviation or median (range) compared by the student’s t-test.

Results

In total, 390 patients (normal Na: n=363 (93.1%) and hyponatremia: n=27 (6.9%)) were analyzed. Patients with hyponatremia had significantly lower serum albumin (39 g/l vs. 42 g/l), higher age-adjusted charlson comorbidity score >2 (58.1% vs. 92.6%), and more often ascites >500ml (38.6% vs. 70.4%), respectively. Furthermore, complete resection rate was significantly lower in patients with hyponatremia (65.0% vs. 29.6%, p=0.001). We found no differences in postoperative characteristics like length of stay on intensive care unit, hospital stay, or the complications according to the Clavien-Dindo classification and 30-days mortality. But there was a significant difference in 60- (4.4% vs. 14.8%) and 90-days mortality (5% vs. 14.8%), p=0.018 and p=0.032 respectively.

Conclusion

Preoperative hyponatremia is associated with more ascites, lower rates of complete resection and higher 60- and 90-day mortality. The serum sodium might be useful for risk stratification in patients with advanced EOC.
OVARIAN CANCER

ESGO7-0634

THE PROGNOSTIC ROLE OF AB0 BLOODGROUP AND RHESUS FACTOR IN PATIENTS WITH ADVANCED EPITHELIAL OVARIAN CANCER (EOC)

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Objectives
Recently published data on patients with gastric cancer or with ovarian cancer showed an impact of the AB0 blood groups (BG) on the outcome. The aim of this study was to evaluate the prognostic value of AB0 BG and Rhesus factor (Rf) in patients with advanced primary epithelial ovarian cancer (EOC).

Methods
All consecutive patients with EOC (FIGO stage III-IV) treated between 01/2011 and 02/2017 were included in the analysis. All data were collected in a prospectively maintained database. Each BG was compared to each other, as well as a combined analysis with Rf.

Results
In total, 557 patients (BG A: n=267; BG 0: n=192; BG B: n=66; BG AB: n=32) were analyzed. The distribution of Rf positive patients in all groups showed no significant difference. There were no differences between patients' characteristics nor between intra- or postoperative parameters, like FIGO-stage, residual disease or need of blood transfusion, between all BGs. Patients with BG AB had significantly less high-grade serous histology compared to non-BG AB (68.8% vs. 85.9%). Overall survival (OS) was not different between distinct AB0 BG. Progression free survival (PFS) in BG AB was significantly better compared to BG B (32 months vs. 20 months; p=0.026), compared to BG A it did not reach significance (32 months vs. 21 months; p=0.056). Analysis of Rf negative patients (n=480 (86.2%)) showed a significant difference in PFS (33 months vs. 22 months) but not in OS (58 months vs. 54 months), p=0.016 and p=0.577 respectively.

Conclusions
With regard to PFS, BG AB had a prognostic impact in patients with EOC compared to BG B. Rf positive patients had an impaired PFS compared to patients with Rf negative.
A SYSTEMATIC REVIEW ON COST-EFFECTIVENESS OF EARLY DETECTION AND PREVENTION STRATEGIES FOR OVARIAN CANCER

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Aims

We conducted a systematic review on cost-effectiveness studies evaluating early detection and prevention strategies for ovarian cancer in various populations.

Method

We systematically searched relevant databases (Medline/Embase/Cochrane Library/CRD/EconLit) for decision-analytic modelling studies assessing the cost-effectiveness of early detection and/or prevention strategies for ovarian cancer. We summarized study characteristics and results including quality-adjusted life-years (QALY), life-years gained (LYG), and incremental cost-effectiveness ratios (ICER; in cost/QALY or LYG) in standardized evidence tables. Economic results were converted to 2015 Euros using GDP-PPP and CPI.

Results

Twenty studies varying in terms of target population, discount rate, perspective and evaluated strategies were included. Ovarian cancer screening in women age 45+ yielded ICERs from 12,000 Euro/LYG in population with 5% prevalence of high-risk women to 68,000 Euro/LYG in average-risk women. A recent study reported 10,000 Euro/QALY for multimodal screening with a risk-adapted algorithm. Risk-reducing surgery in mutation carriers yielded ICERs from cost-saving to 4,000 Euro/LYG (2,000-16,000 Euro/QALY). In premenopausal women, risk-reducing interventions yielded ICERs ranging from 700 Euro/LYG in women with 10% lifetime cancer risk to 47,500 Euro/LYG in women with 2% lifetime risk (6,000-52,000 Euro/QALY). In postmenopausal women, respective ICERs were 2,000-47,000 Euro/LYG (2,000-757,000 Euro/QALY). Genetic testing in women at increased risk followed by risk-reducing interventions in mutation carriers yielded ICERs of 10,000-32,000 Euro/LYG (8,000-9,000 Euro/QALY).

Conclusion

Based on our findings, both screening and preventive surgery in women at increased or high risk for ovarian cancer can be considered effective and cost effective. Results were sensitive with regard to test accuracy, test costs, and the screening frequency.
OVARIAN CANCER II

ESGO7-0509

HYPERTHERMIA AND CISPLATIN INCREASE HEAT SHOCK PROTEIN HEME OXYGENASE-1 EXPRESSION IN OVCAR-3 CELLS

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Aims

To evaluate the impact of different temperature and cisplatin combinations to the expression of heat shock protein heme-oxygenase-1 (HO-1) and the cells viability in OVCAR-3 cells.

Method

Imitating the typical clinical conditions of HIPEC, OVCAR-3 cells were exposed to different hyperthermia and cisplatin concentrations for one hour. Afterward the MTT viability test, flow cytometer analysis, isobologram analysis and quantitative reverse transcription polymerase chain reaction was performed and analysed.

Results

The rising temperature from 37°C to 42°C alone and in combination with half of the maximal inhibitory concentration of cisplatin (IC50) had insignificant effect on OVCAR-3 cells viability and apoptosis. The combination of hyperthermia up to 42°C and IC50 dose of cisplatin significantly increased the expression of heat shock protein HO-1 in OVCAR-3 cells. Cisplatin alone decreased cell viability in a linear pattern. The antagonistic effect of hyperthermia and cisplatin was revealed by the isobologram method.

Conclusion

Hyperthermia usable in clinical practise and cisplatin increase the expression of heat shock protein HO-1 in OVCAR-3 cells. Further research is essential regarding modulation of the HO-1 expression as a new therapeutic option to improve the results of HIPEC.
OVARIAN CANCER II

ESGO7-0353

EVALUATION OF APPENDAGES' TUMORS IN IOTA SYSTEM IN REFERENCE TO HISTOPATHOLOGICAL RESULTS

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Aims

Ovarian cancer is one of the most common women cancers after menopause. The aim of the study was to evaluate how IOTA (International Ovarian Tumor Analysis) Simple Rules used in ultrasound examination modifies probability of occurrence malignant and benign ovarian tumor in tested population.

Method

The study group consisted of 426 patients with ovarian tumors operated in the years 2014-2015. Changes of appendages were rated according to IOTA Simple Rules. Results of this study were compared with the final histopathology reports. Statistical analysis was performed in STATISTICA 13 PL with Medical Pack.

Results

Malignant tumour patients (n=43) were statistically significantly older (mean age 61.0 ±11.6 vs 43.6±16.2, p<0.001), had higher BMI (mean 27.3±7.0 vs 25.2±5.2, p<0.05), more pregnancies (median 2 vs 1, p=0.001) and higher Ca125 level (median 251.5 vs 18.5, p<0.001) than patients with benign tumour (n=346). Also, they more often suffered from diabetes mellitus and arterial hypertension. For determining malignant tumour IOTA Rule 1 reached sensitivity of 83%, specificity 88%, positive predictive value (PPV) of 51% and negative PV 97%. IOTA Rules were better in prediction malignancy than Ca125 value alone (sensitivity of 71%, specificity 92%, positive predictive value (PV) of 56% and negative PV 96%).

Conclusion

In our study, performance of IOTA in predicting or ruling out malignant tumour was highly satisfying. IOTA Rules and Ca125 may be complementary and used to assess risk of malignant vs benign ovarian neoplasm, yet context of other clinical variables may also be important.
OVARIAN CANCER II

ESGO7-0196

IN VITRO CHEMOSENSITIVITY IN OVARIAN CARCINOMA – COMPARISON OF THREE LEADING ASSAYS

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Aims

All the patients with ovarian carcinoma may not have equal response to the standard chemotherapeutic regimen although they have the same histologic type of tumor. An alternative approach to current therapy of ovarian carcinoma is individualization of the treatment by determination of sensitivity of tumoral tissue to chemotherapeutic agents before the initiation of chemotherapy. The study is designed to determine the efficacy of in vitro chemosensitivity assays in ovarian carcinoma and to measure the correlation of three leading assays with each-other.

Method

Fresh tumoral tissue samples of 26 newly diagnosed primary ovarian cancer patients were studied with MTT [3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide], ATP-TCA (Adenosine Triphosphate Tumor Chemosensitivity Assay) and DISC (Differential Staining Cytotoxicity) assays. Chemosensitivity of tumors were studied for paclitaxel, carboplatin, docetaxel, topotecan, gemcitabine and doxorubicin with each of the three assays. Subgroup analysis was done for stage, grade and histologic type.

Results

The in vitro chemosensitivity results of MTT, ATP and DISC assays were found to be similar. The subgroups that in vitro assays would be more useful are encountered for patients with advanced stage and serous histology ovarian carcinoma.

Conclusion

In vitro chemosensitivity can be determined in ovarian carcinoma with ATP, MTT or DISC assays before initiation of chemotherapy. These three assays correlate well with each other and they are especially useful for serous and advanced cancers. Large prospective studies comparing standard versus assay directed therapy with an end-point of overall survival are needed before routine clinical utilization of these assays.
PRELIMINARY SAFETY AND EFFICACY OF TUMOR TREATING FIELDS (200 KHZ) WITH WEEKLY PACLITAXEL FOR RECURRENT OVARIAN CANCER – PHASE II INNOVATE STUDY

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Aims

Tumor Treating Fields (TTFields), a non-invasive, regional treatment is approved for recurrent and newly diagnosed glioblastoma by the FDA. TTFields deliver intermediate-frequency alternating electric fields to the tumor by disrupting the mitotic spindle formation. INNOVATE is the first trial testing TTFields (200kHz) in ovarian cancer.

Method

Thirty-one recurrent platinum-resistant ovarian cancer patients were treated with TTFields plus weekly paclitaxel. Patients had unresectable tumors, ECOG performance 0-1, and measurable disease per RECIST. The primary endpoint was incidence and severity of treatment-emergent adverse events. Secondary endpoints included progression free and overall survival and radiological response rate.

Results

The median age was 60 (45-77 years), 77% had serous histology, 52% had ECOG score of 0. All patients were platinum-resistant. Ten (32%) patients had serious adverse events (SAEs) during the study, unrelated to TTFields: 31% related to gastrointestinal disorders (ileus, jaundice and ascites) and 31% to respiratory events (dyspnea, pleural effusion and pulmonary embolism). One tumor-related SAE led to permanent discontinuation of the device. Most patients reported mild-moderate TTFields-related skin irritation; only two patients (6.4%) had severe-grade events. The median PFS was 8.9 months (95% CI 4.7, NA). Of evaluable tumors, 25% had partial response and 46.4% had stable disease – a clinical benefit of 71.4%. Six patients (19.4%) had a CA125 response: decrease of 50% or more in serum levels. The median OS was not reached.

Conclusion

Data show that TTFields plus weekly paclitaxel are tolerable and safe in heavily pre-treated platinum-resistant ovarian cancer patients. Further testing of TTFields with chemotherapy in ovarian cancer is warranted.
BORDERLINE OVARIAN TUMORS: A NATIONWIDE OVERVIEW OF INCIDENCE, SURVIVAL AND RISK OF SUBSEQUENT INVASIVE OVARIAN TUMORS

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Aims

Population-based studies on borderline ovarian tumours (BOTs) are rare as data collection is mostly limited to invasive ovarian tumours. In this nationwide study, we provide an overview of trends in incidence and survival of BOTs and establish the risk of a subsequent invasive ovarian tumour.

Method

All patients diagnosed with BOTs between 1993 and 2015 (n=6,706) were selected from the Netherlands Cancer Registry (NCR). Age-adjusted incidence rates and relative survival ratios were calculated. Patients with a subsequent invasive ovarian tumour were identified by the NCR.

Results

Incidence of BOTs doubled between 1993 and 2011, after 2011 incidence declined (see Figure). Five-year relative survival increased from 91% in 1993-1997 to 98% in 2010-2015. The proportion of bilateral tumours decreased from 16% to 11% during the same time periods. Of all patients, 0.9% developed a subsequent invasive ovarian tumour during a median follow-up time of 8 years.

Conclusion

Incidence of BOTs increased over time, but declined since 2011. The decline might be due to changes in the classification of gynecological tumours. The risk of a subsequent invasive tumour is low. Survival is high and has improved since 1993. An earlier detection through improvements in ultrasound or improved distinction between BOTs and metastases of gastrointestinal tumors may have contributed to the increased survival. Further analyses are going on to gain more insight into those changes.
ASSOCIATIONS BETWEEN MOLECULAR SUBTYPES AND POSTOPERATIVE COMPLICATIONS AFTER PRIMARY CYTOREDUCTIVE SURGERY FOR ADVANCED STAGE HIGH-GRADE SEROUS OVARIAN CANCER

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Aims

Individualized treatment approaches to maximize oncologic outcomes and minimize perioperative morbidity in high-grade serous ovarian cancer (HGSOC) are lacking. Given the relationship between TCGA (The Cancer Genome Atlas) molecular subtypes, survival outcomes, residual disease (RD), and intraperitoneal disease spread, we seek to evaluate the association of molecular subtype with 30-day postoperative complications and 90-day mortality after primary cytoreductive surgery (PCS) in advanced stage HGSOC.

Method

TCGA subtypes were derived from Agilent 4x44k tumor mRNA expression profiles of 279 women with HGSOC undergoing PCS from 1994-2009. RD status was categorized as 0, 0.1-0.5, 0.6-1.0, or > 1cm. Surgical complexity (SC) scores were calculated as high, intermediate, or low. Complications were graded according to the modified Accordion classification 0-4 scale. Fisher’s exact test was used to assess categorical associations.

Results

TCGA molecular subtype distribution is listed in Table 1. MES was more likely to have preoperative albumin levels ≤ 3.5g/dL (33%, P<0.05). Despite higher rates of RD > 1cm (19%, N=14), lower rates of RD0 (12%, N=9) and similar SC scores (P=0.27), grade 3-4 complications were twice as likely in MES (29%, P=0.06) vs. any other subtype. No difference in 90-day mortality was noted (P=0.65).

<table>
<thead>
<tr>
<th>TCGA molecular subtype</th>
<th>Proliferative (N=78)</th>
<th>Differentiated (N=78)</th>
<th>Mesenchymal (N=78)</th>
<th>Immunoreactive (N=78)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at surgery (years), mean (SD)</td>
<td>63.11 (12)</td>
<td>61.42 (12)</td>
<td>64.12 (12)</td>
<td>61.10 (12)</td>
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<tr>
<td>FIGO stage, N (%)</td>
<td>0.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>65 (11)</td>
<td>46 (7)</td>
<td>30 (8)</td>
<td>34 (8)</td>
</tr>
<tr>
<td>IV</td>
<td>12 (10)</td>
<td>17 (22)</td>
<td>22 (12)</td>
<td>11 (7)</td>
</tr>
<tr>
<td>Preoperative albumin (g/dL)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤3.5</td>
<td>43 (85)</td>
<td>27 (82)</td>
<td>30 (87)</td>
<td>31 (81)</td>
</tr>
<tr>
<td>3.5-&lt;4.5</td>
<td>7 (15)</td>
<td>6 (16)</td>
<td>17 (33)</td>
<td>3 (9)</td>
</tr>
<tr>
<td>Residual disease (cm), N (%)</td>
<td>&lt;0.01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>30 (38)</td>
<td>12 (19)</td>
<td>9 (12)</td>
<td>29 (45)</td>
</tr>
<tr>
<td>0.1-0.5</td>
<td>50 (38)</td>
<td>29 (48)</td>
<td>39 (54)</td>
<td>21 (32)</td>
</tr>
<tr>
<td>0.6-1.0</td>
<td>5 (7)</td>
<td>12 (10)</td>
<td>11 (11)</td>
<td>6 (9)</td>
</tr>
<tr>
<td>&gt;1.0</td>
<td>12 (10)</td>
<td>10 (16)</td>
<td>14 (19)</td>
<td>9 (14)</td>
</tr>
<tr>
<td>Surgical complexity score, N (%)</td>
<td>0.27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>3 (11)</td>
<td>12 (19)</td>
<td>11 (12)</td>
<td>10 (13)</td>
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<tr>
<td>Intermediate</td>
<td>42 (54)</td>
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<tr>
<td>High</td>
<td>31 (27)</td>
<td>24 (38)</td>
<td>35 (48)</td>
<td>23 (39)</td>
</tr>
<tr>
<td>Modified Accordion grade 3 or 4 complication, N (%)</td>
<td>0.66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>12 (15)</td>
<td>9 (14)</td>
<td>21 (29)</td>
<td>9 (14)</td>
</tr>
<tr>
<td>90-day mortality score, N (%)</td>
<td>0.65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>3 (7)</td>
<td>3 (7)</td>
<td>3 (7)</td>
<td>1 (6)</td>
</tr>
</tbody>
</table>

Table 1. TCGA molecular subtypes by demographics and perioperative characteristics.

Conclusion

MES subtype of HGSOC is more likely to have grade 3-4 morbidity after PCS and lower preoperative albumin levels. Given the fine balance between RD and morbidity and mortality after PCS, preoperative molecular subtyping may assist in tailoring individualized treatment of HGSOC.
BRCA1/2 mRNA EXPRESSION AS A PROGNOSTIC FACTOR IN OVARIAN CANCER

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Aims

Mutations in cancer susceptibility genes BRCA1/2 are considered to be associated with better survival possibly due to a better response to platinum-based chemotherapy and PARP inhibitors. We wondered whether the expression of BRCA1/2 measured at the transcriptome level could also be indicative for platinum response and thus predict clinical outcome in ovarian cancer.

Method

We analyzed BRCA1 and 2 mRNA expression in 201 fresh-frozen ovarian cancer samples and in 12 healthy fallopian tubes using quantitative real-time PCR. BRCA mutations detection was performed by next generation sequencing. Associations between BRCA expression and clinicopathologic parameters were evaluated using Mann-Whitney-U and Kruskal-Wallis tests. OS and PFS were estimated using Kaplan-Meier plots and multivariate Cox-Regression. Optimal cut-off points were defined using Youden index.

Results

We found higher BRCA1 and 2 expression in ovarian cancer tissues in comparison with control tissues (p=0.011; p<0.001, respectively). BRCA1 expression was higher in older patients (p=0.036) and in advanced FIGO stages (p=0.036). Higher BRCA2 expression was found in cases with residual tumor after primary debulking (p=0.032) and in high-grade tumors (p<0.001). Univariate survival analysis showed high BRCA2 expression to be associated with poor PFS (p=0.002) and both high BRCA1 and 2 expression levels associated with poor OS (p=0.012, p=0.001; respectively). Multivariable survival analysis confirmed poor PFS in patients with high BRCA2 expression (p=0.028) and poor OS in patients with high BRCA1 expression (p=0.033).

Conclusion

Higher expression of BRCA1 and 2 predicts poor survival in patients with ovarian cancer possibly due to improved homologous DNA damage repair, which may lead to reduced platinum sensitivity.

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BOWEL RESECTION IN ADVANCED OVARIAN CANCER: A SINGLE CENTER EXPERIENCE

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Aims

Bowel resection is often required in advanced ovarian cancer patients with high tumor dissemination in order to achieve complete cytoreduction. The purpose of this study was to evaluate the benefit of these patients from radical surgery.

Method

We conducted a retrospective review of medical records of 66 patients with ovarian cancer, who underwent bowel resection between January 2004 and December 2016. Complications, cytoreductive and oncological outcomes were reported.

Results

44 (66.7%) patients underwent bowel resection during primary, 13 (19.7%) during interval and 9 (13.6%) during secondary debulking surgery. Intestinal surgeries included: 41 patients underwent rectosigmoid resection, 7 had colectomy and 5 had colectomy plus rectosigmoid resection. From the rest patients 7 underwent small bowel resections and 6 multiple enterectomies. Complete and optimal (<1cm) debulking was achieved in 34 (51.5%) and 20 (30.3%), respectively. Median hospitalization was 11 days. Median perioperative blood loss was 700cc and postoperative blood transfusion was mandatory in 39 patients. Median resuscitation time was 4 hours and 22 (33.3%) patients required ICU admission after surgery. Postoperative complications such as pelvic abscess formation were observed in two patients and fistula in one of them. Median disease-free and overall survival was 22 and 41 months, respectively. Perioperative mortality was 4.5%.

Conclusion

Bowel resection is the most frequent additional procedure in order to achieve complete or optimal cytoreduction in advanced ovarian cancer. It has acceptable perioperative morbidity, mortality and increased survival rates.
OVARIAN CANCER II

ESGO-0363

DIAPHRAGMATIC SURGERY IN DEBULKING SURGERY FOR ADVANCED OVARIAN CANCER: A SINGLE CENTER 12 YEARS EXPERIENCE

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Aims

The aim of this study is to describe the role of diaphragmatic surgery during primary and interval cytoreduction in advanced ovarian cancer.

Method

We conducted a retrospective review of medical records of 62 patients with advanced ovarian cancer, who underwent diaphragmatic surgery during primary and interval debulking surgery between January 2004 and December 2016. Disease free survival, overall survival, cytoreductive outcome, intra and postoperative complications related to diaphragmatic surgery were analyzed.

Results

5 (8%) patients had FIGO stage IIIB, 39 (63%) stage IIIC and 18 (29%) stage IV. 46 (74%) underwent primary and 16 (26%) interval debulking surgery. In 22 patients the diaphragmatic peritoneum was stripped, in 11 patients was resected with the adjacent infiltrated part of diaphragmatic muscle and the adjacent pleura, in 17 patients was coagulated and in 12 a combination of these techniques was applied. Median disease-free survival and overall survival were 20 and 52 months, respectively. No residual disease or less than 1cm was achieved in 28 (45.2%) and 29 (46.8%) patients, respectively. The most frequent complication related to diaphragmatic surgery was pleural effusions in 38 (61.3%) patients. Chest tube placement was necessary in 13 (21%) and thoracocentesis in 5 (8%) patients. The median time of chest tube stay was 7 days.

Conclusion

Diaphragmatic surgery is an integral part of upper abdominal cytoreductive procedures during primary and interval debulking with an acceptable and manageable morbidity rate.
EVALUATION OF ULTRASOUND MODELS IN THE DIAGNOSIS OF ADNEXAL MASSES; A COST-EFFECTIVENESS ANALYSIS

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Aims

To determine the cost-effectiveness of recently introduced ultrasound models in the diagnosis of adnexal masses compared to the Risk of Malignancy Index (RMI):

- Subjective assessment (SA);
- Simple rules added by subjective assessment (SR+SA);
- Simple rules with inconclusive results diagnosed as malignant (SR+Mal);
- Logistic regression model 2 (LR2); and
- Assessment of Different NEoplasias in the adneXa model (ADNEX).

Method

Potential cost-effectiveness was explored using an economic model, which was limited to short term costs. The comparative sensitivity, specificity and costs of the diagnostic strategies including surgical management and recovery, were explicitly incorporated in the model. The analysis took a hospital perspective including all costs from detection of the mass up to recovery following surgery. Incremental cost-effectiveness was expressed as the costs per correct diagnosis (i.e. either true positive/negative test results).

Results

Although effectiveness was highest for SA, cost of SR+SA were lowest (figure 1). The outcome of the cost-effectiveness analyses was most influenced by specificity. The probability of being the most cost-effective was the highest for the strategy of SR+SA for a wide range of willingness-to-pay thresholds (≤€39,817). RMI had low cost-effectiveness probabilities (<1%).

Conclusion

Although SA is the best diagnostic strategy in terms of diagnostic accuracy, SR+SA is the preferred method from a cost-effectiveness perspective.
OPPORTUNISTIC TUBECTOMY IS SAFE IN WOMEN UNDERGOING HYSTERECTOMY FOR BENIGN GYNAECOLOGICAL CONDITIONS; RESULTS FROM THE HYSTUB-TRIAL

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Aims

The Fallopian tube is most likely the organ of origin of high grade serous “ovarian” carcinomas. Therefore, opportunistic removal of this organ might lead to a lower incidence. Since this procedure has an opportunistic nature, it should not have adverse effects. To determine whether opportunistic tubectomy in premenopausal women undergoing hysterectomy for benign indications is both hormonally and surgically safe, we conducted this trial. The primary outcome was change in serum Anti-Müllerian Hormone (AMH) concentrations measured preoperative, and 6 months postoperative. Secondary outcomes were surgical parameters such as operative time, blood loss and complication rate.

Method

This multicentre randomised controlled trial was conducted in four hospitals in the Netherlands. A total of 104 premenopausal women, aged 30 to 55 years, were randomly assigned either hysterectomy with opportunistic bilateral tubectomy (N=52) or standard care hysterectomy with preservation of the Fallopian tubes (N=52).

Results

There were no significant differences between the two groups in baseline characteristics and preoperative AMH concentrations (2.21 pmol/L in the intervention group versus 1.24 pmol/L in the control group, P=0.19). Most importantly, postoperative AMH concentrations (2.11 pmol/L in the intervention group versus 1.43 pmol/L in the control group, P=0.35) did not differ significantly. Furthermore, addition of tubectomy to hysterectomy did not lead to poorer surgical outcomes.

Conclusion

Opportunistic bilateral tubectomy in addition to hysterectomy does not lead to a greater decline in ovarian function or poorer surgical outcomes when compared to hysterectomy alone. Therefore, tubectomy is a safe procedure in premenopausal women undergoing hysterectomy for benign indications.
OVARIAN CANCER II

ESGO7-0874

PATHOLOGIC DISTRIBUTION OF DISEASE DURING INTERVAL DEBULKING VERSUS PRIMARY TUMOR REDUCTION IN PRIMARY PERITONEAL, OVARIAN, OR FALLOPIAN TUBE CARCINOMA

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2The University of Texas MD Anderson Cancer Center, Department of Biostatistics, Houston, USA
3The University of Texas MD Anderson Cancer Center, Department of Pathology, Houston, USA

Aims

The surgical approach for primary tumor reductive surgery (PTRS) for primary peritoneal, ovarian or fallopian tube carcinoma has been used to extrapolate the technique for interval debulking after neoadjuvant chemotherapy (NACT). Few studies have evaluated whether procedures such as hysterectomy contribute to comparable removal of macroscopic disease after NACT. Our study compared pathologic distribution of disease after NACT versus PTRS.

Method

Patients who underwent NACT or PTRS were identified from 1995-2016. Involvement of organs at surgery was categorized as either macroscopic, microscopic, or no tumor. Statistical analyses included Mann-Whitney and chi-squared or Fisher’s exact tests.

Results

Of the 1000 patients identified, 374 (37.7%) received NACT and 618 (62.3%) underwent PTRS. Uterine involvement was significantly different in the NACT group compared to PTRS; the majority of uterine specimens from the NACT group were free of disease (macroscopic 30 % vs 49%, no tumor 52% v. 39 %, p <0.001). There was no difference in the amount of residual tumor in cervical specimens in the NACT group compared to PTRS (macroscopic 7.2% v. 6.6%, no tumor 90% v. 91.4%). Macroscopic large bowel involvement was 63.6% in NACT versus 84.7% in the PTRS versus (p < 0.001). There were statistically significant differences in the pathologic characteristics of disease in the ovaries/tubes, omentum, and bowel.

Conclusion

Pathologic disease distribution after NACT is significantly different than at PTRS. NACT appears to reduce macroscopic disease in surgical specimens. Hysterectomy including removal of the cervix may not be mandatory after NACT to achieve no gross residual disease.
SIGNIFICANCE OF PD-1 AND PD-L1 EXPRESSION IN OVARIAN CANCER BIOLOGY

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Aims

Induction of checkpoint molecules such as programmed cell death protein (PD-1) and its ligand PD-L1 is an essential step in tumor immune escape which may be regulated by interferon gamma (IFNγ, encoded by IFNG). Therapeutically, antibodies against PD-1 or PD-L1 restore T-cell immunogenicity and suppress tumor progression. Here, we investigate the role of intra-tumoral PD-1 and PD-L1 mRNA expression in ovarian cancer (OC) and explore its relation to IFNγ

Method

We analyzed the mRNA expression of PD-1, PD-L1 and IFNg determined by quantitative real-time PCR in tissue of 171 patients with low grade serous (LGSOC; n=11), high grade serous (HGSOC; n=107), endometrioid (n=43) and clear cell (n=10) OC and compared it to each 14 normal ovaries and fallopian tubes.

Results

We observed an induction of the PD-1 pathway in OC tissue compared to healthy controls. Further, a significant correlation between PD-1, PD-L1 and IFNg expression was detected. PD-1 and PD-L1 mRNA expressions increased with tumor grade. However, only high PD-L1 mRNA expression was inversely associated with age. Notably, we further found that TP53 mutated tumors exhibited high PD-L1 levels and BRCA1/2 mutations were associated with both high PD-1 and PD-L1 levels. In the cohort of FIGO stage III/IV HGSOC, which represents the major subgroup, high PD-1 and high PD-L1 was associated with an adverse progression-free and overall survival, respectively.

Conclusion

Our study suggests that the PD-1 pathway is controlled by IFNγ in OC and is especially involved in immune biology of poorly differentiated, BRCA1/2 or TP53 mutated cancers.
ERCC1-EXPRESSING CIRCULATING TUMOR CELLS AS A POTENTIAL DIAGNOSTIC TOOL FOR MONITORING PLATINUM-BASED CHEMOTHERAPY AND FOR PREDICTING OUTCOME OF OVARIAN CANCER

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Aims

We recently showed that the presence of ERCC1+CTCs (defined as positive for at least one of the AdnaTest markers and ERCC1-positivity), is an independent predictive biomarker for primary platinum-resistance and poor prognosis of ovarian cancer. The aim of our study was to determine, whether the additional assessment of ERCC1-transcripts increases the overall CTC-detection rate. Moreover, we analyzed clinical relevance of ERCC1+CTCs after adjuvant chemotherapy.

Method

65 paired blood samples of primary ovarian cancer patients at primary diagnosis and after adjuvant chemotherapy were studied for CTCs with the AdnaTest OvarianCancer (QIAGEN, Germany). We analyzed the tumor-associated transcripts EpCAM, Muc-1 and CA-125. ERCC1-transcripts were investigated in a separate approach by singleplex RT-PCR.

Results

Besides Adnatest+CTCs, the additional assessment of ERCC1 allows the detection of CTCs, which are negative for Adnatest markers and exclusively positive for ERCC1-transcripts (Adnatest+/ERCC1+CTCs). This results in an increased overall CTC-detection rate from 23% to 40% before surgery and from 20% to 38% after chemotherapy. However, CTCs with combined positivity for at least one Adnatest marker and ERCC1-positivity (ERCC1+/CTCs) showed the most relevant prognostic information and correlated with platinum-resistance (p=0.01) and reduced PFS (p=0.029) and OS (p=0.0008). Moreover, the persistence of ERCC1+CTCs after adjuvant chemotherapy indicated poor prognosis (PFS: p=0.005; OS: p=0.006).

Conclusion

The combined detection of Adnatest+/ERCC1+CTCs and Adnatest+/ERCC1+CTCs increases the overall detection rate of CTCs in ovarian cancer patients. Specifically, we suggest that ERCC1+CTCs could be used as blood-based biomarker for monitoring platinum-based chemotherapy and for identifying ovarian cancer patients with poor prognosis.
OVARIAN CANCER II

ESGO7-0321

PREDICTING EARLY TREATMENT DISCONTINUATION AND EFFECTIVENESS IN BEVACIZUMAB-TREATED PATIENTS WITH PRIMARY ADVANCED OVARIAN CANCER: EXPLORATORY ANALYSES OF THE OTILIA STUDY (ON BEHALF OF NOGGO)

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Aims

Phase III trials demonstrated the efficacy and safety of front-line bevacizumab-containing therapy for ovarian cancer. Previous interim analyses of the single-arm OTILIA study (NCT01697488) evaluating front-line bevacizumab-containing therapy in German clinical practice showed a 21.7-month median progression-free survival (PFS) and similar outcomes irrespective of age. Post hoc analyses explored factors potentially predicting premature treatment discontinuation and PFS.

Method

Patients with newly diagnosed FIGO stage IIIB–IV ovarian cancer received the EU-approved bevacizumab-containing regimen. Co-primary endpoints were safety and PFS. A logistic regression model including age, diabetes mellitus, cardiovascular comorbidities, ascites, ECOG performance status and FIGO stage assessed factors associated with treatment discontinuation for reasons other than disease progression, death or documentation completion. Potential prognostic factors for PFS were explored using Cox regression analysis.

Results

By 31/01/2017, 433 of 808 patients had discontinued therapy. The most common reasons for treatment discontinuation were disease progression (12%), end of documentation (10%), treatment-related toxicity (8%) and non-toxicity-related patient request (6%). Factors suggesting increased risk of treatment discontinuation were age ≥70 versus <70 years (odds ratio 1.67 [95% CI 1.18–2.38]; p=0.004) and diabetes mellitus (odds ratio 1.79 [95% CI 1.06–3.03]; p=0.030). Cox regression analysis suggested worse PFS in patients with post-operative residual tumour ≥1cm or ascites >500mL; age and comorbidities were not associated with PFS.

Conclusion

In post hoc analyses, premature bevacizumab discontinuation seemed more likely in older or diabetic patients. However, neither age nor comorbidities was associated with worse PFS. Patient education and counselling are essential to ensure maximal duration of effective therapy.
AN OBSERVATIONAL, MULTICENTER, PROSPECTIVE STUDY OF TRABECTEDIN PLUS PEGYLATED LIPOSOMAL DOXORUBICIN (PLD) IN PATIENTS WITH PLATINUM-SENSITIVE RECURRENT OVARIAN CANCER (PSROC)

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Aims

The prospective, non-interventional phase IV OVA-YOND study evaluated trabectedin+PLD in real-life clinical practice to assess the toxicity and efficacy of the combination.

Method

Data from patients with PSROC treated with PLD 30 mg/m² followed by trabectedin 1.1 mg/m² 3-h i.v. infusion every three weeks have been collected.

Results

From 02/2013-12/2016, 77 enrolled patients from 31 sites across Germany and treated with ≥1 cycle of trabectedin+PLD were evaluated. All patients had PSROC with a median platinum-free interval of 12 months (range: 6-86 months). Median age of patients was 66 years (range: 40-78) and 80.5% had ECOG performance status 0/1. Median number of trabectedin+PLD cycles received per patient was 6 up to a maximum of 21 cycles. Median treatment duration was 4.24 months, mostly on an outpatient basis (≥66.7). Five patients (6.5%) had a complete response and 19 patients (24.7%) achieved a partial response for an ORR of 31.2% with a median duration of 6.25 months. Additionally, 16 patients (20.8%) had disease stabilization for a disease control rate of 51.9%. With 64 PFS events recorded, median PFS was 6.3 months (CI95%: 5.1-7.3), whereas median OS was 16.4 months (CI95%: 11.3-19.3). Most common grade 3/4 trabectedin-related adverse events (TRAЕ) were leukopenia (18.2% of patients), neutropenia (15.6%), thrombocytopenia (9.1%), ALT (7.8%)/AST (6.5%) increase, and nausea/vomiting (5.2% each). No grade 5 or unexpected TRAE occurred.

Conclusion

Trabectedin+PLD confer clinically meaningful benefit to patients with PSROC, being either comparable or better to those observed in selected populations from clinical trials or other real-life studies, with a manageable safety profile.
ARID1A MUTATION WITH LOSS OF PROTEIN EXPRESSION OF BAF250A MAY ACT AS AN EARLY EVENT IN THE TRANSFORMATION OF ENDOMETRIOSIS INTO OVARIAN CANCER

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Aims

Ovarian clear cell carcinoma (CCC) and endometrioid adenocarcinoma (EMC), regarded as endometriosis-associated ovarian cancer, are the second most frequent types of epithelial ovarian cancer (EOC) accounting for 35~40% of EOC in Asia. Mutation of ARID1A (the AT-rich interactive domain 1A (SWI-like) gene) resulting in inactivation of its encoding nuclear protein, BAF250a, has been frequently identified in these tumors. The timing of loss of ARID1A protein expression during the development of endometriosis-related ovarian cancer would be investigated in this study.

Method

We retrospectively collected the cases diagnosed as CCC or EMC from 2001 to 2012 and further analyzed the expression of protein BAF250a from tumor blocks containing benign endometriosis, CCC or EMC by immunohistochemical study.

Results

During 2001 and 2012, 94 CCC and 136 EMC were collected and loss of ARID1A expression was found in 47 (50.6%) cases in CCC and 26 (18.9%) cases in EMC, respectively. 22 (23.4%) of CCC and 14 (10.3%) of EMC were disclosed having concurrent endometriosis in tumor side, and 82% (17 of 22) in CCC and 100% (5 of 5) in EMC of atypical endometriosis, adjacent to those ARID1A-deficient carcinoma were also found to be ARID1A deficient, comparing to none of the endometriotic epithelium not adjacent to the tumor (distant endometriosis foci).

Conclusion

In our study, it indicated that loss of expression of ARID1A might already present in a portion of atypical endometriosis, which possibly has undergone genetic alteration, indicating a risk of malignant transformation from benign endometriosis to CCC and EMC.
THERAPEUTIC SIGNIFICANCE OF FULL LYMPHADENECTOMY IN EARLY-STAGE OVARIAN CLEAR CELL CARCINOMA

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Aims

The aim of this study was to evaluate a therapeutic significance of full lymphadenectomy in early-stage ovarian clear cell carcinoma (OCCC).

Method

We retrospectively reviewed records of 127 consecutive OCCC patients with pT1/pT2 and M0 disease between January 1995 and December 2015. Survival outcome was compared with or without para-aortic lymph node dissection (PAND). Statistical analysis for selec were analyzed with Cox proportional hazard models.

Results

Of the 127 patients, 36 (28%) patients did not undergo lymphadenectomy and 12 (10%) patients underwent pelvic lymph node dissection (PLND) alone. Seventy-nine (62%) patients underwent PLND and PAND. Of the 91 patients with lymphadenectomy, ten (11%) had lymph node metastasis. There was no significant difference in age and distribution of positive peritoneal cytology, pT status, capsule rupture, peritoneal involvement, and combined chemotherapy between the PAND- group and the PAND+ group. Cox regression multivariate analysis confirmed that older age (HR, 2.5; 95% CI, 1.2–5.3), lymph node metastasis (HR, 5.4; 95% CI, 1.7–17.2), and positive peritoneal cytology (HR, 5.1; 95% CI, 2.0–13.2) were significantly and independently related to poor overall survival (OS), but implementation of both PLND and PAND (HR, 0.4; 95% CI, 0.2–0.9) were significantly and independently related to improved OS.

Conclusion

Although few in number, there are some patients with early-stage OCCC who can benefit from full lymphadenectomy. Its therapeutic role should be continuously investigated in OCCC patients at potential risk of lymph node metastasis.
OVARIAN CANCER II

ESGO7-0487

ESTABLISHMENT AND CHARACTERIZATION OF A HUMAN OVARIAN CLEAR CELL CARCINOMA CELL LINE (FDOV1) DERIVED FROM A CHINESE PATIENT

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Aims

Ovarian clear cell carcinoma (OCCC) is a distinct histologic subtype with grave survival. The underlying molecular mechanism is not fully elucidated. Cell lines are useful experimental tools for research. We describe the establishment and characterization of a new OCCC cell line from a Chinese patient.

Method

FDOV1 was derived from an ovarian tumor from a 67-year-old woman. The morphology, growth pattern and karyotype were analyzed. Xenografts were established and characterized by histology and immunohistochemistry. Subsequently, whole-exome sequencing (WES) on both FDOV1 and patient’s formalin-fixed paraffin-embedded tissue block was performed to investigate the molecular profile.

Results

FDOV1 has been subcultured for more than 50 generations. Monolayer cultured cells are polygonal in shape, showing a transparent cytoplasm full of vacuoles (Fig 1.A). The number of chromosomes ranges from 45 to 90 (Fig 1.B). FDOV1 cells produce CA-125, but not CA-199. The cells could be transplanted (Fig 1.C) and produced tumors mimicking the donor tumor morphologically and immunohistochemically (Fig 1.D). WES showed both FDOV1 and tissue block harbored PIK3CA H1047R mutation and ARID1A

Conclusion

Only 13 patient-derived OCCC cell lines have been reported in the literature. FDOV1 is the very first one from a Mainland Chinese patient and has co-existing PIK3CA and ARID1A mutations, which would probably be a good model for exploring the molecular mechanism of OCCC.
OVARIAN CANCER II

ESGO7-0515

ALTERATION OF THE TUMOR MICROENVIRONMENT BY NOTCH SIGNALING ENHANCES THE MUTUAL ASSOCIATION WITH EPITHELIAL OVARIAN CANCER AND MESOTHELIAL CALLS

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Aims

Peritoneal mesothelial cells (PMCs) are the primary components of the tumor microenvironment for epithelial ovarian cancer (EOC) cells. The Notch signaling-mediated alteration of the tumor microenvironment can play a crucial role in tumor progression; however, the exact role of Notch signaling between EOC and PMCs remains uncertain. The aim of this study was to assess changes of PMCs in the association with EOC, focusing on Notch pathways.

Method

We examined the effects of TGF-β1 treated PMCs on EOC progression via Notch signaling inhibition and analyzing how PMCs promote EOC cells attachment and proliferation, and induced chemoresistance.

Results

Level of TGF-β1 is higher in malignant ovarian tumor compared with benign ones. With TGF-β1 stimulation, expression of Notch 3 and Jagged 2 were increased in PMCs in immune-blotting analysis. We also confirmed elevation of HES1, a target gene of Notch signaling in TGF-β1 stimulated PMCs. We investigated the effects of TGF-β1 treated PMCs on EOC, using FACS systems, and revealed that EOC cells co-cultured with TGF-β1 stimulated PMCs showed higher chemo-resistance than with control PMCs. In the EOC cells with TGF-β1 stimulated PMCs, Jagged 1, Notch3, and HES1 were elevated compared with control.

Conclusion

PMCs stimulated with TGF-β1 induced heterogeneity of EOC cells via Notch signals. Our results suggested that alteration of the tumor microenvironment by Notch signaling were effectively enhanced in the mutual association with chemoresistant EOC and PMCs.
OVARIAN CANCER II

ESGO7-1366

INTERACTION OF GANETESPIB WITH CYTOTOXIC DRUGS IN OVARIAN CANCER CELL LINE MODELS


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Aims

High-grade serous ovarian cancer (HGSOC) has a high mortality rate because patients are generally detected in an advanced stage and show resistant relapses. Primary cell lines of relapsed patients were established and tested for a possible synergy of the HSP90 inhibitor ganetespib with paclitaxel and platinum drugs. HSP90 stabilizes mutated oncogenes and inhibits their proteasomic degradation.

Method

Primary ovarian cell lines were established from ascitic fluid or pleural effusions (GANNET53: Ganetespib in Metastatic, p53-mutant, Platinum-resistant Ovarian Cancer) and chemosensitivity tested in MTT assays. Soluble carbonic anhydrase IX (sCAIX) was measured by ELISA.

Results

Primary ovarian cells grow adherent or as spheroids with prolonged doubling times and showed low sensitivity to ganetespib alone. Combination of ganetespib with paclitaxel proved to be antagonistic employing primary and established ovarian cancer cell lines whereas the combination of this HSP90 inhibitor with platinum drugs (cisplatin, carboplatin, oxoplatin) yielded synergistic effects. Furthermore, the primary cell lines of resistant patients revealed sensitivity to platinum drugs in vitro. Ascitic fluid is partially hypoxic and showed high levels of sCAIX which is associated with tumor aggressiveness and a poor prognosis. Expression of sCAIX was found to be sensitive to inhibition with ganetespib.

Conclusion

Cell lines established from recurrences of resistant ovarian cancer patients were resistant to paclitaxel but sensitive to platinum drugs. The cytotoxicity of platinum drugs could be enhanced in combination with ganetespib. Drug resistance seems to be associated with low proliferation, formation of spheroids and hypoxic conditions with expression of sCAIX and increased tumor aggressiveness.
Aims

This study aimed to evaluate the expression of programmed death ligand-1 and its correlation with clinicopathologic features in ovarian clear cell carcinoma (OCCC).

Method

The PD-L1 expression was measured by tissue-microarray-based immuno-histochemistry from 123 patients diagnosed with OCCC. The associations of clinicopathologic features with PFS and OS were analyzed by Kaplan-Meier method and multivariate analysis was further performed by Cox regression model.

Results

Overall, high PD-L1 expression was observed in 44.7% (55/123) of OCCC patients, and was strongly associated with advanced stages (p = 0.026), positive ascitic fluid (p = 0.016), platinum-resistant disease (p = 0.045) and recurrence (p = 0.038). Moreover, patients with high PD-L1 expression were associated with poorer OS (Hazard ratio [HR], 2.877; p = 0.001) and PFS (HR, 1.843; p = 0.021) than those with low PD-L1 expression. In subgroup analysis, PD-L1 high patients experienced a poorer PFS (HR,1.926; p = 0.044) and OS (HR,2.492; p = 0.021) than PD-L1 low cases among advanced stages (III-IV), but this difference was not observed in stage I-II patients. Meanwhile, PD-L1high was associated with poorer prognosis than PD-L1low in platinum-resistant patients (OS, HR: 2.253, p = 0.037; PFS, HR: 1.448, p = 0.233). Multivariate analysis revealed that PD-L1 high and advanced stages (III-IV) were adverse independent prognosticators for both PFS (HR_{PD-L1}, 2.0, p_{PD-L1} = 0.038; HR_{stage}, 10.2, p_{stage} < 0.001) and OS (HR_{PD-L1}, 3.0, p_{PD-L1} = 0.011; HR_{stage}, 14.3, p_{stage} < 0.001).

Conclusion

High PD-L1 expression might be a risk factor for PFS and OS in patients with OCCC. Immunotherapy targeting PD-L1 pathway could be used in OCCC.
VEGFR RECEPTORS, AS MOLECULAR MARKERS OF ANGIOGENESIS AND LYMPHANGIOGENESIS IN OVARIAN CANCER.
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Aims

Vascular endothelial growth factor VEGF is one of the cytokines responsible for multi-step process angiogenesis in tumors. Aim: To evaluate the expression of VEGF receptor immunohistochemistry in ovarian cancer in relation to the histological tumor grade, disease stage FIGO, the level of CA125 in the blood serum of patients, the female sex hormone concentration and histopathological.

Method

The study was performed on a group of 61 patients with ovarian carcinoma. Immunohistochemistry expression of VEGF receptors correlated with the histological tumor grade, disease stage FIGO, the level of CA125 in the blood serum of patients, the female sex hormone concentration and histopathological.

Results

63.93% of patients detected the expression of VEGFR3, especially in tumors with an average degree of histological differentiation. VEGF1 expression was more common in endometrial cancer, ovarian cancer, compared to serum. Statistical significance was proved expression of VEGF2 in patients with ovarian and CA125 values within normal limits.

Conclusion

The receptors VEGFR can be found in the future, used in the diagnosis and treatment of patients with ovarian cancer, can be considered as molecular markers of lymphocytes and angiogenesis. Their increased expression does not affect the clinical stage of the disease FIGO, and increased expression correlates with more frequent VEGF3 lymphatic metastases.
APPLICATION OF LEARNING SKILL “TEACHING ON THE RUN” TO POST-GRADUATE FIRST-YEAR RESIDENTS FOR IMPROVEMENT IN THE QUALITY OF PAPANICOLAOU SMEAR

Aims

Papanicolaou smear (Pap smear) with cervical cytology could reduce incidence and mortality rate of cervical cancer. However, poor quality of Pap smear decreases screening efficacy. The aim of our study was to evaluate whether “Teaching On The Run (TOTR)” training program could help junior residents to improve skill and quality of Pap smear.

Method

Since May through December 2015, a total of 40 post-graduate first-year (PGY1) residents were randomly divided into two groups. The with-TOTR group (n=22) received the protocol-driven TOTR training program composed of plan learning, learn, appraise/assess, feedback and outcome evaluation. The without-TOTR group (n=18) received traditional big-class teaching instead. The rate of unidentifiable Pap smear and causes of unsatisfactory Pap smear were analyzed between the two groups.

Results

The results showed that TOTR training program significantly reduced the rate of unsatisfactory Pap smear quality from 34.1% to 24.1% (p<0.0001). In addition, the rate of unidentifiable Pap smear was significantly lower in the with-TOTR than without-TOTR group (2.16% vs. 5.81%, p=0.018), and was similar to that performed by gynecologists (2.16% vs. 2.34%, p=0.425). Furthermore, we identified the most two significantly improved items through TOTR training were less scarce cells (12.8% to 8.2%) and overlapping cells or contained blood (5.8% to 3.6%) (both p-values <0.005).

Conclusion

TOTR training program effectively helps PGY1 residents to improve their skills on accuracy and quality of Pap smear within a short-term training period.
INCREASED RISK OF CANCERS AMONG BRCA1 CARRIERS WITH LOW BLOOD SELENIUM LEVELS

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Aims

Prospective evaluation of relationship between selenium and cancer among women with BRCA1 constitutional mutations.

Method

We performed a nested case-control study of baseline blood selenium levels and cancer risk using data and biological samples from 4276 BRCA1 carriers that were participants in a biobanking initiative between 2010 and 2017. Cases included women with any incident breast/ovarian cancer (n=48) and controls (n=92) were women with no cancer at baseline or follow up. Blood from cases was collected at least 6 months before cancer diagnosis. Cases and controls were matched for year of birth, adnexectomy status and smoking. Blood selenium was quantified using mass spectroscopy.

Results

Women with blood selenium level <110 µg/l had a higher than 3-fold increased risk of cancer (logistic regression OR 3.12; CI 1.17-9.89; p = 0.033).

Conclusion

The optimum level of blood selenium in BRCA1 carriers living in Poland can not be lower than 110 µg/l.

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WOMEN'S ATTITUDES TO AUSTRALIAN CERVICAL SCREENING PROGRAM CHANGES AS EXPRESSED IN AN ONLINE PETITION

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Aims

The Australian Cervical Cancer Screening Program, which has halved the incidence and mortality of cervical cancers in Australia since 1991, will change in 2017 from currently two-yearly Pap smears from age 18 to 69 to five-yearly HPV DNA testing from ages 25 to 74. An opposing petition on the website “Change.org” received 70,000 signatures and 20,000 comments. This study aimed to identify reasons for opposition to the revised cervical cancer screening program, expressed in the open-ended comments.

Method

Of 19,633 comments posted between 16th February and 19th March 2017, a random 2000 comments were analysed by two researchers.

Results

33% of statements highlighted that commenters placed high value on women’s health. 17% were concerned about the five-yearly screening interval. Women with a personal experience of cervical cancer or pre-cancerous lesions expressed opposition to the changes (15%). Support for disease prevention/early detection (14%), belief that the changes were a cost-cutting measure (14%), and a belief that men should not make decisions about women’s health (8%) were other central themes. Concern about increased age of first invitation was voiced in 9% of comments, and concern about HPV testing itself was expressed in only 3% of comments.

Conclusion

Many women expressed concerns that the screening program changes may adversely impact women’s health, indicating a need for health education in this area. The primary concern of commenters specific to the program was potentially missing cases of cervical cancer due to later age of first invitation and increased screening interval, with a perception this was a cost-cutting measure.
RISK FACTORS ASSOCIATED WITH ENDOMETRIAL CANCER: AN UMBRELLA REVIEW


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Aims

Endometrial cancer is the most common gynaecological cancer among European women. Many modifiable risk factors have been associated with endometrial cancer, although the associations may be affected by inherent bias. We evaluated the strength and validity of the available evidence on modifiable risk factors for endometrial cancer (EC).

Method

We conducted an umbrella review of meta-analyses investigating modifiable risk factors for endometrial cancer. The primary analysis focused on cohort studies, with evidence graded as strong, highly suggestive, suggestive or weak based on random effects summary estimate, largest study per meta-analysis, number of cases, between-study heterogeneity, 95% prediction intervals, small study effects, excess significance bias and sensitivity analysis with credibility ceilings.

Results

We identified 144 meta-analyses investigating associations between 9 categories of risk factors for endometrial cancer (93 cohort studies). Only three (7%) risk factors demonstrated strong evidence without hints of bias for association with EC: rise in body mass index in premenopausal women and increase in waist-to-hip ratio (increased risk), and multiparous women (reduced risk of EC).

Conclusion

Of the many identified risk factors for endometrial cancer, only three were found to have strong association without hint of bias. Other claimed associations may also be valid, but further evidence is required. Our findings re-emphasise the importance of targeting the increasing number of obese and overweight women at high risk of endometrial cancer with weight-loss strategies. Future research efforts should explore the effect of obesity on metabolic dysregulation and metabolic pathways which, when altered, may promote endometrial cancer.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER II

ESGO7-0397

QUALITY OF LIFE AFTER ENDOMETRIAL CANCER SURGERY WITH AND WITHOUT LYMPHADENECTOMY: A SINGLE INSTITUTION RETROSPECTIVE COHORT STUDY

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Aims

To compare the quality of life of endometrial cancer patients treated with surgery with and without lymphadenectomy.

Method

Quality of life of the endometrial cancer (FIGO stages I and II) patients treated with surgery between 2012 and 2016 was analyzed. The patients were divided into two groups: Group A consisted of 102 patients who had hysterectomy and bilateral salpingo-oophorectomy without lymphadenectomy (HBSO); Group B consisted of 53 patients who had hysterectomy and bilateral salpingo-oophorectomy with lymphadenectomy (HBSO+LYA). The EORTC Quality of Life Questionnaire Endometrial Cancer Module (QLQ-EN24) and Quality of Life Questionnaire Cancer Module (QLQ-C30) were administered to the selected patients. The data were analyzed using the manual of the EORTC Group.

Results

According to QLQ-C30 fatigue showed statistically significant difference between Group A and Group B (3.033 ± 8.05 vs. 16.99 ± 22.35, p=0.045). As to the symptom scales according to QLQ-EN24 lymphedema showed a statistically significant difference between two groups with a score of 11.74 ± 16.63 in Group A and 21.94 ± 23.63 in Group B (p=0.0279).

Conclusion

Our study showed that fatigue and lymphedema decrease the quality of life in the patients with endometrial cancer treated with lymphadenectomy. Systematic pelvic and paraaortic lymphadenectomy should be accomplished only in the high risk endometrial cancer group to select the adjuvant treatment after surgery.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER II

ESG07-0346

INFLUENCE OF SURGICAL AND HISTOPATHOLOGICALS FACTORS ON THE HEALING AND THE THERAPEUTIC RESPONSE TO THE TOPICAL TREATMENT WITH OLIVOLEINA IN A COHORTS STUDY

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Aims

Study of the influence of surgical and histopathological risks factors on the abnormal healing in patients operated of gynecological cancers and the response to the topical treatment with olivoleina.

Method

Prospective cohorts study in 100 patients, randomised and comparative, between January 2014 and July 2016. Groups of patients were defined whether the studied risk factor was present or not. In a randomly way, olivoleina was prescribed in 66 patients. The monitoring was carried in 3, 6 and 12 months. The scars were assessed according to the Vancouver, Manchester and Posas Scales.

Results

64 patients received lymphadenectomy. The average of surgical time was 188.06 minutes, of blood loss was 761.90 cc and of monitoring was 10.13 months. When the lymphadectomy was made, the patients used to have difficulty to the healing in a significant way from the beginning until 6 months later (p<0.01). The subgroup of patients with treatment showed an improvement from the 6th month (p<0.05) and from the 12 months (p<0.01). The high average blood loss during the surgical intervention and the surgical time hindered in the initial healing and 3 months later (p<0.01). The treatment proved a significant improvement in the final result (p<0.01). Dermatologic effects and the tolerance perceived were good-very good in 95.2% and 96.9% of the cases respectively.

Conclusion

The quality of the healing after the topical treatment with olivoleina was significantly better in the patients who received lymphadenectomy. It can be recommended to patients after they have undergone gynecological cancer surgery.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER II

ESGO7-0861

QUALITY OF LIFE ASSESSMENT IN OVARIAN CANCER PATIENTS RECEIVING CHEMOTHERAPY: A PILOT STUDY

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Aims

Assessment of Quality of Life (QoL) of patients with ovarian cancer admitted in our institution undergoing chemotherapy. Identification of areas and variables associated with worse results in view of possible future intervention.

Method

A prospective longitudinal observational study was performed for 12 months. After obtaining an informed consent, patients completed EORTC QLQ-C30 and ovarian cancer-specific QLQ-OV28 questionnaires at diagnosis, after 3 and 6 cycles of treatment. Association between QoL scores and clinical variables was assessed using Mann-Whitney or Kruskal-Wallis tests, as applicable.

Results

Twenty-one patients were recruited, 62% (n=13) had ECOG PS 0. Median age was 55 years old (range 27-73). During the study only one patient died and 102 questionnaires were completed. The mean global QoL score was 49.6 ± 20.15 at diagnosis, 51.11 ± 23.75 after 3 cycles and 62.5 ± 26.7 after 6 cycles of therapy. At baseline, scales with worst results were emotional functioning (within functional scales), constipation, fatigue, appetite loss (within symptom scales) and attitude to disease/treatment. Except for the last one, all of them have had an improvement at third evaluation. There was an impairment of mean score in cognitive functioning, body image, sexuality, hair loss and neuropathy. Age above 50 years old and post-menopausal status at diagnosis were associated with worst QoL (p< 0.05).

Conclusion

This prospective study reinforce the importance of quality of life assessment in ovarian cancer patients ongoing chemotherapy, as a potential tool for therapeutic and management decisions, in order to benefit of our patients care.
SEXUAL FUNCTIONING AND QUALITY OF LIFE AFTER VULVAR RECONSTRUCTION WITH THE LOTUS PETAL FLAP

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Aims

Resection of (pre) malignant lesions in the vulvoperineal area may result in large defects that cannot be closed primarily. In these cases reconstruction is needed. In the vulvoperineal area the lotus petal flap technique is widely used. The aim of this study was to evaluate both sexual functioning and quality of life of patients who underwent reconstructive surgery with a lotus petal flap in the vulvoperineal area, since no data are available on this topic.

Method

A cross-sectional study was performed on all patients undergoing a reconstruction with a lotus petal flap from 2005-2016 in the University Medical Center Groningen. The Female Sexual Function Index (FSFI), European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-C30 (EORTC QLQ-C30) and Body Image Scale (BIS) were used.

Results

Twenty-six (68%) patients responded to the questionnaires. The mean age was 65.5 years (SD 16.3) and median follow-up time was 38.5 months (range 15.8-141.4). Quality of life scores were slightly decreased compared to healthy females aged 60-69 years. The total median FSFI score was 13.4 out of 36.0 (SD 8.2) and 53% reported to be sexually active. The mean score on the BIS was 9.6 out of 30.0 (SD 7.3).

Conclusion

Quality of life after vulvoperineal reconstructive surgery with a lotus petal flap is slightly decreased compared to healthy females and vulvar cancer patients. Sexual functioning and body image are decreased after reconstruction of a vulvoperineal defect with a lotus petal flap. Our results should be used for pre-operative counseling and follow-up of these patients.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER II

ESGO7-0077

PATIENTS’ AND GENERAL PRACTITIONERS’ VIEWS OF FOLLOW-UP AFTER TREATMENT OF GYNECOLOGICAL CANCER

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Aims

Greater involvement by general practitioners (GPs) in cancer follow-up has been suggested. We aimed to explore gynecological cancer survivors’ attitudes toward follow-up by GPs and whether time in the surveillance program influences their opinions. We also aimed to assess GPs views of increased responsibility for gynecological cancer survivors.

Method

A questionnaire on expectations and attitudes to follow-up after gynecological cancer treatment was distributed to women after end of treatment (new) and >1 year in the surveillance program (experienced). Further, a questionnaire was mailed to GPs regarding their attitudes toward follow-up of gynecological cancer.

Results

239 patients (100 new, 139 experienced) and 317 GPs responded. 36% of new patients were willing to be followed-up by their GP compared to 17% of experienced patients, p=0.02. 42% of the GPs were willing to assume exclusive responsibility within three years after treatment. A patient-specific letter from the specialist and expedited routes of re-referral were important conditions to help them provide follow-up care. Both survivors and GPs thought that detection of recurrence was the most important reason for follow-up. 90% of GPs believed that they were better suited than hospital specialists at providing psychosocial support, but the survivors preferred to talk to the gynecologist about psychological and physical late effects after cancer treatment.

Conclusion

Our results suggest that patients change their attitude of who should be responsible for follow-up after they have started in the surveillance program. Before alternative follow-up regimens are implemented, patients’ and GPs’ attitudes to follow-up should be taken into account.
Aims

MicroRNAs (miRNAs, miR-) regulate gene expression and modulate several cell pathways associated with tumor malignancy. Of the various miRNAs associated with cancers, miR-944 has been associated with cervical cancer tumorigenesis from the previous studies. The aim of this study was to investigate the clinical prognostic value of miR-944 expression in FFPE sample of cervical cancer.

Method

A total of 68 FFPE cervical cancer tissues were obtained and to check the validity of this biomarker, normal FFPE samples from 50 patients who underwent a hysterectomy for non cervical, benign gynecological diseases were included together. Using quantitative reverse transcriptase PCR (RT-qPCR) to measure miR-944 expression levels in both FFPE samples and simultaneously had electrical medical record assessment of enrolled cervical cancer patients to review their clinical prognostic factors.

Results

Expression levels of miR-944 in cervical cancer tissues were significantly higher than those in normal tissues ($P < 0.0001$). Increased expression of miR-944 was also markedly associated with tumor size ($P = 0.049$), FIGO stage ($P = 0.027$), and lymph node metastasis ($P = 0.007$). Furthermore, Kaplan Meier analysis suggested that cervical cancer patients with high miR-944 expression had shorter overall survival time than those with low miR-944 expression ($P = 0.004$). Multivariate Cox proportional hazards model analysis of miR-944 showed that high expression of miR-944 was independent prognostic factors for overall survival.

Conclusion

In conclusion, up-regulation of miR-944 is a meaningful biomarker that has association with poor clinical prognosis in cervical cancer patients.
SINGLE-STRAND-ANNEALING RATHER THAN NON-HOMOLOGOUS-END-JOINING PREDICT HEREDITARY OVARIAN CARCINOMA

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Aims

Deficiency in DNA double-strand break repair especially in homologous recombination (HR) is associated with an increased risk for developing ovarian cancer. It is suggested that up to 25 % of ovarian cancer patients have inherited mutations and up to 7 % somatic mutations resulting in HR defects. HR deficiency opens new options for targeted therapies; the PARP inhibitor Olaparib is approved for BRCA-mutated ovarian cancers. Great efforts have been made to carve out prognostic markers and patient characteristics detecting cancer susceptibility and therapeutic responsiveness. In this work, we performed functional analyses in peripheral blood lymphocytes (PBLs) using a case-control design.

Method

We examined 38 women with defined familial history of breast and/or ovarian cancer, 40 women with primary ovarian cancer, and 35 healthy women without previous cancer or family history. Using a GFP-based test we analyzed error-prone DSB repair mechanisms which are known to compensate HR defects and to generate chromosomal instabilities.

Results

While non-homologous end-joining (NHEJ) did not discriminate between cases and controls, we found increases of single-strand annealing (SSA) in women with familial risk vs. controls (P=0.016) and patients with ovarian cancer vs. controls (P=0.002). Consistent with compromised HR we also detected increased sensitivities to carboplatin in PBLs from high risk individuals (P=0.019) as well as in patients with early-onset ovarian cancer (P=0.046) in comparison to cells from healthy controls.

Conclusion

These findings underscore the great potential of detecting distinct DSB repair activities in PBLs as method to estimate ovarian cancer susceptibility and associated treatment responses beyond the limitations of genotyping.
ASCITES DERIVED TUMOR ASSOCIATED MACROPHAGE ALTERS CHEMOSENSITIVITY IN OVARIAN CANCER CELLS
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Aims

Macrophages are the dominant myeloid cells found in tumor microenvironment. Tumor associated macrophage (TAM) has been proved to promote tumor growth, metastasis and chemoresistance. In this study we generated macrophage cell line from the ascites of ovarian cancer model of ID8 injected mouse, determined it’s phenotype and investigated carboplatin chemosensitivity on ovarian cancer cell line in the presence of Macrophage cell line by transwell assay.

Method

To generate macrophage cell line we performed cell harvest, sorting, and immortalizing macrophage, and to determine phenotype of macrophage we perform flow cytometry, Quantitative real time polymerase chain reaction, immunofluorescence and LDL uptake assay. And to investigate carboplatin response of ovarian cancer cell cocultured with macrophages, we used transwell assay and cell viability assay.

Results

TAMs from ascites of mouse ovarian cancer model had mixed phenotype with M1 and M2. In vitro transwell assay, ovarian cancer cells which were cocultured with TAMs had more chemoresistant than control group upon carboplatin treatment.

Conclusion

Our data suggest that soluble factors from ascites derived TAMs may alter carboplatin chemosensitivity in ovarian cancer cells. Blockade of these function of TAMs might increase the clinical effect of platinum-based chemotherapy.
TRANSLATIONAL RESEARCH II

ESG07-0396

UTERINE LAVAGE-DERIVED MICROVESICLE PROTEOMICS AS A NOVEL APPROACH FOR OVARIAN CANCER DETECTION


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Aims

Screening tests for high-grade ovarian carcinoma (HGOC), including serum CA125 and vaginal ultrasonography, fail to reduce disease-specific mortality, hence the universal recommendation for high-risk populations (e.g., BRCA1/2 mutation carriers) remains risk-reducing bilateral salpingo-oophorectomy (RRBSO) around the age of 40. As most HGOC arise from the fallopian tube epithelium (FTE), a 'liquid biopsy' may be obtained through washing of the uterine and tubal cavity, a procedure termed uterine lavage (UtL). We developed a diagnostic proteomic signature for detection of HGOC, based on microvesicles from UtL samples.

Method

Overall, 121 samples from 39 HGOC patients and 82 controls were analyzed by mass-spectrometry. Samples were divided into a discovery set (n=54) used to define the diagnostic signature, and an independent, blinded validation set (n=67).

Results

UtL microvesicle proteomics identified on average 2500 proteins per sample and more than 7000 proteins in the entire cohort. Using support vector machine algorithms, we extracted a 21-protein classifier with a high level of specificity and sensitivity, as represented in the Receiver Operating Characteristics (ROC) curve with an AUC of 0.90. Validation on an independent cohort showed an AUC of 0.74. Moreover, the signature was able to correctly diagnose all 4 early-stage lesions. RT-PCR and immunohistochemistry were able to confirm differential expression of signature proteins.

Conclusion

This proof-of-principle work demonstrates the technical feasibility of UtL, and the ability to obtain a predictive signature for HGOC, based on UtL microvesicle proteomics. Further work is required to implement this approach for early detection in high risk populations.
PTEN STATUS AND CIRCULATING AND ENDOMETRIAL MARKERS OF INSULIN SIGNALLING IN MORBIDLY OBESE WOMEN UNDERGOING BARIATRIC SURGERY

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**Aims**

Obesity is strongly associated with endometrial cancer (EC). There is extensive interaction between the sex hormone and insulin/IGF axes which both converge on the PI3K/AKT pathway. We assessed the effects of obesity and weight loss on endometrial proliferation, PTEN status and circulating and endometrial biomarkers of insulin signalling.

**Method**

Morbidly obese women undergoing bariatric surgery were recruited to a prospective cohort study and underwent blood and endometrial sampling at baseline, two and 12 months post surgery. Endometrial proliferation (Ki-67, pAKT), insulin receptor (IR), Insulin-like Growth Factor-Binding Protein 1 (IGFBP1) and PTEN status were assessed using immunohistochemistry.

**Results**

Seventy two women with median BMI 52.2kg/m² (IQR 47, 57) underwent bariatric surgery. Significant reduction in endometrial proliferation (Ki-67) and downregulation of the PI3K/AKT pathway (pAKT) were observed at 2 and 12 months post surgery. At baseline, endometrial glands were PTEN wild type in 31/35 with sufficient tissue for interpretation. Four were PTEN null at baseline; three of these had incidental atypical hyperplasia (AH) or EC. Glandular PTEN staining reappeared with weight loss in 3 of 4 cases. Endometrial IGFBP1 expression was significantly increased 2 months post-bariatric surgery. Serum IGF1 was significantly increased and endometrial IR expression significantly decreased 12 months post-bariatric surgery.

**Conclusion**

PTEN loss may be a reversible feature of early endometrial carcinogenesis. Increased expression of IGFBP1 2 months post weight loss can be explained by falling circulating insulin levels. As circulating IGF1 increased after bariatric surgery the decrease in proliferation may be due to elevated IGF binding proteins.
CIRCULATING TUMOR CELLS: POTENTIAL MARKERS OF MINIMAL RESIDUAL DISEASE IN OVARIAN CANCER? - A STUDY OF THE OVCAD CONSORTIUM

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Aims

In 75% of ovarian cancer patients the tumor mass is completely eradicated by established surgical and cytotoxic treatment; however, the majority of the tumors recur within 24 months. Here we investigated the role of circulating tumor cells (CTCs) indicating occult tumor load, which remains inaccessible by established diagnostics.

Method

Blood was taken at diagnosis (baseline samples, n=102) and six months after completion of adjuvant first-line chemotherapy (follow-up samples; n=78). CTCs were enriched by density gradient centrifugation. A multi-marker immunostaining was established and further complemented by FISH on CTCs and tumor/metastasis tissues using probes for stem-cell like fusion genes MECOM and HHLA1.

Results

CTCs were observed in 26.5% baseline and 7.7% follow-up blood samples. Baseline CTCs indicated a higher risk of death in R0 patients with complete gross resection (univariate: HR 2.158, 95% CI 1.111-4.191, p=0.023; multivariate: HR 2.720, 95% CI 1.340-5.522, p=0.006). Despite the drop down of CTC counts during treatment (from mean 12 to 1 CTCs per ml blood), non-responders were more likely to retain CTCs (p<0.05). Chromosomal gains at MECOM and HHLA1 loci suggest that the observed cells were cancer cells and reflect pathophysiological decisive chromosomal aberrations of the primary and metastatic tumors.

Conclusion

Our data suggest that CTCs detected by the multi-marker protein panel and/or MECOM/HHLA1 FISH represent minimal residual disease in optimally debulked ovarian cancer patients. The role of CTCs cells especially for clinical therapy stratification of the patients has to be validated in consecutive larger studies applying standardized treatment schemes.
TRANSLATIONAL RESEARCH II

ESG07-1364

GENOMIC SCAR ANALYSIS IN PAIRED PRIMARY AND RECURRENT HIGH-GRADe SEROUS OVARIAN CANCER

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Aims

Defective DNA repair by homologous recombination (HR) is a feature of approximately 50% of high-grade serous ovarian cancers (HGSOC). Quantifying various forms of genomic damage has emerged as a biomarker for underlying DNA repair deficiencies. However, little is known on the temporal stability of these measures and whether genomic scar dynamics have predictive clinical value.

Method

Matched primary and (first) recurrent HGSOC tumor samples from 42 patients were analyzed with SNP-array profiling and (for a subset of 29) paired whole-exome sequencing. Tumor ploidy was estimated and large-scale transitions (chromosomal breaks between adjacent regions of at least 10 Mb) were quantified using validated ploidy-specific cut-offs to identify HR-deficient (HRD) cases. Mutational load was calculated as the number of single-nucleotide (exonic) variants.

Results

HRD was detected in 24/42 (57.1%) primary and recurrence samples. 22 patients remained HR-deficient at progression, whereas 2 patients switched from HR-deficient to HR-proficient and vice versa. Overall, HRD status at primary diagnosis was a significant predictor for HRD status at first recurrence \(p<0.001\). Deleterious somatic BRCA1/2 mutations were detected in 7/29 patients (24.1%), all in patients with a primary HR-deficient tumor. One BRCA1-mutated patient switched to HR-proficiency at relapse, but no frameshift reversion event could be documented. Median somatic mutational load was 354 at primary diagnosis and 335 at first recurrence \(p=0.732\) and did not differ according to HRD status at both timepoints \(p=0.546\) and \(p=0.989\).

Conclusion

Genomic scars demonstrate a stable pattern through tumor progression, which may limit their predictive value at relapse.
VAGINAL AND VULVAR CANCER II

ESGO7-0142

NEOADJUVANT ELECTROCHEMOTHERAPY IN SQUAMOUS VULVAR CANCER: PRELIMINARY RESULTS OF A PHASE II TRIAL

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Aims

In previous studies electrochemotherapy (ECT) showed a local control of 80% in patients affected by relapse of squamous cell vulvar cancer (V-SCC). These results encouraged the use of ECT as neoadjuvant treatment in V-SCC. Aim of the study is to evaluate the effectiveness of ECT in reducing lesions in primary V-SCC and the possibility to decrease surgical aggressiveness and complication rate.

Method

The sample size was calculated based on the two-stage optimal design by Simon. The first step was planned to include 9 patients. In case of detection of at least one clinical PR, the study would enroll 8 additional patients. We enrolled patients with histological diagnosis of primary V-SCC and eligible for surgery. Accurate mapping of all lesions and ECT were performed. One month after ECT clinical response was evaluated according to RECIST criteria and the type of surgery was confirmed or modified. Surgery and pathological evaluation of surgical specimens were performed. Adjuvant therapies were prescribed based on pathological evaluation.

Results

We report the results of the first step of the trial. The average age of population was 67±10 years (mean±SD). Clinical response after therapy was observed in 7 patients (77.8%) with 1 CR and 6 PR. No peri-operative complications were recorded. Tumor downsizing led to more conservative surgery in 6 patients. With a median follow-up of 14±11 months (mean±SD) all patients are alive without disease.

Conclusion

Our preliminary analysis suggests that ECT is a suitable neoadjuvant treatment in patients with primary V-SCC. ECT may reduce tumor size and surgical aggressiveness.
SENTEINEL LYMPH NODE MAPPING IN EARLY STAGE VULVAR CANCER

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Aims

To evaluate the oncogynaecological outcome in women with vulvar cancer up to 4 cm in the greatest diameter undergoing extirpation of groin sentinel lymph node instead of inguinofemoral lymphadenectomy.

Method

Our prospective study included 80 women with vulvar cancer stage 1B. We excluded patients with suspicion of invasion of groin lymphatic nodes, patients with multifocal tumour and patients that had been treated for other malignancy. Sentinel lymph nodes were detected according to one-day protocol. 20 MBq of radiocoloid Tc99 and 2ml of patent blau were injected intra-dermally peritumourously at different time at the day of surgery. Lymphoscintigraphy was performed. Sentinel lymph node was extirpated and sent for perioperative histopathological examination. The groin lymphatic dissection was performed in patients with positive sentinel lymph nodes.

Results

Out of 80 patients we had to excluded 3 due to the suspicion of groin lymph nodes involvement. There were identified 149 lymph nodes in 115 groins, i.e. 1.3 sentinel lymph node per one groin. 12 women had positive lymph nodes (15.6%), all of them had positive only sentinel lymph nodes with negative other lymph nodes. 6 patients had local or groin recurrence with primary negative lymph nodes, 2 patients with primary positive lymph nodes had groin recurrence.

Conclusion

Sentinel lymph node detection in vulvar tumour smaller than 4 cm decreases morbidity without any negative impact on oncogynaecological outcome.

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SONOGRAPHIC FEATURES OF INGUINAL LYMPH NODES IN VULVAR CANCER

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Aims

To evaluate the sonographic characteristics of inguinal lymph nodes in patients with vulvar cancer.

Method

All consecutive patients with vulvar cancer planned for surgical staging of lymph nodes (LNs) at a Gynecologic oncology center were enrolled in the study. LNs were sonographically assessed using a predefined evaluation form that included topography, size, morphology and vessel architecture. The LNs were classified as not infiltrated, suspicious of metastatic involvement, and certainly metastatic. The definitive histopathology was used as a standard reference.

Results

Between 2009 and 2016, of the 75 patients included in the study, data from 131 groins were analyzed. The sensitivity and specificity of ultrasound for the detection of metastatic lymph nodes reached 86.0% and 93.2%. Ultrasound findings revealed typical findings of non-infiltrated lymph nodes as an oval shape (p<0.001), presence of hilum sign (p<0.001), and homogeneity (p<0.001). Infiltrated lymph nodes were described as having cortex asymmetry (p<0.001) or rounded shape (p<0.001), absence of hilum sign (p<0.001), heterogeneous structure (p<0.001), the presence of necrosis (p<0.001), and infiltration of the capsule (p<0.001). Regarding size, the results showed that the larger nodes (p<0.001) were related to infiltrated lymph nodes with the largest/shortest (L/S) ratio≤2.0 (p=0.044). In contrast to infiltrated LNs, non-infiltrated LNs were avascular or showed only hilar perfusion (p>0.001).

Conclusion

The typical features of an infiltrated inguinal lymph node are cortex asymmetry in early stage of metastasizing (intranodal metastases) or a rounded shape in late stage with complete node infiltration, loss of hilum sign, a heterogeneous structure with necrosis, and infiltration of the capsule.
VAGINAL AND VULVAR CANCER II

ESGO7-0216

VOLUME-CONTROLLED VERSUS SHORT DRAINAGE AFTER INGUINOFEMORAL LYMPHADENECTOMY IN VULVAR CANCER PATIENTS. A NATIONWIDE STUDY OF THE DUTCH GYNAECOLOGIC ONCOLOGY GROUP

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Aims

Inguinofemoral lymphadenectomy for patients with vulvar squamous cell carcinoma is associated with significant morbidity. Inguinal drain management might influence the incidence of complications. The aim of this nation-wide prospective study (MAMBO: Morbidity And Measurement of the BOdy) was to assess the feasibility and the incidence of complications of volume-controlled versus short drainage of the groin.

Method

The MAMBO study consisted of two observational studies in all eight oncology centers in the Netherlands between 2012 and 2016. In the first study, the drain was removed when the production was <30 ml/24 hours except from the first 48 hours and for a maximum of 28 days (MAMBO-IA). In the second study the drain was removed five days postoperatively regardless the production (MAMBO-IB). Complications within eight weeks after surgery were assessed and the incidence of complications was compared.

Results

We included 141 patients (251 groins); 77 patients (139 groins) for volume-controlled drainage and 64 patients (112 groins) for short drainage. Volume-controlled drainage was associated with less lymphocele formation (10% versus 52% respectively, p<0.001). There was no difference in wound infection or primary wound breakdown. The incidence of one or more complications was 41% per groin after volume-controlled drainage versus 72% after short drainage, p=0.005.

Conclusion

This prospective study shows that volume-controlled drainage is associated with significantly less complications compared to short drainage. We advise volume-controlled drainage after inguinofemoral lymphadenectomy in patients with vulvar squamous cell carcinoma.
INTER-OBSERVER AGREEMENT FOR ASSESSING THE DEPTH OF INVASION IN VULVAR SQUAMOUS CELL CARCINOMA

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Aims

The depth of invasion (DOI) is an important prognostic factor for patients with vulvar squamous cell carcinoma (SCC). Two different methods are used to assess the DOI: the conservative (recommended by The International Federation of Gynecology and Obstetrics) and the alternative method. See Figure 1. As the DOI guides the mode of treatment, there should be an uniform measurement method which best reflects clinical outcomes.

The aim of this study is to assess the inter-observer agreement between pathologists using the conventional versus the alternative method.

Method

Fifty-one slides of vulvar SCC were selected, these slides represent daily practice. Five pathologists (including one resident) independently assessed all slides. Pathologists were requested to measure the DOI using both the conservative and the alternative method. The DOI was categorized into ≤1 mm and > 1 mm and Light’s kappa for multi-rater agreement was calculated.

Results

Preliminary results: Kappa was 0.73 using the conservative method versus 0.61 using the alternative method. Pathologists were more sure about their measurement using the alternative method. Three pathologists scored the ease of use equally for both methods, two pathologists scored the conservative method more easy.

Conclusion

Pathologists reach substantial agreement in determining the DOI using both the conservative and the alternative method. Pathologists were more sure about their measurement using the alternative method. The number of participating pathologists will be increased.
VAGINAL AND VULVAR CANCER II

ESGO7-0193

THE IMPACT OF WRITTEN INFORMATION AND COUNSELING (WOMAN-PRO II PROGRAM) ON SYMPTOM OUTCOMES IN WOMEN WITH VULVAR NEOPLASIA: A MULTICENTER RANDOMIZED CONTROLLED PHASE II STUDY

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Aims

To determine if written information and/or counseling based on the WOMAN-PRO II Program decreases symptom prevalence in women with vulvar neoplasia by a clinically relevant degree and to explore differences between the 2 interventions in symptom prevalence, symptom distress prevalence, and symptom experience.

Method

A multicenter randomized controlled parallel-group phase II trial with 2 interventions provided to patients after the initial diagnosis was performed in Austria and Switzerland. Women randomized to written information received a predefined set of leaflets concerning wound care and available healthcare services. Women allocated to counseling were provided additionally with 5 consultations by an Advanced Practice Nurse (APN) between the initial diagnosis and 6-months post-surgery focusing on symptom management, utilization of healthcare services, and health-related decision making. Symptom outcomes were measured 5 times simultaneously to the counseling time points.

Results

A total of 49 women with vulvar neoplasia participated in the study. Symptom prevalence decreased in women with counseling by a clinically relevant degree, but not in women with written information. Sporadically, significant differences between the 2 interventions could be observed in individual items, but not in the total scales or subscales of the symptom outcomes.

Conclusion

The results indicate that counseling may improve symptom prevalence in women with vulvar neoplasia by a clinically relevant extent. The observed group differences between the 2 interventions favor counseling slightly over written information. The results justify testing the benefit of counseling thoroughly in a comparative phase III trial.
VAGINAL AND VULVAR CANCER II

ESGO7-0664

ICG-NIR FOR DETECTING THE SENTINEL LYMPH NODE IN EARLY STAGE VULVA CANCER: A CASE SERIES FROM A UK CENTRE

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Aims

Standard techniques for sentinel lymph node (SLN) biopsy in vulva cancer use a combination of blue dye (BD) and radio-labelled nanocolloid (Tc-99m) as the lymphatic tracers to enable pre and intra-operative localisation of SLNs. Indocyanine green-near infrared (ICG-NIR) fluorescence for SLN biopsy has been widely reported in cancers of the endometrium and cervix. To date, limited data on the use of ICG-NIR for SLN biopsy in early stage vulva cancer is available. Here we present updated data from a UK centre using ICG-NIR for SLN biopsy in patients with vulva cancer.

Method

Patients presenting with unifocal squamous cell cancers of the vulva of less than 4cm diameter were included. Exclusion criteria included bulky lymphadenopathy on CT or clinical examination. ICG-NIR fluorescence imaging was performed in addition to the standard combined technique for SLN detection. If sentinel lymph node detection failed, side specific lymphadenectomy was performed in accordance with the patients pre-operative counselling and consent.

Results

18 patients underwent the SLN procedure using BD/TC-99m and ICG-NIR. Of the SLN successfully detected, 96% were positive for ICG fluorescence compared to 80% for BD

Conclusion

ICG-NIR is a valid and safe technique for the detection of SLN in patients with early stage vulva cancer. ICG-NIR appears superior to BD for the intra-operative visualisation of the SLN.
HUMAN PAPILLOMAVIRUS IN VULVAR INTRAEPITHELIAL NEOPLASIA

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Aims

Vulvar intraepithelial neoplasia (VIN) is a precursor lesion of vulvar cancer. Human papillomavirus (HPV) is causative for part of VIN lesions. We aimed to analyze the distribution of HPV in VIN and its relation to treatment outcomes.

Method

We retrospectively analyzed patients who diagnosed as VIN between 1990 and 2014 in our institution. HPV DNA was extracted from formalin-fixed and paraffin-embedded samples. SPF1/GP6+ polymerase chain reaction (PCR) followed by HPV Blot and E6 type-specific PCR were performed.

Results

Of the 113 VINs (31.0% with VIN1, 18.6% with VIN2, and 50.4% with VIN3), 85.0% were positive for HPV. Patients with positive HPV was diagnosed younger than those with negative results (44.1 vs. 63.4 years, \(P = 0.008\)). HPV-positivity was significantly higher in VIN3 (94.7%) compared with VIN2 (76.2%) and VIN1 (74.3%) \(P = 0.013\). The most prevalent type was HPV16 (60.4%), followed by HPV6 (14.6%), and HPV11 (11.5%). Of the 20 patients with recurrent VIN (n = 13) or progression to vulvar cancer (n = 7), 19 had positive HPV. HPV16 was related to VIN3 \(P < 0.001\) and higher recurrent/progression rate \(P = 0.004\). All seven VINs with progression to cancer were HPV positive, six with HPV16 (one was initially VIN1 at 21 years old) and one with HPV58.

Conclusion

HPV-positivity was related to younger age in VIN. HPV16 was most prevalent genotype and significantly related to recurrence/progression. We should closely follow up VIN patients with positive HPV16, and perform biopsies for suspicious lesions despite young age.
VAGINAL AND VULVAR CANCER II

ESGO7-0985

RECONSTRUCTIVE PLASTIC SURGERY IN THE TREATMENT OF VULVAR CARCINOMAS

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Aims

Vulvar reconstruction can be challenging for the gynecologist and multidisciplinary approach is necessary for better wound healing, adequate function, and acceptable appearance. The purpose of this study was to present our experience in reconstructive plastic surgery by using skin/musculocutaneous flaps after extirpation of primary or recurrent vulvar cancer in our clinic.

Method

From January 2006 to December 2016, 109 women with vulvar malignancies underwent radical vulvectomy. Thirteen of them resulted in large perineal defects and vulvar reconstruction was assisted by a plastic surgeon, including lotus flap (7 patients, average age 68.4 years), V-Y flap (5 patients, average age 67.8 years), vertical rectus abdominis musculocutaneous flap (1 patient, age 72 years). The disruption rate and length of hospital stay were evaluated and compared among those techniques.

Results

Although V-Y flaps had the highest rate of disruption (2/5), their hospitalization was the lowest (20.2 days) with 196.7 average operative duration. Lotus flaps resulted in the highest length of hospital stay (24.4 days) with 168 average operative duration. The technique with the lower rate of disruption was vertical rectus abdominis musculocutaneous flap (0%) with 300 average operative duration.

Conclusion

Study outcomes suggest that vulvar reconstructive surgery exerts benefits in patients with vulvar cancer. Multidisciplinary approach with plastic surgeon, in larger vulvar tumors is associated with a favorable oncological outcome as well as acceptable cosmetic results in vulvar cancer patients.
THE IMMUNE MICROENVIRONMENT IN NON-INVASIVE VULVAR PAGET DISEASE

Aims
Non-invasive Vulvar Paget disease (VPD) is a rare skin disorder that mainly affects elderly women. Recently, cases of patients with VPD that responded to topical 5% imiquimod cream, an immune modulator, are reported. However, knowledge about the immune microenvironment of VPD is lacking. The aim of this study was to investigate the basic composition of the immune infiltrate in VPD.

Method
The immune infiltrates in 10 VPD patients were compared to those seen in either healthy controls (n=30), and the premalignancy with known response to imiquimod: vulvar high grade squamous cell intraepithelial lesions (n=43). Additional immunohistochemistry for CD4, CD8, CD14, CD20, CD56 and FoxP3 was performed.

Results
On H&E a lichenoid immune infiltrate with little interface reaction was observed in submucosal stroma of most VPD samples. Immunophenotyping showed that this stromal infiltrate mainly consisted of a variety of T-cells. B-cells, NK-cells and macrophages were also present. We noticed a great variety in the amount of cells per sample within one patient.

In the intraepithelial compartment VPD contained significantly less CD4+ and CD8+ compared to vulvar HSIL and healthy controls, and significantly less FoxP3+ cells than in HSIL cases. In contrast, the dermal compartment in VPD contained significantly more CD4+, CD8+, CD14+ and FoxP3+ cells than in healthy controls, but significantly less FoxP3+ cells in comparison to the dermal compartment of HSIL cases.

Conclusion
VPD is characterised by the presence of a dense lichenoid infiltrate, with a mixed cell population in the dermal immune infiltrate, whereas the epithelium is immunosuppressed.
VAGINAL AND VULVAR CANCER II

ESGO7-0735

GROIN TREATMENT IN VULVAR CANCER: IS SENTINEL LYMPH NODE DETECTION BASED ON LYMPHOSCINTIGRAPHY ENOUGH?

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Aims

To evaluate if the sentinel lymph node detection (SLND) based on lymphoscintigraphy is predictive of groin nodes status, depending on tumor location.

Method

SLND performed in vulvar cancers, in Portuguese Institute of Oncology of Lisbon, between 2005 and 2016.

Ninety six unifocal invasive squamous cell carcinomas of the vulva of less than 4 cm, without suspicious groin nodes, were included.

Tumor location in relation to the midline was classified as lateral [>1 cm from midline (n=46; 48%)], lateral ambiguous [medial border <1 cm from midline but not involving it (n=21; 22%)] and midline (n=29; 30%).

Preoperative lymphoscintigraphy drainage pattern was evaluated and development of node metastasis in groins without initial drainage was calculated.

Results

From lateral tumors, 84.4% (n=38) had ipsilateral, 11.1% (n=5) bilateral and 4.4% (n=2) contralateral drainage. In one case SLN was not found. One patient (2%), with initial ipsilateral drainage, developed metastasis in contralateral groin.

From lateral ambiguous tumors, 71.4% (n=15) had ipsilateral and 28.6% (n=6) bilateral drainage. From those with ipsilateral drainage, no contralateral groin metastasis were identified in follow-up.

From midline tumors, bilateral drainage occurred in 52% (n=15) and unilateral in 48% (n=14). Three cases (10%), from unilateral drainage group, developed groin metastasis at the side of no drainage.

Conclusion

In our study, lymphoscintigraphy predicted groin nodes status in 96% of the cases. In midline tumors, as recommended by literature, but not in lateral ambiguous, both groins must be evaluated, as 21% (3/14) of the cases with unilateral drainage developed contralateral groin metastasis.
VAGINAL AND VULVAR CANCER II

ESGO-0741

GROIN RECURRENCE IN VULVAR CANCERS WITH NEGATIVE SENTINEL LYMPH NODE BIOPSY

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Aims

To evaluate the rate and characteristics of groin recurrences after negative sentinel lymph node (SLN) biopsy in vulvar cancer.

Method

Ninety six unifocal invasive squamous cell carcinomas of less than 4 cm, without suspicious groin nodes, submitted to SLN detection in Portuguese Institute of Oncology of Lisbon, between 2005 and 2016, were included. In all cases a combination of preoperative Tc-99m nanocolloid and intraoperative blue dye was used.

Those cases with negative SLN biopsy were divided in two groups: Group 1 – with groin recurrence and Group 2 – without it.

Patients age, body mass index, menopausal status, number of SLN, tumor pathological characteristics, local recurrence rate and indication for postoperative vulvar radiotherapy were compared between groups using non parametric tests. Significant differences were considered when p-values <0.05.

Results

The SLN detection rate was 99%.

Of the 95 SLN detected 66.3% (n=63) were negatives. From those, 8 (12.7%) groin recurrences were identified in a median time of 7(4-47) months.

Comparing both groups, there were no statistical significant differences between them according all the characteristics analyzed.

Conclusion

In our experience, groin recurrence rate after negative SLN biopsy was 12.7% but no predictive factors were identified.
CORRELATION OF ISOTOPE COUNT WITH SENTINEL POSITIVITY IN VULVAR CANCER

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Aims

Sentinel node biopsy (SNB) has become standard of care in vulvar cancer. Often several active nodes are excised per groin, as the correlation of isotope count with the presence of metastases remains unclear. This can result in increased morbidity despite of SNB. The current analysis investigates, whether resection of the hottest node could be sufficient to detect sentinel lymph node (SNL) metastasis.

Method

All patients with primary vulvar cancer receiving a SNB with radioactive tracer at the University Medical Center Hamburg-Eppendorf between 2008 and 2015 were evaluated. The day before surgery, patients received four peritumoral intradermal deposits with an overall mean dosage of 85±12MBq

\[^{99m}\text{Tc}\]

Intraoperatively, a handheld gamma counter was used to identify the SNL.

Results

145 patients with 289 groins were analysed. A median of 2 (range 1-7) SNL per groin were removed. From 94/289 (32.5%) groins more than 2 SNL were excised. In 50 groins, a positive SNL was detected. The median number of positive SNL per groin was 1 (range 1-4).

The SNL with the highest isotope count carried metastases in 36/46 groins (78.3%; in 4 cases highest count unknown). In 10/46 (21.7%) positive groins, the SNL with the highest count was not the metastatic SNL. Median count of these 12 SNL was 60% of the highest count with a range from 11.0% to 74.0%.

Conclusion

The highest isotope count does not reliably detect the positive SNL in vulvar cancer. To prevent groin recurrence, all SNL accumulating relevant radioactive tracer over 10% background activity should be removed.
PALLIATIVE CARE

ESGO7-0472

IS THERE TIMELY INTERVENTION OF PALLIATIVE CARE IN GYNAECOLOGICAL CANCER PATIENTS AT THE END OF LIFE?

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Aims

Palliative care is a crucial element of care plans for gynaecological cancer patients. It maximises comfort and quality of life and addresses patient wishes to ensure a dignified death. This retrospective study aims to examine aspects of end of life care of gynaecological cancer patients who died during 2015 within the Brighton and Sussex University Hospitals Trust.

Method

31 women were suitable for inclusion in the study. Variables under study included last hospital admission and last active treatment before death, MDT discussions, palliative care input, DNAR form completion and discussions regarding preferred place of death.

Results

Within the last week of life, 23% (7/31) of women had their final admission and 8% (2/31) had active treatment. 32% (10/31) were last discussed at an MDT meeting more than 4 months before death. 81% (25/31) of the women had palliative care input with 39% (9/31) having an initial assessment during the week approaching death. 74% (23/31) had a signed DNAR form and 68% (21/31) had their preferred location of death documented, however only 29% (6/31) achieved this.

Conclusion

A number of components of end of life care need addressing to improve care for gynaecological cancer patients within the trust, specifically provision of palliative care, DNAR form completion and discussions regarding location of death. Implementation of advanced care plans for all women would ensure that these areas are adequately addressed in order to allow patients the most dignified death possible.
PALLIATIVE CARE

ESGO7-0136

THE RELATIONSHIP BETWEEN SYMPTOM BURDEN, BODY IMAGE AND QUALITY OF LIFE IN ASIAN GYNAECOLOGICAL CANCER PATIENTS

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Aims

This study examines symptom burden and body image disturbance in patients with gynaecological cancers, and the extent they are related to quality of life.

Method

A cross-sectional study in which patients diagnosed with gynaecological malignancies were recruited from a tertiary hospital in Singapore (n = 104). They were assessed using self-report assessments of symptom burden, quality of life (using the Functional Assessment of Cancer Therapy-General form), and body image dissatisfaction (using the Body Image Scale). Clinical factors were abstracted from patient medical records.

Results

Approximately 1 out of 4 patients reported feeling less physically attractive and dissatisfied with their body. Symptom burden alone predicted physical well-being, \( p < .001 \) and functional well-being, \( p < .001 \). Body image dissatisfaction significantly predicted emotional well-being \( p = .01 \) and symptom burden no longer predicted emotional well-being once body image dissatisfaction was entered into the model.

Patients with cervical cancer reported significantly higher body image dissatisfaction, \( p = .01 \), and younger age was found to be a significant risk factor for clinically-relevant score of body image distress, \( p = .02 \).

Conclusion

Symptom burden and body image dissatisfaction were associated to patient's quality of life. Body image dissatisfaction explained the relationship between symptom burden and emotional well-being, and may be a potential target for intervention. Particular attention should be paid to patients who are younger and diagnosed with cervical cancer as they are more susceptible to body image disturbance.
SYNTHESIS OF A THERANOSTIC AGENT: RADIOIODINATED PEGYLATED PLGA-INDOCYANINE CAPSULES AND IN VITRO DETERMINATION OF THEIR BIOAFFINITY ON OVARIAN, CERVICAL AND BREAST CANCER CELLS

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Aims

The aim of current study is to synthesize atheranostic (multi-functional) agent, which is targeted on ovary, cervical and breast cancer types with diagnosis and treatment potential and to determine its bioaffinity by using in vitro methods.

Method

Indocyanine (ICG) was preferred as the first modality of our agent due to its fluorescence properties. Then, ICG was encapsulated with PEGylated PLGA (IPP). Additionally, Paclitaxel (PAC) was conjugated with IPP (IPPP) to target the agent to reproductive organs like ovary, cervix and breast. Lastly, IPPP was radiolabeled with 131I as the second modality of developed theranostic agent. In vitro incorporation and cytotoxicity assays, and fluorescent imaging assays were performed.

Results

Incorporation values of 131I-ICG and 131I-IPP were similar on all cell lines during study period. 131I-IPPP has higher incorporation values than 131I-PAC on MCF-7, MDAH-2774 and HeLa cells at all-time points. The highest uptake values are observed for 131I-PAC and 131I-IPPP at 240 min on MDAH-2774 cells as 18.88 ± 2.24 and 22.05 ± 2.85, respectively. The incorporation values of 131I-IPPP at 30 min on MCF-7 and MDAH-2774 cells were higher 1.70 and 1.62 times than 131I-PAC. The cellular uptake study confirmed the high binding efficiency of 131IIPPP with MDAH-227 cells. Fluorescence microscopy demonstrated that both ICG and IPPP successfully bound target cancer cells.

Conclusion

The designed compound(IPPP), which has fluorescence capability (from Indocyanine), encapsulated structure (with PEGylated PLGA), included an anticancer drug (Paclitaxel) for targeting and radionuclidic tracer (131I) content for tracing, has bioaffinity and promise for diagnosis and therapy on ovarian, cervical and breast cancer cell lines.
A NEW DIAGNOSTIC ALGORITHM FOR THE MANAGEMENT OF UTERINE MASSES: THE UMG (UTERINE MASS MAGNA GRAECIA) RISK SCORE

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Aims

To identify a reliable non-invasive predictive tool to classify uterine masses according to the risk of malignancy.

Method

The charts of 3107 patients who underwent surgical treatment for uterine masses at our institution between 2004 and 2016 were retrospectively reviewed. Clinical, biochemical, imaging, surgical and pathological data of 2750 women with uterine fibroids and 43 patients with uterine sarcomas were analysed. The statistical relationships between relevant characteristics and the final pathology were analysed.

Results

In univariate analyses, a small set of possible predictors (age; CA125, LDH-1% and LDH-3% isoenzyme serum levels; central and peripheral vascularization of the uterine mass) was identified (p<0.005). Regression tree analysis and model selection revealed that the best predictive score [herein called the “uterine mass Magna Graecia (UMG) score”] was associated with LDH-1% and LDH-3% isoenzyme serum levels. Moreover, considering the presence or absence of central vascularization in women with a “UMG score”>29, it was possible to classify patients into three different risk categories, coded for mnemonic reasons as green (≤29), yellow (>29 without the presence of central vascularization) and red (>29 with the presence of central vascularization). With an area under the ROC curve of 99.9%, 99.6% specificity, 100% sensitivity and a negative predictive value of 100%, the UMG score represents an accurate tool for excluding oncologic risk in uterine masses.

Conclusion

We have identified an easy and inexpensive score we used to reliably classify more than 2750 patients with uterine masses with a negative predictive value in excluding the risk of sarcoma of 100%.
**Aims**

It has been demonstrated that human papillomavirus (HPV) is one of the causes of vulvar invasive squamous cell carcinoma (VSCC), being identified in about 30-50% of those cases. However, evidence is lacking on the influence of HPV-status on the prognosis of this malignancy. This study aims to determine the influence of HPV-status on the prognosis of patients diagnosed with vulvar SCC.

**Method**

We analyzed, retrospectively, the clinical files of every patient diagnosed with primary vulvar SCC submitted to surgery at our institution, from 2008 to 2014, that had a HPV genotype analysis in the surgical sample. We evaluated and compared both groups (HPV-positive vs HPV-negative) in a three year follow-up for the following data: demographic and clinical data, first-line therapy and its clinical response, recurrence rate, disease-free interval, overall and cancer related mortality rates.

Student t test and chi-square were used for statistical analysis of the continuous and categorical variables, respectively.

**Results**

62 patients were included, 21 (34%) were HPV-positive and 41(66%) HPV-negative. There were no statistically significant differences between the two groups in demographic and clinical variables. Response to first-line therapy (95% vs 96%), recurrence rate (32% vs 38%), disease-free interval (25 vs 22 months), overall (43% vs 41%) and cancer related mortality (28% vs 29%) were also similar in both HPV-positive and HPV-negative patients, respectively.

**Conclusion**

The prevalence of HPV in VSCC patients was similar to that described in published literature. In our study, at a three year follow-up, the HPV status did not influence the prognosis of disease in patients who underwent surgery.
OSTEOMIMICISM INDUCED BY CDCA IS INTERFERED BY LITHOCHOLIC ACID IN BREAST CANCER

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Aims

We have investigated the involvement of farnesoid X receptor (FXR) in breast cancer cells to determine [1] a possible relationship between its expression and proliferation of cells; and [2] the role of FXR in osteomimetism of breast cancer.

Method

We evaluated [1] by immunofluorescence the FXR, the RUNX2 and some bone proteins (OPN, OC, BSP, OPG) expression; and [2] the cells proliferation by crystal violet staining in MCF-7 and MDA-MB-231 cell lines, after different treatments (chenodeoxycholic acid (CDCA), lithocholic acid, z-guggulsterone, ibandronate).

Results

We observed an activation of cell proliferation in MCF-7 but not in MDA-MB-231 after a CDCA treatment. This stimulating effect is interfered by lithocholic acid in MCF-7. Z-guggulsterone decreased cell proliferation in both cell lines. FXR expression increased after a CDCA treatment and decreased with ibandronate in both cell lines. CDCA induced an increase of RUNX2 and bone proteins expression and this expression is interfered by lithocholic acid (in both cell lines) and by z-guggulsterone in MDA-MB-231 cells.

Conclusion

Z-guggulsterone decreased bone proteins expression in MDA-MB-231 cells but not in MCF-7, caused by the ER implication in these cells. Lithocholic acid is a competitive inhibitor of FXR and indirectly of cells proliferation and bone proteins expression when it is used in combination with CDCA. Altogether, experimental data highly support a relationship between FXR, ER (in MCF-7) and RUNX2 expression, and the propensity of the tumor cells to develop osteomimetism, involving an increase of RUNX2 expression after CDCA treatment and a subsequent promotion of bone-related protein synthesis.
Aims

This study aims to determine the proportion of pregnancy and breastfeeding subsequent to breast cancer (BC) diagnosis in women of reproductive age and their impact on cancer relapse.

Method

This study is an observational retrospective cohort study of 105 female Omani patients within the reproductive age (15-49 yrs) diagnosed with BC and maintained follow up between 2007 to 2015 at Sultan Qaboos University Hospital (SQUH), a tertiary teaching Hospital in Oman. Only living patients were selected in order to minimize any missing data. The data was collected from the BC database at SQUH and from the electronic medical records of the patients. SPSS was used to obtain frequencies and percentages of pregnancy and breastfeeding. RR of cancer relapse associated with pregnancy and breastfeeding were calculated by binary logistic regression analysis.

Results

The proportion of pregnancies subsequent to BC was 13%. Among pregnant patients, 77% of them breastfed. There was a statistical non-significant reduction in the risk of relapse when pregnancy was within two years of BC diagnosis 0.42(95% CI: 0.05- 2.97) and beyond two years 0.21(95% CI: 0.01- 3.78). The RR associated with breastfeeding was 0.67(95% CI: 0.14- 3.02)

Conclusion

In Oman the percentage of pregnancy after BC was slightly higher than the reported literature and more women breastfed in Oman compared to the Western countries. The risk of BC recurrence was low with pregnancy and breastfeeding.
PREMATURE MENOPAUSE SYMPTOMS AND PREVALENCE IN REPRODUCTIVE AGED WOMEN DIAGNOSED WITH BREAST CANCER

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Aims

The aim of this study is to detect the prevalence of premature menopause in Omani women with breast cancer (BC).

Method

A retrospective cohort study was conducted. It included Omani women who were diagnosed with breast cancer from 2007 to 2015. Only those diagnosed with BC in their reproductive age (19-49), still alive and followed up at Sultan Qaboos University Hospital (SQUH) were included. The sample size was calculated and 105 patients fulfilled the inclusion criteria. Clinical characteristics included age of diagnosis, chemotherapy and hormonal therapy, FSH level, changes in period after the treatment and the GnRH agonists use. Menopause was diagnosed if there was amenorrhea for 12 months and FSH more than 40 after cessation of chemotherapy treatment. SPSS was used for analysis.

Results

Breast cancer women were seen to experience changes in their menstrual period. 29.5% of them suffered from menopausal symptoms and 25.7% became menopausal. Two risk factors were assessed in this study that were accelerating the occurrence of premature menopause (age >40 years and cyclophosphamide). They contribute to 59.3% and 25.8% respectively in causing premature menopause. For the purpose of protecting fertility, the GnRH agonist was prescribed for some patients and we found no significant association between the two as the p value was 0.388.

Conclusion

The chance for each premenopausal BC woman to be menopausal after chemotherapy is about 25.7% and this increased in older BC women (>40) compared to younger women. In order to avoid all these outcomes, fertility preservation options prior to BC treatment should be considered.
BREAST CANCER

ESGO7-0113

BRAIN METASTASIS: IS THE END COMING?

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Aims

Breast cancer brain metastasis are not uncommon, and 15-30% of patients with metastatic disease will develop brain metastasis. The subtype where it it occurs most frequently, is basal-like, followed by HER2-positive tumors. Developing brain metastasis is associated with a significant worsening of the prognosis and with neurological dysfunction. Only a few patients live beyond 12 months.

32 years-old woman submitted to a right radical mastectomy (with sentinel lymph node biopsy) on November 2005. Histological examination: invasive ductal carcinoma (4,1 cm), grade 3, with an extensive ductal carcinoma in situ. 1 sentinel lymph node metastasized. No expression of oestrogen and progesterone hormone receptors. It was staged as pT2N1M0. She received chemotherapy, with FAC regimen (5-Flourouracil/Doxorubicin/Cyclophosphamide, until April 2006) and adjuvant radiotherapy. On May 2006 started dizziness and imbalance. A magnetic resonance imaging (MRI) study was performed: 5 mm nodular lesion in the right parieto-occipital region (metastasis versus granuloma). It was decided to repeat the exam in 3 months. She performed a new MRI on August 2006: the nodular lesion presented 2 cm of larger dimension, being compatible with a metastasis. She underwent surgery with total excision of the tumor lesion on September 2006. She performed palliative brain radiotherapy and received chemotherapy with CMF regimen (Cyclophosphamide/Methotrexate/5-Flourouracil). Since then she has remained on surveillance with a good performance status.

The authors intend to emphasize the long survival of this patient; nowadays, it would be crucial to test HER2 status for the availability of targeted therapies.

Method

Results

Conclusion
BREAST CANCER

ESGO7-1018

CORRELATION AND OUTCOME PREDICTION OF BIOMARKERS IN EARLY, ESTROGEN RECEPTOR-POSITIVE AND HER2-NEGATIVE BREAST CANCER: COMPARISON OF ENDPREDICT, UPA/PAI-1 AND KI67

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Aims

Due to the molecular tumor heterogeneity of breast cancer, novel multigene assays have been developed helping to stratify patients according to their individual risk of distant recurrence. Especially for patients at intermediate risk a new dimension of risk estimation and therefore change in decision making has been achieved.

Method

321 patients with estrogen-receptor (ER)-positive and Her2-negative breast cancer at intermediate risk were included in this monocentric prospective study from 2011-2015. Classical clinic-pathological markers, ki-67, uPA/PAI-1 and EndoPredict (EP) were assessed for all patients. Concordance of these predictive markers and patient follow up, including the compliance to advised CTX, RTX and hormone therapy, was analysed.

Results

Overall survival, distant and local recurrence of all patients, as well as therapy compliance was assessed (min 21 months and max 5 year follow up).

Conclusion

Concordance of ki-67, PgR status and other pathology-based surrogates, uPA/PAI-1 and Epclin classification could be assessed. In this prospective comparison of EndoPredict, uPA/PAI-1, ki-67 and progesterone receptor we found, that EP is superior to all other biomarkers with respect to feasibility and decision impact. This leads to substantial avoidance of adjuvant chemotherapy in this patient collective.
Aims

To illustrate the importance of preoperative MRI in the surgical treatment decision in patients with invasive breast cancer.

Method

We reviewed retrospectively the preoperative MRI (3 Tesla) of 169 patients operated at Hôtel-Dieu de France for invasive breast cancer. The sequences of 85 patients who underwent a radical treatment (mastectomy) were compared to those of 84 patients who benefited from conservative surgery. We estimated the tumor volume (TV) and breast volume (BV) on enhanced MRI and then we compared the tumor volume to breast volume ratio (TV/BV) in both groups.

Results

When compared to pathologic reports, the MRI seemed to slightly increase the estimation of tumor size. The mean of tumor to breast volume ratio was 9.5% in the mastectomy group vs. 1.7% in the conservative treatment group (p = 0.000). Using a threshold of 4, a tumor to breast volume ratio less than 4% seemed to favor the adoption of the conservative option in the surgical treatment decision in patients with invasive breast cancer (p = 0.000). MRI had also helped the assessment of multifocality and multicentricity of tumor which were noted respectively in 57.4% and 54.4% of cases treated with mastectomy vs. 15.5% and 3.6% of cases treated conservatively (p = 0.000).

Conclusion

Our data suggest that preoperative MRI can aid the surgical treatment decision in patients with invasive breast cancer by assessing the tumor to breast volume ratio as well as by providing a full mapping of multifocal and multicentric lesions in the breast tissue.
BREAST CANCER

ESGO7-0079

MRI-BASED PREDICTIVE FACTORS OF AXILLARY LYMPH NODE METASTASES IN BREAST CANCER

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Aims

To determine the accuracy of MRI in detecting axillary lymph nodes (ALNs) metastases preoperatively and to define predictive characteristics of ALN involvement in patients with invasive breast cancer.

Method

Breast MR (3 Tesla) examinations of 169 patients with invasive breast cancer were reviewed at Hôtel-Dieu de France Hospital. Morphological parameters in addition to apparent diffusion coefficient (ADC) value were compared with pathological nodal status.

Results

The sensitivity and specificity of MRI in detecting ALN involvement were 87.5% and 55.6% respectively. The negative and positive predictive value of MRI was 81.64% and 66.34% respectively. The mean size of metastatic ALN was larger than that of negative ALN (13.9 mm vs. 10.9 mm, p = 0.000). ALNs larger than 12 mm were associated with higher risk of metastases (p = 0.000). The asymmetry of size between ipsilateral and contralateral ALNs was more significant in positive ALNs on pathology (p= 0.008 vs. 0.043). In a univariate analysis, the round shape of ALN, loss of fatty hilum, irregular contours and hypo-intensity/heterogeneous intensity on T2-weighted sequence were significantly predictive of lymph node metastasis (p = 0.000 for the four characteristics). In a multivariate analysis, only the round shape of lymph node and the hypo-intensity/heterogeneous intensity on T2-weighted sequence were significantly associated with lymph node metastasis (p=0.01 and p=0.018 respectively). The ADC value of ALN did not aid the differentiation between benign and metastatic lymph nodes (p= 0.862).

Conclusion

Conventional MRI using the ALN shape and the signal intensity in T2-weighted sequences can evaluate the axilla with high sensitivity.
CASE REPORT: METACHRONOUS OVARIAN CARCINOMA AFTER A BREAST CANCER HER2+++  

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Aims  

differentiating between primary or secondary ovarian cancer can be difficult. 
Chirurgery and anatomy patholgy help to diagnostic.

Method  

we present a case of women 49 years old 
She had breast cancer Her2+++ 
6 adjuvant chemotherapy 3FEC100/ 3 T and rastuzumab for one year 
She had peritoneal carcinose on Scanner 

Results  

she had a chirurgy 
Hystolgy was ovarian carcinoma 

Conclusion  

ovarian lesion was ambiguous after breast cancer
BREAST CANCER

ESGO7-0460

CLINICAL CHARACTERISTICS OF THE PATIENTS WHO EXPERIENCED EARLY RECURRENCE AFTER CURATIVE SURGERY FOR BREAST CANCER

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Aims

To identify the patients with high risk of early recurrence who need to be evaluated during chemotherapy or radiotherapy after curative surgery.

Method

Seven hundred and seventy-four patients who underwent curative surgery and radiotherapy between January 2010 and December 2016 were reviewed retrospectively. Among them, recurrence was detected in two patients (0.3%) during the interval between the surgery and the completion of RT. Their tumor characteristics, treatment details, and follow up information were reviewed.

Results

<table>
<thead>
<tr>
<th></th>
<th>Patient 1</th>
<th>Patient 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at the diagnosis</td>
<td>31</td>
<td>78</td>
</tr>
<tr>
<td>Stage</td>
<td>icT3N2M0</td>
<td>T2N1M0</td>
</tr>
<tr>
<td>Histology</td>
<td>Invasive ductal carcinoma</td>
<td>Invasive ductal carcinoma</td>
</tr>
<tr>
<td>Grade</td>
<td>2 (3-2-2)</td>
<td>3 (3-3-3)</td>
</tr>
<tr>
<td>ER/PR/Her2</td>
<td>-/-/2+</td>
<td>+/-2+, FISH (+)</td>
</tr>
<tr>
<td>Ki-67</td>
<td>Undone</td>
<td>80%</td>
</tr>
<tr>
<td>Lymphovascular invasion</td>
<td>Positive</td>
<td>Negative</td>
</tr>
<tr>
<td>Resection margin</td>
<td>Negative</td>
<td>Negative</td>
</tr>
<tr>
<td>Treatment</td>
<td>Adriamycin/Paclitaxel 3 cycles Partial mastectomy and axillary node dissection Adriamycin/Paclitaxel 3 cycles Radiotherapy</td>
<td>Total mastectomy and axillary node dissection Paclitaxel/Trastuzumab/carboplatin 6 cycles Radiotherapy</td>
</tr>
</tbody>
</table>

Suspicious mass was detected on simulation computer tomography (sCT) of patient 1. Total mastectomy was performed and it revealed 7.5cm-sized recurrence. She completed radiotherapy of total dose 54 Gy followed by 6 cycles of Cyclophosphamide/Methotrexate/Fluorouracil. Operation bed seroma was showed on sCT of patient 2 and she complained its growing. Wide excision revealed 3.1cm-sized metaplastic carcinoma. A month later multiple metastases developed in liver and bones.

Conclusion

In patients with risk factors such as negative hormone receptor and nodal metastasis, paying attention to sCT findings might be helpful to detect early recurrence. Considering rarity of the early recurrence, further study engaging large number of patients is required.

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BREAST CANCER

ESGO7-0255

ENDOMETRIAL PATHOLOGY IN BREAST CANCER PATIENTS: PRELIMINARY DATA OF A MULTICENTRIC RETROSPECTIVE COHORT ANALYSIS

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5Catholic University of the Sacred Heart, Department of Women’s and Children’s Health, Rome, Italy

Aims

Current literature showed that breast cancer patients using tamoxifen have an increased risk of endometrial pathology. To investigate the different incidence of histological alteration of endometrium and their possible correlation with the following adjuvant treatment: tamoxifen (TAM), non-steroidal aromatase inhibitors (AIs) or no treatment (NT).

Method

We reviewed retrospectively 970 breast cancer women who were referred to the Hysteroscopic Service of three Italian Centers (University of Messina, Gynecological Center “Nuova Villa Claudia” of Rome, “Regina Elena” National Cancer Institute of Rome) for vaginal bleeding or ultrasound indications.

Results

Hysteroscopic and histological findings in the TAM, AIs and NT groups, respectively, included: atrophic/physiological endometrium in 48, 52 and 33.3% of cases; endometrial polyp in 40.4, 38 and 49.1% of cases; submucous myoma in 4, 3 and 5.2% of cases; simple hyperplasia in 5, 3 and 7.1% of cases; complex hyperplasia in 0.3% in TAM patients and 0.4% in NT cases, no case in AIs group; dysplasia in 0.3% of TAM patients and 0.4% of NT patients, no case in AIs group; and endometrial cancer in 2, 4 and 4.1% of cases; one case (0.4%) of endometrial metastasis from the breast cancer was registered in the NT group (Table 1).

Conclusion

Our preliminary data analysis suggests that TAM is not likely to be associated with endometrial pathology in breast cancer patients. In conclusion, we suggest a gynecological follow-up for all breast cancer patients, regardless of the adjuvant treatment; in addition, we solicit future studies to confirm the TAM safety profile in breast cancer patients.
BREAST CANCER

ESGO7-1065

USE OF COMPLEMENTARY THERAPIES IN BREAST AND GYNAECOLOGICAL CANCER PATIENTS DURING SYSTEMIC THERAPY

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Aims

Recent studies state that approximately 10 to 70\% of breast and gynaecological cancer patients use complementary medicine (CAM) during systemic therapy. The aim of this study was to verify the number of CAM users at our certified cancer center.

Method

Between February and April 2017 a self-administered questionnaire was given to all breast and gynaecological cancer patients undergoing systemic cancer therapy at the certified cancer center of the Klinikum Rechts der Isar. Completed questionnaires (85\%, \( n = 202/238 \)) were analyzed by age, cancer diagnosis, therapy status and CAM treatments.

Results

81\% of the responding patients use complementary therapy methods. These include:

- 68\% vitamins and minerals
- 38\% phytotherapeutics
- 31\% mistletoe treatment
- 37\% homoeopathics
- 61\% medicinal teas
- 2\% others

CAM use is correlated with younger age (61 y vs. 66 y) and primary non metastatic cancer diagnosis (94\%). No difference in breast cancer patients or patients with gynaecologic malignancy, as well as systemic therapy status could be analyzed.

Conclusion

Our data demonstrates high use of CAM by cancer patients undergoing systemic therapy. It is indispensable to implement counselling and evidence-based complementary treatments into clinical routine of cancer centers. A counselling service for integrative medicine concepts and outpatient program (ZIGG) was therefore implemented in our cancer center in 2005.
HIGHLY INCREASED CONCENTRATION OF ANTIBODIES AGAINST THE RED MEAT DERIVED SILIC ACID, NEU5GC, IN WOMEN WITH BREAST CANCER UNDER CHEMOTHERAPY

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Aims

N-glycoly neuraminic acid (Neu5Gc) is a sialic acid synthesized by animals, but not humans and birds. However, it can be incorporated in human cells and trigger immune response. Neu5Gc has been found on the surface of many cancer cells including breast cancer. Development of anti-Neu5Gc antibodies in cancer patients is thought to induce cancer progress by triggering inflammatory reaction. In the present study, anti-Neu5Gc antibodies were measured in 40 samples of healthy women and in 40 patients with breast cancer.

Method

Anti-Neu5Gc antibodies were measured using ELISA method. Different concentrations of human IgG (Sigma) were used to produce a standard curve for the expression of relative antibody concentrations in μg/ml.

Results

The patients with breast cancer exhibited a mean concentration of 89.6 μg/ml (median=57.4 μg/ml, max.=378 μg/ml), much higher than that healthy individuals (mean 6.6 μg/ml, SD 6.7 μg/ml, median=4.0 μg/ml)(p<0.000). The average and maximum concentration of anti-Neu5Gc antibodies detected in women with breast cancer were much higher than that detected by our team in patients with lung cancer (average 20.6 μg/ml–23.6 μg/ml, depending on the type) and ovarian cancer (average 30.2 μg/ml). Higher concentrations did not correlate with metastasis occurrence.

Conclusion

Highly increased concentrations of anti-Neu5Gc antibodies were found in patients with breast cancer. Future results may elucidate if it could be used as an indicator for the prognosis of the disease.

REFERENCES

LIPOSARCOMA OF THE BREAST
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Aims

Liposarcoma of the breast (LSB) is a rare disease that was first described by Neumann in 1862. It represents 0.3% of all mammary sarcomas, and 0.1% of all malignant breast tumors. LSB is characterized by slow growth and presents itself as an asymptomatic mass.

Method

We report the case of a liposarcoma of the breast treated at the Salah Azaiz Institute of Tunisia.

Results

An 80 years old man with a positive family history of breast cancer, presented for a left sided breast lump evolving since 6 months. Clinical exams found a painless, soft to the touch, and movable 40 mm retro areolar lump, associated to an ipsilateral axillary lymph node. Mammogram described a 50 mm well-circumscribed radiolucent mass. After excision biopsy, histopathologic finding showed lipoblasts and cells of pleomorphic look with a multinucleate nucleus and a richly vascularized myxoid stroma. The immunohistochemical staining showed that the tumor cells express the antibodies anti-MDM2 and anti-PS100. Concluding to a 60 mm pleomorphic grade I LSB according to FNCLCC. Chest-abdomen-pelvis CT scan didn’t show distant metastasis. Treatment consisted on a left mastectomy with axillary node biopsy associated to a 50 Gy chest wall radiation therapy. Regular follow up didn’t show any loco-regional or distant metastasis.

Conclusion

LSB is a malignant tumor consisting chiefly of immature, anaplastic lipoblasts of different sizes. Surgery is the treatment of choice, varying from a simple excision to a total mastectomy. Depending on the size, the differentiation degree, and the metastasis, radio and/or chemo therapy can be associated.
THE ROLE OF TOPOISOMERASE II-A (TOPO IIA) AS A PREDICTIVE FACTOR FOR RESPONSE TO NEOADJUVANT ANTHRACYCLINES BASED CHEMOTHERAPY IN LOCALLY ADVANCED BREAST CANCER

M. Gamea

†Aswan University Hospital, Clinical Oncology, Tanta, Egypt

Aims

Topoisomerase II-α is a molecular target of anthracyclines; several studies have suggested that topoisomerase II-α expression is related to response to anthracycline treatment. The objective of this study was to evaluate if topoisomerase II-α overexpression predicts response to anthracycline treatment in locally advanced breast cancer patients.

Method

This prospective study included 50 patients with primary non metastatic locally advanced breast cancer according to American Joint Committee For Cancer Staging (T3-4;N0-3) were treated between January 2012 and January 2012 at Clinical Oncology Department, Tanta University Hospital.

Topoisomerase II-α, HER2, estrogen receptor (ER), progesterone receptor (PR) expression and KI-67 were evaluated by immunohistochemistry in formalin-fixed, paraffin-embedded breast tumors from 50 patients presenting with locally advanced breast cancer.

Results

Tumors from 50 patients, 45 (90%) showed topoisomerase II-α overexpression, patients 34 (68%) for ER positive, 32 (64%) for PR positive and 10 (20%) for HER2 overexpression and 16 (32%) for high KI-67.

Significant correlation between clinical and pathological response with topo IIA, HER2 and KI-67. p value ≤0.001, 0.005 and 0.015 respectively.

1-Responders :

v Clinical (CR): 3 patients had co-expression of topo II and HER2, hormonal receptor negative and high KI-67.

v Clinical (PR): 43 patients majority of them had topo II A overexpression .fig(9-10)

2-Non responders :

4(8%) patients all had negative (TOPOII/HER2), low KI-67 and 2 had hormonal receptor positive and another 2 had hormonal receptor negative.

Conclusion

Our data support a correlation between topoisomerase II-α expression in locally advanced breast cancer patients and improved clinical benefit with neoadjuvant anthracyclines based therapy.
ERIBULIN MESYLATE IN ADVANCED BREAST CANCER: RETROSPECTIVE REVIEW OF A SINGLE INSTITUTE EXPERIENCE.

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Aims

Eribulin is a non-taxane microtubule inhibitor, which can be used after anthracycline and taxane in patients with metastatic breast cancer (MBC). The purpose of this study was to investigate the efficacy and safety of eribulin in heavily pretreated MBC.

Method

This was a single institution retrospective analysis of MBC patients treated with eribulin from August 2012 to May 2016.

Results

We included forty-four consecutive MBC patients who received at least one cycle of eribulin. Median patient age was 58 years (range 43-76). All patients were pretreated with anthracyclines, taxanes and 72% with capecitabine. Brain metastases were present in 9 (20%) patients at the time of initial eribulin administration. Most patients were heavily pretreated with a median of 3 (range 2-7) previous chemotherapy lines prior to eribulin and had significant visceral involvement (median 3 organs). A median of 5 cycles of eribulin was delivered. There were no complete responses; partial responses were 20% (9/44) and disease control rate was 54.5% (25/44), progressive disease was seen in 44.5% (19/44) patients. Median progression free survival was 4.5 months (95% CI 2.8-6.2) and median overall survival was 12 months (95% CI 7.8-16.4). 15% of the patients required a dose reduction due to toxicity. Only one patient experienced grade 3 neurotoxicity. Three patients (6.8%) stopped eribulin due to fatigue grade 3. No hypersensitivity reactions and no toxic deaths were observed.

Conclusion

Eribulin monotherapy is an effective and safe regimen for MBC patients. In our experience, eribulin maintains its activity out of clinical trials, without unexpected toxicities.
BREAST CANCER

ESGO7-0169

MUCINOUS CYSTADENOCARCINOMA OF THE BREAST. A RARE ENTITY AND A PATHOLOGICAL CHALLENGE

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Aims

We report a case of mucinous cystadenocarcinoma (MCA), an extremely rare variant of primary breast tumor that is histologically similar to mucinous cystadenocarcinoma of the ovary and pancreas.

Method

A 63 year old woman was admitted in our hospital due to palpable mass to her left axilla. After clinical examination a FNA was performed on her axillary mass and the diagnosis was “positive for malignancy”. Ultrasound examination revealed a 16 mm mass in the left upper quadrant. The patient had a lumpectomy, a wider excision and axillary lymph node dissection.

Results

Histologically the tumor consisted of multiple cystic spaces filled with mucin with several papillary proliferations with epithelial tufting. The cysts were lined by columnar cells with moderate to severe atypia with some areas having a squamoid appearance. Mitotic count was high and necrosis was found. The palpable mass in the left axilla was a lymph node block with a maximum diameter of 47 mm. additional metastases was found in two of thirteen lymph nodes. Tumor cells were positive for CK-7 and negative for CK-20. The neoplasm was ER, PR and C-erb-2 negative and positive for both CK5/6 and EGFR. The patient received adjuvant chemotherapy and radiotherapy. After a 48-month period she has shown no evidence of recurrence or metastasis.

Conclusion

MCA has unique morphology among breast carcinomas as well as a very good prognosis unrelated to the size of the tumor, lymph node metastasis or the molecular subtype.
BREAST CANCER

ESGO7-0872

INTRACYSTIC TRIPLE NEGATIVE BREAST CANCER: UNUSUAL ENTITY

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Aims

Intracystic (encapsulated) papillary carcinoma of breast is a rare variant of breast cancer. It is usually a low-grade tumor showing estrogen, progesterone positivity.

Triple-negative breast cancer is a subtype of breast cancer which has a more aggressive clinical course than other forms of breast cancer, and is associated with aggressive histology and poor clinical outcomes. Rare cases of intracystic triple negative breast carcinoma have been reported in literature. Such cases need to be reported in order to avoid any overtreatment despite being high grade and triple negative.

Method

Among the triple negative breast cancer group of salah azaiez institution, we found two cases of intracystic papillary breast cancer.

Results

Our patients were postmenopausal aged 52 and 63 years old. The mammography showed well-circumscribed mass. Excisional biopsy revealed papillary intracystic papillary carcinoma. The patient underwent surgical treatment with mastectomy and axillary node dissection. The histological findings confirmed the diagnosis of intracystic triple negative immunostaining, high nuclear grade and negative axillary lymph nodes. Our patients underwent chemotherapy and radiation therapy. On post-treatment follow-up, the patient are disease free to date.

Conclusion

Our cases support the view that intracystic papillary breast carcinomas is correlated with a good prognosis, even if it has triple negative phenotype. Hence, the awareness of this clinicopathologic entity is important.
SYNCHRONOUS ASSOCIATION OF A BREAST CANCER AND A UTERINE CHORIOCARCINOMIST IN CONNECTION WITH A CASE AND REVIEW OF THE LITERATURE

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Aims

it is to bring back a rare case of synchronous association of two cancer (breast and uterine choriocarcinomist)

Method

we used the clinical data of the file of the patient treated in our structure
The breast cancer is the 1st cancer of the woman, The primitive uterine choriocarcinomist is rare pathology

according to the data of the literature this cancer is synchronous generally has other cancers (ovary, uterine, colonist) association with the trophoblastic is exceptional

A search for similar cases in literature with did not find a case similar

Results

the patient is 36 years old, consulted of the appearance of a left adenopathy axillaire and a retraction mamelonnaire A made mammography return in favour of a tumoral process of the bifocal left breast, classified ACR5, a micro biopsy is carried the histology return in favour of a canal carcinoma infiltrating; the patient presented métrorragies, βHCG make return very high 9000 UI, a MRI pelvic and a curetting made diagnoses it of a uterine choriocarcinomist.

The patient receives an néo- auxiliary chemotherapy for choriocarcinomist AE, until total negativation des βHCG, then a surgery on the pelvis

hysterectomy + annexectomy, a left mastectomy, clearing out axillaire homolatéral, after auxiliary chemotherapy for the breast cancer is made with a complement a radiotherapy.

The patient is in complete remission for these 2 néoplasies with a 12 months passing. Conclusion

we conclude that the association of two cancers is rare but it is always necessary to think of diagnosis in front of the appearance of the métrorragies
NO EVIDENCE OF HUMAN PAPILLOMAVIRUS (HPV) INFECTION ON BREAST CANCER IN INDIAN WOMEN

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Aims

Two high-risk HPV types 16 and 18 associated with development of cervical carcinoma and also reported to be present in many other carcinomas. Presence of HPV has been reported in breast carcinoma which is the second most common cancer in India. The two early genes E6 and E7 of HPV type 16 have been shown to immortalize breast epithelial cells in vitro, but the role of HPV infection in breast carcinogenesis is highly controversial. To analyze prevalence of HPV infection in both breast tissues and blood from a large number of women with breast cancer from different regions.

Method

High-risk HPV 16 and 18 DNA was detected by two PCR methods - conventional PCR using consensus primers (MY09/11, or GP5+/GP6+) or HPV16 E6/E7 primers and (ii) highly sensitive Real-Time PCR. A total of 228 biopsies and corresponding 142 blood samples collected from 252 patients from four different regions of India with significant socio-cultural, ethnic and demographic variations were tested.

Results

All biopsies and blood samples of breast cancer patients tested by PCR methods did not show positivity for HPV DNA sequences in conventional PCRs either by MY09/11 or by GP5+/GP6+/HPV16 E6/E7 primers. Further testing of these samples by real time PCR also failed to detect HPV DNA sequences.

Conclusion

Lack of detection of HPV DNA either in the tumor or in the blood DNA of breast cancer patients by both conventional and real time PCR does not support a role of genital HPV in the pathogenesis of breast cancer in Indian women.
BREAST CANCER

ESGO7-0640

BREAST CANCER IN TUNISIAN YOUNG WOMEN
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Aims

Breast cancer occurrence in young women accounts for 9-10% in Tunisia. Tumor characteristics may be more aggressive.

The aim of our study was to describe characteristics in young Tunisian patients with breast carcinoma.

Method

This was a retrospective study about 348 young women aged less than 35 years treated for breast cancer at Salah Azaiez Institute from 2000 to 2008.

Results

The mean age was 31 years. A family history of breast cancer was reported in 28 patients (8%) and pregnancy was associated to breast cancer in 25 patients. The mean tumor size was 39mm. Tumour was bilateral in 2,3% cases. Stage T2 was frequent (39,6%) followed by T4 stage (24%). Patients were metastatic at diagnosis in 11,2% cases. Ductal breast carcinoma was the most common histological subtype (90,2%). Axillary lymph node involvement was found in 61,4% of cases and Hormone receptors were positive in 194 patients (61,4%). Surgery was performed in 90,2% of cases. Radiotherapy was delivered in 75% of cases and chemotherapy was administered in 330 patients (94,8%). Hormonotherapy by Tamoxifen was adjuvant in 176 patients and ovarian suppression was performed in 155. Overall survival and disease free survival at 5 years were 71,6% and 53,9%. Prognostic factors were TNM stage, tumour size, SBR grade, lymph node involvement and capsular rupture, surgery, radiotherapy, adjuvant chemotherapy, hormonotherapy and ovarian suppression.

Conclusion

Despite therapeutic advances, the survival rates remain worse in young women. Further investigations are needed to develop awareness campaigns to improve early detection.
BREAST CANCER IN TUNISIA: ABOUT 730 PATIENTS
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Aims

Breast cancer represents a major public health problem in Tunisia. Few recent studies have exhaustively investigated the special features of Tunisian patients. The aim of this study was to identify the epidemiological, clinical, histological and therapeutic characteristics of breast cancer in Tunisia.

Method

It was a retrospective study of 730 patients with breast cancer diagnosed in 2012 and treated in Salah Azaiz Institute.

Results

Our series included 730 patients. Two percent were male. The median age was 50 years. The median clinical tumor size was 35 mm. The median radiological tumor size was 25 mm. Stage T2 was predominantly observed (41.6%). A clinical nodal involvement was present in 69.8% of cases. Metastatic localization was observed in 12.5% of patients. The infiltrating ductal carcinoma was the most common histological type. The median histological size was 25 mm. Hormone receptors were positive in 75.3% of cases. Receptors Her2 were overexpressed in 21% of cases. The most common molecular subtype was the Luminal B. The nodes were positive in 57.4% of cases. Surgery was performed in 89.7% of cases. Radiotherapy was performed in 76.1% of cases. Chemotherapy was administrated to 77.9% of patients. Hormonotherapy was administered to 89.4% of patients. Castration was performed for 61.2% of patients. The Herceptin was administered to 45.3% of cases.

Conclusion

The epidemiological characteristics of breast cancer in Tunisia are mainly the young age and the large tumor size at diagnosis.
BREAST CANCER

ESGO7-0659

SENTINEL LYMPH NODE BIOPSY IN BREAST CANCER AFTER NEOADJUVANT CHEMOTHERAPY
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Aims

Sentinel node biopsy (SNB) is largely recommended in breast cancer. However it is still debatable whether this procedure can accurately predict lymph node status after neoadjuvant chemotherapy (NAC). The aim of this study was to determine the detection rate and the false negative rate of SNB after NAC in advance breast cancer.

Method

In this transversal monocentric study, 53 patients were enrolled in Salah Azaïz Institute from June 2012 to August 2016. After neoadjuvant chemotherapy for breast cancer, all patients had sentinel node biopsy.

Results

The median age was 48 years. The median clinical tumor size was 44.96mm. Tumors were cN0 in 34 cases and cN1 in 19 cases. The most common molecular subtype was the luminal B in 23 cases. Lymphoscintigraphy was realised in 32 patients. Detection rate of this method was 83.3%. Patent blu was injected to 47 patients and the detection rate of this method was 95%. The detection rate of the combined method was 96%. The overall SNB detection was 94%. Axillary lymph node dissection was done to all patients. A complete pathologic response was obtained in 13.2% of cases. Immunohistochemical study was performed to the three SNB and was negative. Thus, false negative rate was 16%. Negative predictive value of this technique was 91%.

Conclusion

Detection and false negative rate of SNB were successively 94% and 16%, similarly to results of many prospectives studies dealt with SNB in breast cancer after chemotherapy. Because SNB after chemotherapy is still not worldwide approved, more randomised studies are required.
Aims

Ductal carcinoma in situ (DCIS) of the male breast is an uncommon disease, accounting for approximately 7% of all male breast carcinomas. Compared with invasive carcinomas of the breast, the prognosis associated with DCIS in men is excellent; however, clinical features, pathology, and treatment of this disease are not well defined in the literature. Our aim is to try to update on the various aspects of this disease.

Method

We report two new cases of ductal carcinoma in situ of the male breast treated in Salah Azaiez institute.

Results

It was 2 men aged 58 and 85 years; presented with a typically nodular, retroareolar, partially cystic mass associated with a nipple discharge. The duration of symptoms was 1 month. The size of the lesions was 20 and 25 mm. The pathologic subtype was papillary in one patient, associated with cribriform and comedocarcinoma in the other. Radical mastectomy was performed with axillary dissection in one case and sentinel node method in the other. No lymph node metastases were found. Paget’s disease of the nipple was found in the older man. Patients were alive without disease at 12 months of follow-up.

Conclusion

DCIS in the male patient is best treated by total mastectomy without axillary dissection. We caution the pathologist about the possibility of misdiagnosing this relatively uncommon disease and emphasize that reports of benign papilloma in the male patient should be investigated carefully.
CHOROIDAL METASTASIS OF A BREAST CARCINOMA

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Aims

Choroidal metastases are relatively rare in the course of breast cancer and are mostly asymptomatic. Diagnosis is often late and made at an advanced stage.

We aim through three case reports to illustrate the management of a breast cancer metastatic to the eye.

Method

We report 3 cases of choroidal metastases of a breast carcinoma.

Results

Our patients were aged respectively 32, 48 and 61 years. They were two women and one man. All patients underwent modified radical mastectomy for breast carcinoma earlier. It was an infiltrating ductal carcinoma in all cases. Hormone receptors were positive in two cases. All patients had chemotherapy associated with adjuvant radiotherapy. Two patients had hormonal therapy by Tamoxifen. The mean time to onset of choroidal metastasis was 54 months (6-84 months). The common sign was the sudden decrease in visual acuity and exophthalmos (1 patient). All patients had orbital MRI, and the biopsy confirmed the diagnosis of choroidal metastasis in all cases. All patients had external beam radiation therapy with a complete regression of the metastasis, and a better visual acuity was recovered. One patient had systemic chemotherapy associated with radiotherapy. Two patients were metastatic to the bone and to the lung. All patients were lost on progression.

Conclusion

Choroidal metastasis of the breast cancer is a significant and under-recognized clinical problem for the oncologist. The ocular fundus exam can be useful in follow up in order to act as early as possible. Radiotherapy is the cornerstone of management and will allow the majority of patients to maintain useful vision.
BREAST CANCER

ESGO7-0652

BREAST CANCER IN PREGNANCY AT SALAH AZAIEZ INSTITUTE
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Aims

Pregnancy-associated breast cancer is a challenging clinical situation.

The aim of our study was to describe characteristics of breast cancer associated with pregnancy in Tunisian patients.

Method

This was a retrospective study about 25 pregnant young women treated for breast cancer at Salah Azaiez Institute.

Results

The mean age was 30 years. A family history of breast cancer was reported in 3 cases. Breast cancer diagnosis was established during the first trimester for 10 patients, during the 2nd for 4 patients and during the 3rd trimester for 11. A therapeutic interruption of pregnancy was performed in 13 cases. The mean tumor size was 52 mm, tumour was bilateral in 1 case. Stage T2 was frequent (41.7%) followed by T4 stage (25%). The mean radiological size was 31 mm. Patients were metastatic at diagnosis in 3 cases. Ductal breast carcinoma was the most common histological subtype (92%). Axillary lymph node involvement was found in 61.9% of cases and Hormone receptors were positive in 13 patients (59.1%). Breast surgery was performed in 21 cases. Radiotherapy was delivered in 64% of cases and chemotherapy was administered in 22 patients (88%). Hormonotherapy by Tamoxifen was given to 10 patients and ovarian suppression was performed for 9. Overall survival and disease free survival at 5 years were 47.9% and 40.6% respectively.

Conclusion

Pregnancy does not clearly influence the outcome of an established breast cancer. Treatment must be organised by a multidisciplinary team.
BREAST CANCER

ESGO7-0926

BILATERAL ANGIOSARCOMA AFTER BREAST-CONSERVING THERAPY
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Aims

Angiosarcoma of the breast is rare. It may occur as a complication of radiation therapy after breast conservation. Oncologists will be faced with difficult management decisions for this aggressive tumor. Our aim is to try to update on the various aspects of this disease.

Method

we report a patient with a history of breast carcinoma treated by surgery and radiation, who developed bilateral angiosarcoma.

Results

A 48-year-old female, with a history of right lumpectomy performed eight year ago for breast carcinoma followed by radiation therapy, presented with a painful, bluish and nodular mass occupying the interne quadrants of the right breast. On examination, the lesion measured 4 cm. An excisional biopsy was performed. Histopathological examination revealed a vascular tumor proliferation. A right mastectomy was performed. One year ago, the patient presented with a lump of left breast. MRI showed a malignant lesion. An excisional biopsy of the left axillary lymphadenopathy was performed. Histopathological examination revealed an axillary localization of an angiosarcoma. A left radical mastectomy was performed. Histopathological examination revealed a grade-II angiosarcoma measuring 5 cm. Margins of resection were tumor-free. Five nodes were metastatic from nine. Four nodes had a capsular rupture. Chemotherapy was prescribed. Radiotherapy of the left chest wall was indicated.

Conclusion

Angiosarcoma developing after breast conserving therapy for carcinoma is a rare event. Pathologists should keep this diagnosis in mind when dealing with a breast skin lesion in a patient with a previous history of breast cancer and radiation therapy.
CLEAR CELL CARCINOMA OF THE BREAST: A RARE BREAST CANCER SUBTYPE

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Aims

Clear cell breast carcinoma CCBC is a rare histological breast cancer subtype. Its prognosis may vary depending on specific clinical and pathological characteristics and early diagnosis. Our aim is to discuss the evolutionary characteristics of this entity.

Method

We report two cases of CCBC treated in Salah Azaiez institute.

Results

It was 2 women aged respectively 36 and 67 years. The duration of symptoms was 2 months. The common complaint was a tumor in the right breast. The size of the lesion was 25 mm. Radiological evaluation showed a malignant tumor. Conservative surgery was performed in the first case. The other patient underwent radical mastectomy with axillary lymphadenectomy. No lymph node metastases were found in the first case, we found 5 positive lymph nodes in the second one. Histology concluded to a CCBC SBR III, Luminal B in one case and triple negative in the other. Adjuvant radiation and chemotherapy was planned for one patient. Two months later, both patients developed sub-cutaneous lesions. The biopsy revealed a recurrence of the original tumor. One patient underwent completed excision of lesions, the other underwent radical mastectomy and histology concluded to a multifocal residual tumor; adjuvant radiation therapy, chemo and hormonotherapy was planned for this patient. Two months later, she developed permeation nodes in the right axilla and brain metastasis.

Conclusion

Particular attention should be given to CCBC by pathologists and clinicians to avoid misdiagnosis and delayed treatment, because it has a potentially aggressive clinical course.
AN UNUSUAL METASTASIS TO THE BREAST
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Aims

Breast metastases are rare. They represent 0.4 to 6% of all breast cancers. Diagnosis and management of these metastases is an uncommon clinical problem but one that can present difficulties to the oncologist and pathologist. Immunohistochemistry is an important tool for a conclusive diagnosis. We present this case in the aim of trying to update on the various aspects of this entity in order to avoid unnecessary mutilating surgery.

Method

We report a case of a flank fibrosarcoma metastatic on the breast in a young woman.

Results

It was a 33-year-old female patient, single, operated a year ago for sarcoma of the right flank. The surgery was followed by radiotherapy at the dose of 54Gy. Our patient presented 6 months later with a right breast nodule. On the clinical examination an upper external nodule of 15 mm in diameter was found. It was firm, poorly limited and mobile. The echography showed a malignant tumor. Radiologic exam showed a liver metastasis with a suspicious bone lesion. The excision of the mass was performed. Histology and immunohistochemical study confirmed the diagnosis of a mammary metastasis of the previously diagnosed fibrosarcoma. The patient was metastatic in the breast, liver and bone. She had chemotherapy with a stability of the lesions on the control CT scan and then she was lost of sight.

Conclusion

Metastases to the breast must be distinguished from primary breast cancers whose treatment and outcome are different. A confrontation of clinical and pathological data is recommended for an accurate diagnosis.
DEPRESSION AND ANXIETY AFTER MASTECTOMY FOR BREAST CANCER

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Aims

The aim of the study was to define the effects of daily hospice team’s activities on depression and anxiety in breast cancer patients having undergone mastectomy after three-month therapy.

Method

This prospective study included 35 patients that underwent mastectomy for breast cancer, followed by 3-month treatment at daily hospice, Tuzla University Clinical Center. Control group consisted of 35 mastectomized patients that did not visit daily hospice. Depression and anxiety were estimated by use of Zung’s scale. Patients were tested initially and retested at 12 weeks.

Results

On initial testing, the mean value of depression was 59.85±6.97 in the study group and 55.65±7.91 in the control group. On three-month retesting, the level of depression was lower in the study group, with a mean value of 48.57±7.06 (P<0.0001) (steam T-test and Wilcoxon’s test) and higher in the control group, with a mean value of 60.45±7.47 (P=0.0001) (steam T-test and Wilcoxon’s test). On initial testing, the mean value of anxiety was 54.97±6.35 and 52.20±6.03 in the study and control group, respectively. On three-month retesting, the level of anxiety was lower in the study group, with a mean value of 43.43±5.97 (P<0.0001), showing improvement from initial testing, but was higher in the control group, with a mean value of 55.68±7.47 (P=0.0002).

Conclusion

In conclusion, daily hospice team’s treatment had favorable effects on lowering the levels of depression and anxiety in patients undergoing mastectomy for breast cancer.
BREAST CANCER

ESGO7-0111

TREATMENT AT A DAY-CARE HOSPICE OF PATIENTS AFTER MASTECTOMY FOR BREAST CANCER IMPROVES THEIR PHYSICAL AND MENTAL HEALTH

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Aims

The aim of this research was to establish whether three-month treatment by a multidisciplinary team at a daycare hospice improves the physical and mental health (PMH) of patients after mastectomy for breast tumours and after the completion of oncological therapy.

Method

By a prospective study undertaken on the palliative care ward of the University Clinical Centre in Tuzla, Bosnia and Herzegovina from May 2006 to May 2007, 35 patients were surveyed who had undergone mastectomy for breast tumours and had completed specific oncological therapy. The treatment by the team at the day-care hospice lasted three months. For an assessment of PMH a SF-36 scale was used. In the statistics we used the even T-test and the Wilcox test. The difference was seen to be significant at p < 0.05.

Results

The overall physical health of the patients examined after treatment at the daycare hospice was taken to be 0.55 (0.31 – 0.86) points and was statistically significantly better than the test before treatment at 0.42 (0.27 - 0.83; p < 0.0001). Improvement was achieved in the sub-scales of general health and physical function. Treatment in the day-care hospice of the patients examined also led to improvement of their overall mental health, especially on the sub-scale of social functioning and mental health.

Conclusion

The research established the improvement of all aspects of mental health and most aspects of physical health in the patients after three months’ treatment by a multidisciplinary team at the day-care hospice.
MALE BREAST CANCER IN TUNISIA: EPIDEMIOLOGICAL AND CLINICAL FEATURES & PROGNOSIS FACTORS

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Aims

This retrospective study has been realized to determine the epidemiological profile and clinico-pathological aspects of male breast cancer in the center of Tunisia and to analyze its therapeutic results and its prognostic factors.

Method

We analyzed all male breast cancers with a pathological proof of malignancy diagnosed in the departments of gynecology and obstetrics and general surgery of Farhat Hached hospital Sousse Tunisia, between 1997 and 2016. Survival was done with the Kaplan-Meier method.

Results

Forty four new cases of male breast cancer have been diagnosed. The average patient age was 54 years (extremes 28 and 92 years). According to the TNM classification, 6.8% were classified T1 and 43.1% T4; 18.2% were M1. Cancer was bilateral in 9%. 13.7% of the tumors were in-situ carcinomas and 86.4% ductal infiltrating carcinomas. Hormonal receptors were expressed in 45.5%. Triple negative cases represented 36.4%. Chemotherapy was indicated in 68.2% of the patients and loco regional radiation was performed in 86.4% of the cases. Hormonotherapy was prescribed in all cases of positive hormonal receptors. Overall survival rate at 5 years after diagnosis was 26% in all cases and about 55% in patients stage T1N0M0. After univariate analysis, the clinical stages T4, M1 and the pathological stage pN+ affected survival.

Conclusion

The male breast cancer in our area remains relatively less frequent than in women but its prognosis remains alarming even with gold standard treatments. To get better prognosis it is important to increase information among the population and general practitioners and to promote early detection.
Aims

The infiltrating mucinous adenocarcinoma (IMC) is a rare and challenging entity. The aim of our study is to evaluate epidemiologic, clinical and imaging characteristics of pure infiltrating mucinous adenocarcinoma (IMC) and its prognostic factors.

Method

We report a retrospective analysis including 36 female patients with pure IMC treated at the department of gynecology and obstetrics at Farhat Hached Hospital Sousse Tunisia between 2000 and 2016.

Results

The mean age was 53 years. The tumor was classified as T1 in 2 cases, T2 in 18 and T3 in 16 cases. Axillary nodes were staged as N0 in 3 patients, N1 in 12 and N2 in 11. Bone metastases were diagnosed in 2 patients. The sensitivity of mammography and sonography for pure IMC were 66% and 92%, respectively. Breast-conserving surgery was performed in 6. The mean histological tumor size was 42.5 mm. Patients were more likely to have low grade tumors (66%) and positive hormonal receptors (89%). Adjuvant chemotherapy was administrated for 31 patients. After a mean follow-up of 70 months, 4 patients developed local recurrence and 5 distant metastases (bone). The overall survival at 5 years was 71% for all patients and 83% for non metastatic ones. On univariate analysis, clinical stage T, neoadjuvant chemotherapy and lymph node involvement were the most significant prognostic factors for overall survival.

Conclusion

Women presenting with breast symptoms should be examined carefully and evaluated with an appropriate diagnostic work-up because some patients with IMC may present radiologically benign-like lesions.
BREAST CANCER

ESGO7-1312

INTRACYSTIC PAPILLARY CARCINOMA OF THE BREAST : CLINICAL, IMAGING ADN PATHOLOGICAL FEATURES

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Aims

Intracystic papillary carcinoma (ICPC) of the breast is a rare entity, with an incidence of 0.5% of all malignant breast tumors. The aim of this study is to characterize the specific iconographic features of this entity to over pass the difficulties to distinguish between benign tumors and this malignant intracystic lesion.

Method

We retrospectively report 12 cases of ICPC of the breast diagnosed and treated in women at the department of gynecology and obstetrics at Farhat Hached Hospital Sousse Tunisia between January 2000 and April 2017.

Results

The mean age at diagnosis was 54 years old (29-73). Eight patient presented with breast pain and the tumor was diagnosed at the ultrasonography. The other 4 patients presented with a painless breast lump. The mean tumor size was 24mm (10-33). On mammography, the mass had circumscribed margins in 7 cases and indistinct margins in 5 cases. Ultrasnography showed complex cystic and solid masses in all patients, with posterior acoustic shadowing in 5 cases and posterior acoustic enhancement in 2 cases. Histopathological examination revealed an intra-cystic papillary carcinoma, associated with foci of ductal carcinoma in situ in 10 cases and micro-invasive carcinoma in 2 cases. All axillary lymph node were not invaded. After a mean follow-up of 32 months, 3 patient developed local recurrence treated by surgery, radiotherapy and hormonotherapy and chemotherapy.

Conclusion

ICPC of the breast is characterized by a more benign behavior and a subsequent better prognosis. The place of extempo pathological examination and sentinel lymph node detection are to be evaluated.
ANEMIA AND LOW PLATELETS REVEALING A SPLENIC METASTASIS OF A PRIMARY BREAST ANGIOSARCOMA

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Aims

The aim of this case report is to emphasize the poor prognosis of the primitive angiosarcoma of the breast. Breast angiosarcomas mostly affect adolescent and young adult females.

Method

We report the case of a 35-year-old female with high grade primary breast angiosarcoma treated with a mastectomy and a lymph node dissection followed by an adjuvant chemotherapy and radiotherapy at the department of gynecology and obstetrics at Farhat Hached Hospital Sousse Tunisia from November 2016 to April 2017.

Results

The patient presented severe anemia and low platelets. She experienced severe non immunological hemolysis with no other abnormalities, 3 months after surgery and during radiotherapy. A computed tomography showed splenic metastasis. Despite transfusions and corticotherapy, the patient died a month after the diagnosis of the splenic metastasis.

Conclusion

Splenic metastasis are rare but dramatic complications of breast cancer especially the primitive angiosarcoma of the breast.
Aims

Cell proliferation measurement is believed to be an important predictive factor for the success of neoadjuvant chemotherapy (NACT) in breast cancer, but its use is still controversial. The aim of the study was to determine the cut-off value of Ki-67 in breast cancer patients and evaluate its predictive potential.

Method

74 patients with locally advanced breast cancer undergoing NACT were analysed. Response to NACT was measured by pathological complete response (pCR) rate and neoadjuvant response index (NRI). All patients underwent centralized Ki-67 evaluation among other tumor characteristics. Optimal cut-off value of Ki-67 was determined using receiver operating characteristics curve while its predictive potential was confirmed using univariate and multivariate analyses.

Results

Ki-67 cut-off value of 50% was optimal for predicting both pCR rate and NRI. Patients with high Ki-67 (> 50%) achieved NRI 0.49 versus 0.32 in patients with Ki-67 < 50% (p < 0.01). Similar was shown for pCR rate (5.3% in Ki-67 > 50% group vs. 19.4% in Ki-67 < 50% group) yet pCR rate difference did not reach statistical significance (p = 0.06). Independent predictive value of Ki-67 cut-off value was confirmed using multivariate analysis.

Conclusion

Cell proliferation measured by Ki-67 is an important predictor of NACT response. Cut-off value of 50% could be used to identify patients with favorable NACT outcome and higher probability of achieving pCR.
Aims

Low-dose metronomic chemotherapy (LDMC) is increasingly used in metastatic breast cancer (MBC). In the current investigation we examined the therapeutic response of LDMC in MBC.

Method

In this retrospective analysis we focus on patients with MBC receiving LDMC with oral cyclophosphamide (CTX) (50mg daily) and methotrexate (MTX) (2.5mg every other day). Patients were treated between 2009 and 2015. Primary endpoint was disease control rate (DCR) ≥ 24 weeks after start of LDMC. DCR included complete remission (CR), partial remission (PR) and stable disease (SD). Secondary endpoints were duration of progression free survival (PFS) and rates of discontinuation due to progression and side effects.

Results

35 patients entered the study. 11 (31%) patients achieved DCR. 1 (3%) patient had CR, 6 (17%) PR and 4 (11%) showed SD, respectively. The patients had received a median of 2 (range: 1-8) lines of chemotherapy. DCR was achieved in 8/24 (33%) hormone-positive patients and 3/11 (27%) hormone-negative patients. The median PFS was 12 (range: 6-86) weeks. 3 (9%) patients dropped out because of adverse events.

Conclusion

The DCR of 31% is in line with the results of previous phase-II-studies. This orally administered LDMC regimen has a favourable therapeutic index for advanced breast cancer patients without need for rapid response.
BREAST CANCER

ESGO7-1089

PROMOTER HYPERMETHYLATION IN GSTP1, HIC1 AND CDH1 GENES AS A MARKER FOR EARLY STAGE TRIPLE NEGATIVE BREAST CANCER

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Aims

Triple negative (ER-/PR-/Her2-) breast cancers are most frequent aggressive tumors in younger women, and are associated with early relapse and poor prognosis. Epigenetic silencing of specific tumor suppressor genes plays an important role in breast cancer initiation and progression but till date no epigenetic biomarker(s) is linked with triple negative breast cancers. In this study, five tumor suppressor genes, BRCA1, p16, GSTP1, HIC1 and CDH1 have been investigated to see if the methylation pattern could serve as a reliable indicator for early detection/progression and/or prognosis of triple negative breast cancer.

Method

Genomic DNA isolated from 124 primary breast tumor biopsies employed for sodium bisulfite conversion of genomic DNA was performed for analysis of promoter methylation by methylation specific polymerase chain reaction (MSP) and the results obtained correlated with the level of the expression of the genes, stage/grade of the disease and clinicopathological parameters.

Results

Out of five specific tumor suppressor genes, GSTP1, HIC1 and CDH1 showed significantly a higher level of methylation in early stage triple negative breast cancer; GSTP1 promoter was hypermethylated in 100% of cases leading to loss of expression in 50% of the TNBCs while HIC1 and CDH1 were hypermethylated in 88.88% tumors with a loss of expression in 37.5% and 25% respectively in early stage triple negative breast cancer.

Conclusion

The results suggest that hypermethylation of these genes may serve as a potential predictive biomarker for early identification and progression of aggressive triple negative breast cancer.
STROMAL B7-H3 AND B7-H4 EXPRESSION CORRELATIONS WITH TUMOR PROGRESSION AND T-CELL INFILTRATION IN PHYLLODES TUMOR OF THE BREAST

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Aims

The aberrant expression of co-inhibitory B7 molecules, B7-H3 and B7-H4, in the tumor microenvironment has been attributed to reduced anti-tumor immunity and immune evasion, prompting the development of immunotherapeutic approaches. This study was undertaken to detect the expression of B7-H3 and B7-H4 in phyllodes tumors (PTs) and its association with the grade and clinical behavior of PTs. In addition, the association of B7-H3 and B7-H4 with the CD3 and CD8+ T lymphocytes was also assessed to investigate their roles in the regulation of tumor immune surveillance.

Method

Immunohistochemistry was applied to examine the expressions of B7-H3, B7-H4, CD3, and CD8 in 60 benign, 26 borderline, and 15 malignant PTs.

Results

Stromal high B7-H3 and B7-H4 expression was noted in 31 (51.7 %) and 0 (0 %) of 60 benign PTs, 20 (76.9 %) and 2 (7.7 %) of 26 borderline PTs, and 13 (86.7 %) and 9 (20.0 %) of 15 malignant PTs, respectively. Stromal B7-H3 and B7-H4 expression increased continuously as PTs progress from benign through borderline to malignant PTs, respectively (P = 0.003 and P = 0.001). The recurrence rate was higher in the stromal high B7-H3 or B7-H4 expression group than in the low expression group but this difference was not statistically significant. B7-H3 expression inversely correlated with the intensity of CD3 and CD8+ T cells (P = 0.001 and P = 0.027, respectively).

Conclusion

B7-H3 and B7-H4 are involved in the progression of PTs and B7-H3 may play a role in immune surveillance mechanisms of PTs.
**Aims**

We conducted a 1:1 age-matched case-control study to investigate the risk for breast cancer (BC) in relation to self-reported use of underarm cosmetic products (UCPs) containing aluminium salts. Our study for the first time also included analysis of aluminium concentrations in a big series of breast tissues.

**Method**

Structured BC risk interviews were conducted. History of UCP use was compared between 209 BC patients (cases) and 209 age-matched healthy women (controls). Aluminium concentration was analysed in breast tissues of 100 cases and 52 controls who underwent mastectomy for BC or reduction mammoplasty for non-cancer reasons, respectively. Multivariable conditional logistic regression analysis was performed to determine relative risks, estimated as odds ratios (ORs) with 95% confidence intervals (CIs), adjusting for established BC risk factors.

**Results**

Case-control comparisons confirmed established risk factors for BC. Self-reported use of UCP was significantly associated with an increased risk of BC (p=0.036). BC risk increased by an OR of 3.88 (95% CI 1.03-14.66) in women who reported using UCPs more than once daily starting at an age <30. Aluminium in breast tissue was significantly associated to self-reported UCP use (p=0.003) in both cases and controls. Median (interquartile) aluminium concentration was significantly higher (p<0.001) in cases than in controls (5.8, 2.3-13.1 versus 3.8, 2.5-5.8 nmol/g).

**Conclusion**

Frequent use of UCPs may lead to accumulation of aluminium in breast tissue. Extensive use of UCPs particularly at young age was associated with increased risk of BC. Of note, we herein report on pure correlation analyses and not on causal links.

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Aims

Diagnosis of leptomeningeal metastasis (LM) has become increasingly common because of longer survival of patients by better systemic control. However, treatment options are very limited and their appearance implies a very poor prognosis. Treatment options are intrathecal and systemic chemotherapy, radiotherapy. This report of our single center experience investigates clinical features and determines prognostic factors in a cohort of patients with breast cancer.

Method

Single center data from 43 patients with breast cancer and LM between 2009 and 2016 were retrospectively analyzed with focus on characteristics, clinical outcome and treatment.

Results

Mean interval between diagnosis of breast cancer and diagnosis of LM was 17.5 month (range 0-149 months). LM was diagnosed by MRI and cerebrospinal fluid cytology (CSF) 69.8%, MRI alone 25.6% or CSF 4.7% alone. Treatment included intrathecal therapy alone 48.8%, radiotherapy alone 20.9% or the combination of both 14%. 42% patients had triple negative (TNBC) breast cancer, 9.3 % were Her2-positive (HER2+) and 48.8 % had a hormone receptor positive and Her2-negative disease (HR+/HER2-). Median survival was 1.6 month for TNBC, 13.3 months for HER2+ and 7.4 months for HR+/HER2- disease. 58.1% died due to progression of LM und 23.3% due to systemic progression. 1 patient (Her2+) is still alive 18 months after diagnosis of LM.

Conclusion

Despite the improvement of treatment options for breast cancer within the last years, appearance of LM is still associated with a poor survival. Survival differs between subtypes. More research needs to be done to identify factors for possibly new systemic therapies that improve survival.
BREAST CANCER

ESGO7-0496

THE LUMINAL A BREAST CANCER METASTATIC BEHAVIOUR BETWEEN PERITUMORAL LYMPHANGIOSIS CARCINOMATOSA AND AXILLAR LYMPH NODES

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Aims

Based on the central role of biomarkers in planning the mammary cancer therapy, we investigated 412 cases, randomly selected, to emphasize the relationship between peritumoral lymphangiosis carcinomatosa in molecular subtypes in breast cancer and axillary lymph node metastasis.

Method

We have selected cases that are ordered under the four molecular subtypes of breast cancer. We noticed that the majority of mammary carcinoma are part of the Luminal A subtype. For this subtype we analyzed the behaviour between peritumoral carcinomatosa lymphangiosis and axillary lymph nodes.

Results

L1 status has a HIGH RISK of nodule METASTASIS (HRM)
L0 status has a LOW RISK of nodule METASTASIS (LRM) allowing that the size and biology of the tumor have favorable criteria.

Conclusion

Peritumoral lymphangiosis carcinomatosa can be used as a prediction factor in a high or low risk metastasis of axillary lymph nodes, as well as a prognostic factor.

The presence of peritumoral lymphangiosis implies a direct relationship with the metastasis of lymph nodes and their increase in number.

In case of a Luminal A L0 situation we expect few axillary nodes metastasis, which makes possible to even forego the axillary dissection.
BREAST CANCER

ESGO7-0629

ORBITAL METASTASIS OF BREAST CARCINOMA: ABOUT THREE CASES

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Aims

Breast cancer can metastasize to many sites, but the orbit is an infrequent location and a comparatively rare site of distribution among the ocular area structures, with only 3-10% of all ocular metastases.

Method

All patients diagnosed with orbital metastasis of breast carcinoma at Salah Azaiez institute, Tunis, Tunisia, in the period from 2016 to 2017, from retrospective chart review and histologic analysis.

Results

A total of 3 patients were included. The patients had respectively 63, 50, 51 years old at the time of diagnosis of orbital metastasis. Two patient with a history of a grade 2, hormone receptor-positive, HER2-negative ductal adenocarcinoma (DAC) of the left breast, and one with triple negative DAC. Signs were local pain, diplopia, slight ptosis and proptosis. MRI revealed a mass of the extraocular muscle, in one case, infiltration of extraorbital muscle, and choroid metastasis in the two others cases. The CT body scan did showed any other metastatic site. A navigation-assisted intraorbital biopsy from the orbital roof, performed in one patient, revealed a metastasis of breast cancer. As further treatment they received systemic palliative chemotherapy in addition.

Conclusion

The metastatic involvement of the orbit in malignant tumors is a rarely diagnosed condition. Breast cancer accounts for the majority of these cases.

In patients with a previous history of breast cancer who complain even of mild ophthalmologic symptoms such as local pain, periorbital edema, it is important to consider ocular or orbital metastatic disease. Adequate 3D-Imaging followed by a biopsy will usually confirm the diagnosis.
Malignant melanoma is the most rapidly increasing cancer in the world. Metastatic disease occurs in 20% of patients. Metastases to the breast are rare. Melanoma is, however, among the most commonly reported primary tumors to metastasize to the breast.

Method

A retrospective case review of melanoma registry at Salah Azaiez institute, Tunis, Tunisia, in the period from 2005 to 2016 to find all patients with melanoma metastatic to the breast.

Results

five patients were found to have breast metastases from melanoma during this period. Four patients were premenopausal females with a mean age of 44 years. Two patients had primary lesions on the heel, one the axillary area, one on the head and one in vagina. The median interval between diagnosis of the primary and breast involvement was 19.8 month. One patient had bilateral breast involvement, and all had other sites of metastases. The median survival after diagnosis of breast metastases was 4 months.

Conclusion

Metastasis to the breast must be considered in any patient with a known primary malignant tumor history who presents with a breast lump. Careful triple assessment and multidisciplinary decision making are vital in developing the management plan.
Sclerosing epithelioid fibrosarcoma (SEF) is a rare variant of fibrosarcomas, characterized by epithelioid tumor cells arranged in strands, nests, cords, or sheets embedded within a sclerotic collagenous matrix. It was recently identified as a separate entity due to specific histologic and immunohistochemistry features and its poor prognosis, with only fewer than 100 cases reported in English literature.

Metastatic spread is usually late in the natural course of the disease. **Method**

We report the case of a premenopausal woman who was diagnosed with a metastatic SEF in her breast in Salah Azaiez institute, Tunis, Tunisia, in 2013.

**Results**

We report the case of a 33-year-old woman with a right breast nodule. She was previously known for sclerosing epithelioid fibrosarcoma (SEF) of the right flank, having a wide resection for local recurrence with free margins. A solid periuret mass was surgically excised 3 years later, yielding the diagnosis of metastatic SEF. To our knowledge, this is the first documented metastasis of SEF to the breast, providing a review of literature.

**Conclusion**

These sarcomas have proven difficult to treat, with high recurrence rates despite a multimodal approach.
PRIMARY ECTOPIC AXILLARY BREAST CARCINOMA: ABOUT SIX CASES

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Aims

The presence of ectopic breast tissue is reported in 2-6% of the general population with most cases being located in the axillary region. Primary carcinoma of ectopic breast tissue has been reported only in a small number of cases. The aim of this study is to investigate the clinical features, treatments, and prognosis of primary ectopic axillary carcinoma (PEAC).

Method

A retrospective cases review of breast cancer registry at Salah Azaiez institute, Tunis, Tunisia, in the period from 2000 to 2006 to find all patients with PEAC.

Results

A total of 6 patients were included. The average age at the time of diagnosis was 51 years. The five-year survival in this study was 83%. Histologic feature showed: four cases of ductal infiltrated carcinoma, one case of lobular infiltrated carcinoma and one ductal in situ carcinoma. Four patients with positive hormonal receptors and negative HER2 and two patients had a triple negative carcinoma. Five patients underwent surgery as primary treatment, one patient underwent neoadjuvant chemotherapy followed by surgery. Five patient underwent adjuvant radiotherapy. During follow up, five patients is doing well, with no evidence of local recurrences or distant metastases, one patient had hepatic metastasis and she had palliative chemotherapy.

Conclusion

Accessory breasts are not uncommon and are subjected to various pathologies including carcinoma. The management of accessory breast carcinoma parallels that of a normally situated breast carcinoma. Although early detection of accessory breast carcinoma may be difficult, this is a potentially treatable and curable condition.
BREAST CANCER

ESGO7-1236

ULTRASOUND-GUIDED ONCOPLASTIC SURGERY IN NON-PALPABLE BREAST LESIONS
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Aims

To evaluate the rate of malignant margins in the oncoplastic surgery of non-palpable ultrasound-guided breast lesions.

Method

- Observational, descriptive and retrospective study. All patients diagnosed with non-palpable malignant breast lesions from October 2011 to May 2015 were included in the study. Patients with neoadjuvant therapy were also included as long as the tumor was not palpable at the time of surgery.

Results

114 patients were included. 66.6% corresponded to infiltrating ductal carcinoma, 22.8% to ductal carcinoma in situ and 10.6% to all other lesions (special and lobular carcinomas). The oncoplastic techniques used were Fisher-type tumorectomy and remodeling (52.6%), circular mammoplasty (16.6%), vertical mammoplasty (14.9%). The malignant margins rate was 7.01% (8 patients).

Conclusion

Reviewing the literature, there is still insufficient evidence to conclude that intraoperative ultrasonography in nonpalpable lesion surgery is a superior technique. Lack of randomized clinical trials are available. There is evidence to conclude that it is a simple, reproducible technique with a short learning curve and that does not generate pain to the patient. The published localization rates are around 100%. Studies should be performed comparing currently available techniques.
MEDULLARY BREAST CANCER

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Aims

Breast medullary carcinoma is a favourable prognose tumor despite its high nuclear grade and miotic index.

It represents 3% of breast cancer, reaching 13% in women with BRAC/1 gene mutation.

It is present in young women as a dense well-defined lesion which seems to be encapsulated, and it can be taken for benign lesion when using imaging techniques.

Sincitial growth pattern with stressed nuclear atypia and a diffuse lymphoplasmocitary infiltrate are its main characteristics.

The incidence of lymph node metastasic disease is 27% reaching up to 94% of survial rate.

Method

Case Report

Results

A 35 years old woman coming to clinics due a new well defined 3cm nodule in left breast. Echography: solid 32x12 mm nodule with quistic degenerated areas. Mammography: solid 22x21x12mm solid nodule in CSE with regular contour, without microcalcifications. BIRADS 4.Core biopsy: solid pattern G3 carcinoma poorly differentiated. Negative extension study.

Augmented tumorectomy is performed under echographic control of countour with BSGC (Sentinel Node biopsy) and oncomamoplasty techniques. Intraoperatoriy biopsis: free margins and two lymph nodes without metastasic evidence.Definitive anatomy: infiltrating carcinoma with medular signs of 2.7cm with free G3 margins. ER+PR+HER 2 neu negative and Ki 67: 90% pT2n N0(0/2)M0 stage.Genetic analysis with negative results.

After presenting case at Tumor Committee, complementary chemotherapy 4 adriamycin/ cyclophosphamide + 12 paclitaxel with postsurgical radiotherapy and posterior hormonal treatment is received.

Conclusion

Medullary breast carcinoma is a favourable histologic type despiste its elevated nuclear grade, with higher disease-free survival rate and global survival rate than those from patients with infiltrating ductal carcinoma of the same stage.
MAJOR HISTOCOMPATIBILITY COMPLEX CLASS I-RELATED CHAIN A (MICA) EXPRESSION AS A MARKER FOR BREAST EPITHELIAL PRECANCEROUS AND CANCEROUS LESIONS

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Aims

To analyse the expression of MICA in various breast epithelial lesion in order to support the diagnosis of precancerous and cancerous lesions, and to gain the knowledge of breast cancer pathogenesis and the role of immune system in cancer.

Method

One hundred and six of paraffin blocks tissue samples was analysed by immunohistochemistry using monoclonal MICA antibody. Samples have been categorized histopathologically as atypical duct hyperplasia, ductal carcinoma insitu, ductal carcinoma invasive (low, moderate, and highly differentiated).

Results

there was a significant differentiation of MICA expression between atypical duct hyperplasia and invasive ductal carcinoma moderate and highly differentiated of the breast. There was as significant differentiation of MICA expression between ductal carcinoma insitu and invasive ductal carcinoma moderate and highly differentiated of breast (p < 0.05).

Conclusion

MICA expression could be used to differentiate precancerous and cancerous lesions of breast.
THE ROLE OF RADIOLOGIC EVALUATION FOR DETECTION OF AXILLARY LYMPH NODE METASTASIS IN EARLY BREAST CANCER

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Aims

Axillary lymph node metastasis (ALNM) is a key prognostic factor of breast cancer, thus, diagnostically accurate methods for determining ALNM are very important. The purpose of this study was to evaluate the availability of preoperative breast ultrasonography (US), magnetic resonance imaging (MRI), and positron emission tomography-computed tomography (PET-CT) for detection of ALNM in early breast cancer (tumor size ≤ 5cm).

Method

We retrospectively analyzed 105 patients with breast cancer who underwent sentinel lymph node biopsy (SLNB) or axillary lymph node dissection (ALND) after preoperative breast US, MRI and PET-CT between January 1, 2013 and December 31, 2014. Positive predictive value (PPV), negative predictive value (NPV), sensitivity and specificity of each radiologic modality was observed.

Results

Of 105 patients with early breast cancer underwent axillary surgery, 71 patients evaluated all radiologic modalities preoperatively. The mean age of patients was 50.7±11.0 years (range 30-80 years). 55 patients underwent planned SLNB and 16 patients underwent planned ALND. 8 patients underwent SLNB needed additional ALND after frozen biopsy. 28.2% (20/71) of patients exhibited ALNM on pathologic report. The PPV was 52.2%, 61.9%, and 92.3%, and the NPV was 83.3%, 86.0%, and 86.2%, respectively. The sensitivity was 60.0%, 65.0%, and 60.0%, and specificity was 78.4%, 84.3%, and 98.0%, respectively.

Conclusion

There are no definitive modalities for detecting ALNM in early breast cancers to replace SLNB. However, PET-CT seems to be a predictive radiologic modality for detection of ALNM considering higher PPV and specificity. If ALNM is suspected based on PET-CT, ALND without SLNB might be a better option.
BREAST CANCER

ESGO7-0900

ADDITIONAL CAVITY SHAVES MARGINS IN BREAST CANCER

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Aims

The aim of our study is to evaluate our management strategy for tumor shave in anatomopathological examination after breast-conserving surgery and discuss the role of additional re-excision margin.

Method

We undertook a retrospective review, throughout 2012, of 319 women who underwent lumpectomy with shaving margins for stage 0-III breast cancer.

At our institution, patients who had breast conservation had a lumpectomy with routine CSM with extemporaneous anatomopathological study at the time of initial surgery, associated with an axillary lymph node dissection. If CSM was tumor, the radical surgery was realized. No additional re-excision margin was performed.

Results

The median age was 50 years old. The median clinical tumor size was 30 mm. The median histological size was 20 mm. The infiltrating ductal carcinoma was the most common histological type.

All our patients underwent a lumpectomy with systematic cavity shaving. Tumor in shavings was revealed in 106 (33.2%) patients. It was discovered in extemporaneous examination in 63 (59.5%) cases. In 43(40.5%), it was revealed in the definitive anatomopathological examination and additional mastectomy was necessary. Among these patients who had radical mastectomy, the final histological examination concluded to a residual cancer in 58 (54.7%) cases.

Conclusion

Taking additional CSM at the time of lumpectomy is advocated by some as a way to decrease re-excision rates. Despite these findings, a minority of surgeons have adopted this practice.

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PREOPERATIVE AXILLARY LYMPH NODE STAGING IN BREAST CANCER
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Aims

To evaluate the reliability of physical examination in predicting the axillary lymph node involvement in breast cancer, study the factors that may interfere with it and ask about the benefits of means other than the physical examination to have an accurate lymph node status.

Method

A retrospective review was performed of 730 consecutive patients diagnosed with breast carcinoma between January 2012 and December 2012 who had physical examination of the axilla. Definitive histopathological evaluation of lymph nodes has been performed for 654 patients.

Results

A total of 377 (57\%) patients had one or more positive lymph nodes, 80.2\% of whom were identified preoperatively by physical examination. The sensitivity of physical examination in evaluating the axillary node involvement was 80.2\%. Its specificity was 46\%. An underestimation was noticed for T0 and an overestimation for T1, T2, T3 and T4 tumors.

Conclusion

Physical examination is useful for preoperative axillary staging and treatment planning. Nonetheless, it is an inadequate definitive predictor of axillary lymph node involvement, especially that the examiner is not blinded to the breast tumor size which will inexorably influence his assessment.
BREAST CANCER

ESGO7-0519

BILATERAL ORBITAL METASTASES OF INVASIVE CARCINOMA OF BREAST: A CASE REPORT

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Aims

Orbital metastases of breast cancer are rare with only 2-11% of all orbital tumors. Orbital metastases predominantly involve the choroid. Metastasis to the extraocular muscles is very infrequent.

Method

We report a case of bilateral orbital metastases of invasive carcinoma of breast and describe a clinical presentation and multimodal treatment.

Results

The patient had been diagnosed with breast cancer 6 years before. Her present complaint was local pain, ptosis, and blurred vision of the right orbit. Magnetic resonance imaging (MRI) of the orbits showed bilateral soft tissue masses of the orbits involving extra-ocular muscles. Orbital biopsy was performed which confirmed metastatic breast carcinoma. Bone scintigraphy demonstrated metastatic spread to the skeleton. She received systemic palliative. Chemotherapy, bisphosphonates with local radiotherapy. She still alive two years after.

Conclusion

Orbital metastases from breast cancer have a poor prognostic, with an average in such cases of 22 to 31 months. Once diagnosis is confirmed treatment for patients with orbital metastases is multidisciplinary.
CHAMOMILE CAN REDUCE THE METASTATIC PROPERTIES OF HUMAN BREAST CANCER CELL LINE THROUGH IMPACT ON VEGF AND MMP ENZYMES ACTIVITY

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Aims

Today there is a special focus on traditional medicine for preventing and treatment of diseases. Herbal medicine has the central role in the traditional medicine and there are different kinds of medicinal plants, which use for this purpose. One of these plants is chamomile. Various studies have reported the anticancer effects of this plant. In this study, the effects of hydroalcoholic extract of chamomile on angiogenic factor, VEGF, and MMP enzymes activities were investigated in human breast cancer cell lines.

Method

MCF-7 and MDA-MB-468 cell lines were cultured and treated with hydroalcoholic extract of chamomile. Cell viability were evaluated by using MTT assay. VEGF gene expression were analysed by Real Time PCR. Enzyme activity of MMP-2 and MMP-9 evaluated by zymography assay. Data were analyzed by one-way ANOVA in SPSS software.

Results

MTT assay on MCF-7 and MDA-MB-468 showed IC50 at 1000 and 1400 μg/ml respectively. At the IC50 doses, VEGF expression and secretion is reduced compared to the control by the cell lines. Treatment of MDA-MB-468 cell line with 1400 μg/ml of chamomile extract caused depletion of MMP-9 and MMP-2 enzyme activity in the cell culture medium.

Conclusion

The results show hydroalcoholic extract of chamomile can reduce the expression of VEGF gene and MMP enzyme activity and so inhibit the angiogenesis progression by these cells. This study was in vitro study and must be tested in vivo by clinical approaches but the use of such these plants in daily diet may be useful for preventing and increase viability in breast cancer.
**BREAST CANCER**

**ESGO7-0485**

**EFFECTIVENESS OF BREAST CANCER AWARENESS PROGRAMME IN CHANGING KNOWLEDGE, ATTITUDE AND PRACTICES AMONG EDUCATED WOMEN IN RAIPUR**

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**Aims**

to evaluate the effectiveness of structured awareness programme on knowledge, attitude and practices regarding early detection and treatment of breast cancer among educated women in Raipur

**Method**

The study subjects were 5000 women studying in various educational institutions of Raipur District. Information on their current knowledge, attitude and practices regarding breast cancer was collected by pretest questionnaire. Then the awareness programme was conducted in which information was given on breast cancer, its signs and symptoms, misconceptions, screening methods, preventive measures and treatment modalities and the correct technique of breast self examination. Then post test questionnaire was administered.

**Results**

Significant improvement was noted in the knowledge, attitude and practices score of participants after administration of structured awareness programme regarding early detection and treatment of breast cancer.

**Conclusion**

There is need to spread awareness among the women about the early detection and treatment of breast cancer in the community
Aims
Breast cancer is the most prevalent known women malignancy in the worldwide; lack of awareness of symptoms and delay on diagnosis of breast cancer are the main causes of mortality among women. This study has conducted with the purpose of assessing the effect of educational consulting of breast self-examination based on the health belief model on the knowledge and performance of women over 40 years attending to the health care centers in Hamadan, Iran.

Method
This research was a quasi-experimental study. Eligible women admitted to health centers in Hamadan city in 2015 randomly assigned to intervention and control groups (n = 75 in each group). The intervention group received 4 weekly sessions of breast cancer screening consulting based on Health Belief Model (HBM). Control group received only routine care. Knowledge, HBM constructs, and breast self-examination (BSE) practice compared in both groups before, after and three months after the consultation.

Results
Before the intervention, no significant differences were observed in knowledge, health belief and practice between two groups. While after intervention a significant difference was observed between two groups in mean scores of perceived benefits, perceived barriers, self-efficacy and the health motivations (p <0.05). The significant difference between the two groups was observed in terms of knowledge and BSE practice (p <0.01).

Conclusion
The results indicate the importance of consultation in knowledge and beliefs in improve BSE performance and prevention of breast cancer in women.
BREAST CANCER

ESGO7-1085

DERMATOFIBROSARCOMA PROTUBERANS OF THE BREAST
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Aims

Dermatofibrosarcoma protuberans (DFSP) is a rare, slow-growing, low-grade tumor of putative dermal fibroblastic origin. It usually involves the trunk and extremities. The incidence rate is reported to be \( \approx 5 \) per 1 million persons annually. The literature reveals a roughly equal sex distribution, with a slight female predominance. The appearance of the tumor depends on the stage of the disease, since the tumor progresses slowly over a long period before entering a rapid growth phase. It is characterized by a reciprocal translocation \( t(17;22)(q22;q13) \) or more often as a supernumerary ring chromosome involving chromosomes 17 and 22. Herein we present a case report of a woman with locally advanced DFSP of the breast.

Method

Immunohistochemistry of the tumor with CD34 and CD10 antibodies, with anticytokeratins CKAE1/3, CK7, CK8/18 and CK19, S100, desmin filament, epithelial membrane antigen, estrogen and progesterone receptors antibodies, and cytoplasmic staining with h-caldesmon, Bcl-2 and p53 protein expression as well as cell surface glycoprotein CD99, cell adhesion molecule CD31, and stem cell factor receptor CD117. The cytogenetic detection of \( t(17;22)(q22;q13) \) in paraffin-embedded tissue samples using gene specific break apart probes COL1A1, PDGFB and dual fusion probe COL1A1/PDGFB by fluorescence in situ hybridization (FISH).

Results

Histopathological and cytogenetic examinations confirmed the diagnosis of DFSP.

Conclusion

DFSP breast involvement is rare. Complete surgical resection is accepted as the optimal local treatment for DFSP. DFSP is considered to be radiosensitive, although the role of adjuvant radiotherapy remains uncertain. The use of tyrosine kinase inhibitors could be effective, but should not be considered curative.

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BREAST CANCER

ESGO7-1086

DESMOID-TYPE FIBROMATOSIS OF THE BREAST

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Aims

Fibromatosis usually occurs in the abdominal wall and superficial muscular-aponeurotic tissues of the extremities. Mammary fibromatosis is a rare and locally aggressive benign tumor of the breast. The etiology of mammary fibromatosis is unknown. Breast imaging examinations are not specific for fibromatosis and often imitate breast cancer. The authors present two case reports of women with breast fibromatosis, one of them with a locally advanced aggressive form of the disease, where breast surgery and en bloc resection of the underlying parts of thoracic wall were needed.

Method

The first patient underwent a right partial mastectomy, with en bloc resection of the underlying musculature and en bloc resection of the underlying chest wall structures. Repeated frozen section examinations during surgery were needed for confirmation / exclusion of chest wall infiltration. The right chest wall defect was then closed with a polypropylene flat sheet mesh. The second patient underwent breast saving surgery with a partial resection of the underlying musculature. Preoperative diagnosis of fibromatosis through core needle biopsy was provided in both cases. A definitive diagnosis of breast desmoid-type fibromatosis was established from serial paraffin sectioning and immunohistochemistry.

Results

The patients are now 10 and 8 months post-surgery and remains disease free.

Conclusion

Breast imaging examinations are not specific for fibromatosis and often imitate breast cancer. CT and/or MRI can help to define the infiltration into adjacent tissue. Immunohistochemical staining for β-catenin is helpful in establishing a diagnosis, but there are no specific immunomarkers for breast fibromatosis. Standard treatment is a wide surgical resection.
BREAST CANCER

ESGO7-0430

COMPLEMENTARY BREAST MAGNETIC RESONANCE IMAGING FOR TUMOR SIZE ASSESSMENT AND SURGICAL PLANNING IN WOMEN WITH EARLY BREAST CANCER

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Aims

The size and the focality of the primary tumor in breast cancer (BC) influence therapeutic decisions. The purpose of this study is to evaluate if preoperative breast magnetic resonance imaging (MRI) is helpful for the assessment of tumor size and for surgical planning in early BC.

Method

We performed a retrospective review of a prospectively collected database of 174 women with invasive BC who had a complete documentation of the tumor size from mammography (MMG), ultrasonography (US), and MRI.

Results

A total of 186 breast tumors were analyzed. The mean tumor size was different by imagistic method: 14.7 mm by MMG, 13.8 mm by US and 17.9 mm by MRI. The concordance between tumor size in breast imaging techniques (BIT) and pathology size with a cut-off +/- 2 mm was 34.8% for MRI, 32.1% for US and 27.2% for MMG. The concordance was the same in premenopausal women for MRI and US at 35%, in postmenopausal women it was higher with MRI. Correlation between size of BIT and histopathological size remain best with MRI (0.59), than US (0.56) or MMG (0.42). MRI examination revealed additional lesions in 13.8% of patients, with 69% malignancy in those lesions. MRI has change the surgical planning in 15 patients (8.6%) with increased mastectomy rate of 6.6%.

Conclusion

MRI can estimate BC size more accurately, but a significant overestimation exists. Complementary MRI examination could improve the concordance for tumor size between BIT and histopathological size with 16.5% and allowed a more appropriate treatment for 8% of patients.
Aims

Aim: The main aim of the present study is to look for some Biomarkers for the diagnosis of Breast Cancer by exploring the Anthropometric, Biochemical and Cytogenetic Techniques.

Method

Method: The study consists of three parameters for which informed consent were taken from each individual. First for the Anthropometric Analysis, "angle of triradius" (atd) of around 100 Breast Cancer patients (age group 18-70 years) along with age matched 100 Healthy Control females were taken (Harold Cummins, 1960). For the Biochemical Analysis, plasma samples of both the groups were studied by running them in cellulose acetate membrane in an Electrophoretic chamber (Robyt, John F, 1990) and any altered plasma protein patterns that were specific for Breast Cancer patients were observed. For the Cytogenetic Analysis, peripheral blood of the same group of individuals were subjected to lymphocyte culture by standard protocol of Moorehead et al., (1964) and chromosomal aberrations were observed by karyotyping.

Results

Result: In the Anthropometric Analysis, Breast Cancer patients were found to be having wider angles (mean 'atd' of 48°) than their healthy counterparts (mean 'atd' of 39°). In the Biochemical Analysis, most patients were found to be having a raised alpha 2 proteins and a gamma globulin pattern of polyclonal origin, while healthy females showed normal protein pattern and in the Cytogenetic Analysis, patients showed a much higher frequency of numerical as well as structural aberrations than the healthy females.

Conclusion

Conclusion: These parameters in combination have a potential to be used as Biomarkers for the diagnosis of breast cancer.
BREAST CANCER

ESGO7-0423

PAPILLARY CARCINOMA OF MALE BREAST: AN UNCOMMON PATHOLOGY OF BREAST CANCER
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Aims

Male breast cancers constitute less than 1% of all the breast cancers. Papillary carcinoma is a very rare tumour of the male breast accounting for between 5 and 7.5% in men versus 0.5 and 2.4% in women.

The aim of this study is to investigate the clinico-pathological features and the treatments of papillary carcinoma of the breast in male.

Method

We retrospectively reviewed in this study eleven cases of papillary carcinoma of the male breast treated between 1994 and 2011 at Salah Azaiez institute.

Results

The median age at diagnostic was 65 years. The median tumor size was 45 mm. Ten patients underwent total mastectomy and one has a simple mastectomy because he was initially metastatic (lungs). Only two patients had positive lymph nodes.

Hormonal receptors were positive in five cases.

Four patients were lost of sight during chemotherapy. Five patients completed adjuvant treatment involving local radiation and chemotherapy. Five had hormonal therapy. One patient had a synchrone adenosquamous carcinoma of the papilla of Vater and hepatocellular carcinoma. He was lost of sight after the abdominal surgery.

For the six remaining patients, they had a median follow up of 64 months (range 24 to 150). One developed regional recurrence, three developed metastases and one had adenocarcinoma of the stomach five years after the first cancer.

Conclusion

Papillary carcinomas have an indolent clinical course. The mainstay of treatment in these carcinomas is surgical excision. Furthermore, novel gene panels may serve as a potential decision tool in this rare entity especially in male population.

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BREAST CANCER

ESGO7-0417

BREAST LIPOSARCOMA: A REPORT OF FIVE CASES

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Aims

Liposarcoma of the breast constitutes less than 1% of all malignant breast tumours. It may arise within a cystosarcoma or independently from mammary adipose tissue.

The aim of this study is to investigate the clinico-pathological features and the treatments of breast liposarcoma.

Method

We retrospectively reviewed five cases of breast liposarcoma treated in our institution.

Results

The clinical findings are summarized in table 1. The mean age at the time of the biopsy was 56.2 years. Changes in the overlying skin occurred in three patients. Mammography was realized for all patients associated with echography in four cases. They showed a suspicious tumour but no specific signs. Only three patients were regularly seen. Their clinical follow-up mean period is 8.3 years.

<table>
<thead>
<tr>
<th>Case</th>
<th>Age</th>
<th>Sex</th>
<th>Side</th>
<th>Size</th>
<th>Histologic Type</th>
<th>Type of Margin (microscopic)</th>
<th>Treatment</th>
<th>Follow up</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>52</td>
<td>Female</td>
<td>Right</td>
<td>7 cm</td>
<td>P</td>
<td>Pushing</td>
<td>RM-Radiotherapy-chemotherpay</td>
<td>Lung Metastasis after 2 years, Liver metastasis After 3 years, still alive, under chemo</td>
</tr>
<tr>
<td>2</td>
<td>80</td>
<td>Male</td>
<td>Left</td>
<td>4 cm</td>
<td>P</td>
<td>Pushing</td>
<td>RM-Radiotherapy</td>
<td>Well, 2.5 years</td>
</tr>
<tr>
<td>3</td>
<td>41</td>
<td>Female</td>
<td>Right</td>
<td>16 cm</td>
<td>Dedifferentiated</td>
<td>Infiltrating</td>
<td>RM</td>
<td>LOD after surgery</td>
</tr>
<tr>
<td>4</td>
<td>49</td>
<td>Female</td>
<td>Left</td>
<td>4 cm</td>
<td>P arising in cystosarcoma phyllodes</td>
<td>Infiltrating</td>
<td>LE, LST</td>
<td>Local recurrence two years after treated by LE and radiotherapy then LOS</td>
</tr>
<tr>
<td>5</td>
<td>57</td>
<td>Female</td>
<td>Left</td>
<td>15 cm</td>
<td>M</td>
<td>Pushing</td>
<td>LE</td>
<td>Well 20 years, Actually under treatment for primitive peritoneal carcinoma</td>
</tr>
</tbody>
</table>

Abbreviation: P:pleomorphic liposarcoma, RM:Radical mastectomy, LE:Local excision, M:Myxoid liposarcoma, LOS: lost of sight

Conclusion

The diagnosis of breast liposarcoma is based on the histopathology examination. Its treatment is surgical.

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MALE BREAST PAGET’S DISEASE: CLINICAL FINDINGS AND MANAGEMENT IN FOUR PATIENTS

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Aims

Mammary Paget’s disease (PD) is an uncommon form of primary breast cancer involving the skin of the nipple and the areola, associated with an underlying in situ or invasive breast carcinoma in most cases. PD in men is extremely rare.

The aim of this study is to investigate the clinical, pathological features and the treatments of PD in male.

Method

We retrospectively reviewed the medical records of four male patients with histologically confirmed PD, treated at “Salah-Azaiz” Institute.

Results

The mean age of our patients is 65.75 years. All patients consulted for a retroareolar breast mass. The median tumour size was 36.25 mm. The nipple was clinically invaded in all cases. All patients underwent total mastectomy. The histology showed an invasive ductal carcinoma associated with Paget disease in all cases. The axillary nodes were metastatic in all patients.

A multicentric tumour was found in two patients. The hormone receptors were positive in all patients. They all had adjuvant treatment including radiotherapy, chemotherapy and hormonal therapy. After a median follow-up of 81 months, two patients presented bone metastasis.

Conclusion

Paget disease is at high risk of multifocal/multicentric underlying tumours. The presence of palpable mass is almost pathognomonic of invasive neoplasm. Because of the relative scarcity of cases in men, no studies have objectively compared treatment techniques in this population. Prognosis is mainly determined by an eventual underlying breast tumour. Additional research is required to further understand the overall pathogenesis and molecular profile of PD to provide improved insight for personalized, precision-based therapeutic options.
Neurofibromatosis type 1, also known as Von Recklinghausen’s disease, is a rare neuroectodermal disease affecting approximately 1 in 3000 of the world population.

Patients with NF1 run a high risk of developing various types of cancers, especially tumors derived from the embryogenic neural crest.

The aim of this study is to investigate the clinical, pathological features of patients associating neurofibromatosis and breast cancer (BC).

Method

We report three cases of North African women diagnosed with neurofibromatosis type 1, who sought treatment at our center for BC.

Results

The clinical findings are summarized below.

<table>
<thead>
<tr>
<th>Patient</th>
<th>Age</th>
<th>Medical history</th>
<th>Reason for check-up</th>
<th>Classification</th>
<th>Histopathological examination</th>
<th>Treatment</th>
<th>Follow up</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>46</td>
<td>Mother diagnosed with BC</td>
<td>Mammography screening</td>
<td>T0N0M0</td>
<td>Invasive ductal carcinoma Luminal A N-</td>
<td>Breast-conserving surgery + Radiation therapy + tamoxifen</td>
<td>Absence of local-regional or distant metastasis</td>
</tr>
<tr>
<td>2</td>
<td>38</td>
<td>Right breast lump</td>
<td>T4bN1M0</td>
<td>Invasive ductal carcinoma N+</td>
<td>Neoadjuvant chemotherapy + mastectomy+ axillary lymph node dissection (LND)+ Radiation therapy</td>
<td>Pleural metastasis 6 months post-surgery</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>45</td>
<td>Paternal aunt diagnosed with BC</td>
<td>Right breast lump</td>
<td>T2N1M0</td>
<td>Ductal carcinoma in situ</td>
<td>Mastectomy+ axillary LND</td>
<td>In progress</td>
</tr>
</tbody>
</table>

Conclusion

The association between neurofibromatosis type 1 and BC is uncommon. Detection of BC in patients with NF1 can be difficult because skin changes can mask symptoms of the tumor and the patient can treat new changes in the breast as a manifestation of NF1. Therefore, it is recommended to pay constant, increased oncological supervision in women with neurofibromatosis.
BREAST CANCER

ESGO7-1131

COLLOID CARCINOMA OF A MALE BREAST, A VERY RARE ENTITY

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Aims

Male breast cancer is a rare disease. It represents less than 1% of all male neoplasms. Colloid carcinoma, also known as Mucinous or gelatinous, is a rare histological form that represents 1 to 6% of all breast cancers.

The aim of this study is to investigate the clinico-pathological features and the treatments of a colloid carcinoma of a male breast.

Method

We retrospectively reviewed the medical records of a male patient treated in our Institute for a colloid carcinoma of the breast.

Results

A 73-year-old, diabetic and hypertensive patient who consults for a mass in the right breast growing for three weeks. Clinical exam found a suspicious retroareolar mass of 30mm. The mammogram showed a well-circumscribed retroareolar opacity. The tumor was classified T2N1M0. The patient underwent a radical mastectomy after the histological confirmation of malignancy. Histopathological diagnosed colloid mucosal carcinoma of 30mm with 14N -. Hormone receptors was positive. The patient had radiotherapy and a hormonotherapy in adjuvant. 39 months after the treatment a local recurrence appeared triggering further surgery and radiation therapy. The patient, after 83 months of follow-up in good general condition, stopped his check-up visits.

Conclusion

Colloid carcinoma affects a specific population and have a better prognosis than other main types of male breast cancer. The typical mammographic image reminds a “cotton ball”. A well-circumscribed or micro lobular opacity should suggest a colloid carcinoma in an elderly person.
BREAST CANCER

ESGO7-1132

SQUAMOUS CELL CARCINOMA ARISING IN A MALE BREAST, ABOUT A VERY EXCEPTIONNEL CASE
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Aims

Metaplastic breast carcinoma are tumors with heterogeneous aspects. They are characterized by an intimate admixture of adenocarcinoma with dominant areas of spindle cell, squamous and/or mesenchymal differentiation. These tumors are rare (0.25 to 1% of breast cancers), very aggressive, akin to the prognosis of the triple negative tumors.

The aim of this study is to investigate the clinico-pathological features and the treatments of a very rare case of a squamous cell carcinoma arising in a male breast.

Method

We retrospectively reviewed the medical records of a male patient treated at the "Salah-Azaiz" Institute for a squamous cell carcinoma of the breast.

Results

A 62-year-old diabetic patient consulted for a right breast lump growing for three weeks. The examination found in the upper outer right quadrant a mass of 45mm. The mammogram showed a suspicious opacity of the right breast and gynecomastia on the left side. The tumor was classified T3N1M0. The patient underwent a radical mastectomy. Histopathological examination diagnosed an encysted infiltrating squamous carcinoma of 52mm, SBR III, 11 lymph N-. Hormone Receptors was positive. The patient had in adjuvant 6 cures of chemotherapy type EC and tamoxifen. After 3 years of regular follow-up, the patient did not show any signs of recurrence although being treated for kidney disease at the stage of dialysis.

Conclusion

Metaplastic carcinomas are characterized by their large size linked to rapid growth. Lymph node metastases are the most pejorative prognosis factor in the evolution of these tumors.
BREAST CANCER

ESGO7-0995

METAPLASTIC BREAST CANCER
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2sala azaiez, department of pathology, Tunis, Tunisia

Aims

Metaplastic breast cancer (MBC) is a rare and histologically diverse subtype of breast carcinoma. It accounts for less than 1% of all breast cancers but tend to have a worse prognosis. It is characterized by rapid growth and large size that is not usually seen with more common breast cancer tumors.

The aim of this study is to establish the treatments and the prognosis of this disease. Method

We retrospectively reviewed the clinical records of 6 patients with metaplastic breast cancer treated at Salah Azaiez institute, Tunis, Tunisia, in the period from 2007 et 2014

Results

A total of 6 cases were classified as metaplastic cancer of the breast (MBC). The median age of MBC patients was 50 years old. In 2 cases there is a family history of cancer. All patients were women, 3 patients were postmenopausal. The median size of tumor was 50.8 mm, The right breast is most often reached (4 cases). The breast conservation therapy is used only in few cases (2cas). Metastatic carcinoma to lymph node was seen in 3 cases. All cases were estrogen receptor negative and progesterone receptor negative. 4 cases had nuclear grade II and 3 had nuclear grade III. All the patients had received adjuvant chemotherapy and radiotherapy. The median time of follow-up range was 2 years.

Conclusion

Metaplastic carcinoma of the breast is a rare type of breast cancer that is typically more aggressive and can be subcategorized mainly based on the pathologic findings.
BREAST CANCER

ESGO7-1031

PAPILLARY CARCINOMA OF THE BREAST

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²salah azaiz, department of pathologic, Tunis, Tunisia

Aims

Papillary carcinoma of the breast is a rare malignant tumor, constituting 1-2% of all breast carcinomas in women. The diagnosis is difficult due to different clinical and radiological features. Pathological diagnosis is conclusive.

Method

We retrospectively reviewed the clinical records of 8 patients treated at Salah Azaiez institute, Tunis, Tunisia, in the period from 2004 to 2010.

Results

A total of 8 cases were classified as papillary Carcinoma of the breast (PC). The median age of PC patients was 51 years old. All patients were women, all women were postmenopausal except for one aged 30 years. The median size of tumor was 35.5 mm. The left side is most often reached (5 cases). All tumors were surgically removed (excision or mastectomy). Metastatic carcinoma to lymph node was seen in 1 case. All cases had negative surgical resection margins. All cases were estrogen receptor positive and progesterone receptor positive. Four cases had nuclear grade I, 3 had nuclear grade II and 1 case had nuclear grade III. All the patients received hormone therapy. 2 patients received adjuvant chemotherapy and radiotherapy. The time of follow-up range was 1–117 months with a median of 36.5 months.

Conclusion

Papillary carcinoma of the breast is a rare entity. Being aware of its unique clinical features and the diagnostic difficulties helps in better management of these patients.
BREAST CANCER

ESGO7-0762

RECURRENT RADIATION-INDUCED BREAST ANGIOSARCOMA
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1salah azaiz, oncologic surgery, Tunis, Tunisia
2salah azaiz, pathology, Tunis, Tunisia

Aims

Angiosarcomas are rare malignant tumours of the vascular endothelium. Secondary angiosarcoma can occur after radical mastectomy or breast-conserving treatment. It may develop in a lymphedematous arm or on irradiated chest wall.

The aim of this study is to investigate the clinico-pathological features and the treatments of a recurrent radiation-induced breast angiosarcoma.

Method

We report a case of a patient, initially treated for breast carcinoma, who developed later an angiosarcoma.

Results

A 40-year-old woman underwent a segmental excision with axillary clearance for a 2.7 cm ductal carcinoma in the outer quadrant of the right breast in 2007. The excision margins and the lymph nodes were free of tumour. Postoperatively, the patient received chemotherapy, hormonal therapy and radiation therapy to a dose of 50 Gy in 25 fractions during 5 weeks to the breast followed by a boost of 14 Gy. In February 2015, the patient was examined once more for a violaceous discoloration lesion of her right breast. An incisional breast biopsy was performed and the specimen was interpreted as an angiosarcoma. A mastectomy was performed.

Six months later, she consulted for a recurrence in the internal end of the mastectomy scar extending to the left breast and axillary lymph nodes. The patient underwent a radical left mastectomy.

The evolution was marked by the appearance of liver and bone metastasis. Currently the patient is under chemotherapy with stabilisation of its disease.

Conclusion

Radiation-induced angiosarcoma is a rare but serious complication of radiation therapy for breast carcinoma, and is associated with poor prognosis.
BREAST CANCER

ESGO7-0573

EWING'S SARCOMA: AN UNCOMMON BREAST TUMOR
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²Salah Azaiz Institute, Surgical Oncology Department, Tunis, Tunisia

Aims

Ewing's sarcoma/primitive neuroectodermal tumors (EWS/PNET) are rare malignant and aggressive tumors, usually seen in the trunk and lower limbs of children and young adults. They are uncommon in the breast.

Method

We report a case of a 43-year-old woman who developed a painless breast mass.

Results

An initial core needle biopsy concluded to a fibrocystic dystrophy contrasting with a rapidly growing mass; thus a large lumpectomy was done. Diagnosis of primary PNET of the breast was established, based on both histopathological examination and immunohistochemical findings. Surgical margins were positive, therefore, left modified radical mastectomy with axillary lymph nodes dissection was performed. The patient was given 6 cycles of adjuvant chemotherapy containing cyclophosphamide, adriamycin and vincristine. Twenty months later, she is in life without recurrence or metastasis. EWS/PNET may impose a diagnostic challenge. Indeed, mammography and ultrasonography features are non specific. The histopathological patterns variable depending on the degree of neuroectodermal differentiation. Immuno-phenotyping is necessary and genetic study is the only confirmatory tool of diagnosis showing a characteristic cytogenetic anomaly; t (11; 22) translocation.

Conclusion

EWS/PNET are rare tumors developed in the breast, their diagnosis need immunohistochemical and genetic investigations. These ancillary techniques are necessary in order to rule out other types of malignant tumor owing poor prognosis and different way of management.
HUMAN UMBILICAL CORD MATRIX-DERIVED STEM CELLS EXPRESSING INTERFERON-B GENE INHIBIT BREAST CANCER CELLS VIA APOPTOSIS

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²E-Da Hospital, Department of Plastic and Reconstruction Surgery, Kaohsiung, Taiwan R.O.C.

Aims

Human umbilical cord mesenchymal stem cells (hUCMSCs) have been reported to be used as anti-tumor gene carrier for attenuation of tumor growth and interferon-β (IFNβ) is known to possess robust anti-tumor effects. The present study was aimed to investigate the anti-tumor effect of IFNβ gene-transfected hUCMSCs (IFNβ-hUCMSCs) on breast cancer cells with emphasis on triple negative breast carcinoma.

Method

1. Effect of hUCMSCs and IFNβ-hUCMSCs co-culture on growth of MDA-MB-231 and Hs578T
2. Effect hUCMSCs or IFNβ-hUCMSCs conditioned medium with or without IFNβ neutralizing antibody on growth of MDA-MB-231 and Hs578T
3. Effect of hUCMSCs or IFNβ-hUCMSCs conditioned medium on the induction of apoptosis in MDA-MB-231 and Hs578T
4. Effect of hUCMSCs or IFNβ-hUCMSCs conditioned medium on caspase cascades in MDA-MB-231 and Hs578T
5. Effect of Jak-Stat pathway in IFNβ-hUCMSCs conditioned medium induced apoptosis

Results

Our findings revealed that co-culture of IFNβ-hUCMSCs with the human triple negative breast carcinoma cell lines MDA-MB-231 or Hs578T significantly inhibited growth of both carcinoma cells. In addition, the culture medium conditioned by these cells also significantly suppressed the growth and induced apoptosis of both carcinoma cells. Further investigation showed that the suppressed growth and the apoptosis induced by co-culture of IFNβ-hUCMSCs or conditioned medium were abolished by pretreating anti-IFNβ neutralizing antibody.

These findings indicate that IFNβ-hUCMSCs triggered cell death of breast carcinoma cells through IFN-β production, thereby induced apoptosis and suppressed tumor cell growth.

Conclusion

We demonstrated that IFNβ-hUCMSCs inhibited the growth of breast cancer cells through apoptosis. With potent anti-cancer activity, it represents as an anti-cancer cytotherapeutic modality against breast cancer.
BREAST CANCER

ESGO7-0830

EXPRESSION DISTRIBUTION OF CANCER STEM CELL MARKER, CD44 WITHIN MOLECULAR SUB TYPES OF BREAST CARCINOMA IN INDIAN PATIENTS
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²Lady Hardinge Medical College, Department of Surgery, New Delhi, India

Aims

To determine cancer stem cell marker, CD44 expression in breast carcinoma and to see the association of CD44 expression with molecular subtypes

Method

N = 60 breast carcinoma patients in the Department of Surgery, LHMC were included between December 2013 till March 2015. Tru-cut biopsy was performed on cytologically proven cases. Immunohistochemistry for ER/PR/Her2/EGFR/Ki67/CK5/CD44 expression was performed.

Results

Mean age of presentation was 48.87±11.43 years. 56/60 (93.33%) were infiltrating duct carcinoma, not otherwise specified. Frequency of molecular subtypes: 13.33% Luminal A, 15.0% Luminal B, 25% Luminal Her2neu, 23.33% Her2neu Classic, 5% Basal phenotype, 18.33% non basal, normal breast like phenotype. Non basal normal breast like phenotype, Basal phenotype and Luminal Her2neu showed statistical significant correlation with age group <50 years (p=0.025). CD44 was positive (>10% positive tumor cells) in 32/60 (53.33%) cases. Significant negative statistical correlation between CD44 positive cases and ER, PR status (p=0.002 and p=0.011 respectively). The mean percentage of Ki67 positive cells in CD44 positive cases was higher (43.34%±27.43) than CD44 negative cases (33.75%±26.34) but was not significant. Significant positive CD44 correlation with Her2neu Classic and normal breast like phenotype subgroup and a significant negative CD44 correlation with Luminal A and Luminal B (p=0.016). No statistical significant correlation when CD44 positive molecular subtypes were scored 1+, 2+ and 3+ (p=0.131)

Conclusion

Higher number of CD44 positive cells in triple negative and Luminal Her2neu cases and lower in luminal subtype emphasize the tumor aggressiveness in Indian patients. CD44 can be used as independent marker and as target for development of novel therapies.
BREAST CANCER

ESGO7-0272

COST-EFFECTIVENESS OF BREAST CANCER SCREENING AND PREVENTION – A SYSTEMATIC REVIEW OF DECISION-ANALYTIC MODELS FOR EUROPEAN SETTINGS

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Aims

To review cost-effectiveness studies evaluating primary and secondary prevention strategies for breast cancer in the European health care setting with specific interest on risk-adapted strategies.

Method

Relevant databases (Medline/Embase/Cochrane Library/CRD/EconLit) were systematically searched for decision-analytic modelling studies evaluating the cost-effectiveness of breast cancer screening and/or prevention strategies in the European health care context. Study characteristics, methodological details and results including the incremental cost-effectiveness ratios (ICER) in cost per quality-adjusted life years gained (QALY) or per life year gained (LYG) were extracted into standardized evidence tables. Economic results were converted to 2015 Euros using the GDP-PPP and CPI.

Results

Twenty five studies evaluating breast cancer screening and two studies evaluating breast cancer prevention strategies were included. The studies varied in terms of target population and evaluated strategies, time horizon, discount rate, and perspective. Among the screening studies, only one considered a risk-adapted screening approach. In all studies the ICERs of currently established breast cancer screening strategies, like biennial or triennial mammography screening age 50-70, fall far below 30,000 Euros/QALY or LYG, which is considered to be cost-effective in most European countries. Prevention studies considered women at high risk for breast and ovarian cancer evaluating prophylactic surgery in BRCA mutation carriers or genetic testing in Ashkenazi Jewish women with prophylactic surgery for mutation carriers. Results suggest that prevention in these populations is cost-effective.

Conclusion

Based on the included studies, breast cancer screening and prevention can be considered cost-effective in the European setting. Future research should include risk-adapted screening and prevention strategies.
BREAST CANCER

ESGO7-0838

REAL-TIME ULTRASOUND ELASTOGRAPHY OF AXILLARY LYMPH NODES IN CLINICALLY NODE NEGATIVE BREAST CANCER

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Aims

Axillary lymph node status remains an important prognostic factor in early breast cancer. Ongoing studies i.e. INSEMA trial deal with the question whether sentinel lymph node biopsy (SLNB) can be avoided without reducing oncological safety. The aim of this study was to evaluate real-time ultrasound elastography for prediction of axillary lymph node metastases in patients with planned SLNB.

Method

In this prospective study 97 patients undergoing breast surgery with SLNB were included. Before surgery, all patients underwent axillary ultrasound with measuring of cortical thickness and elastography of axillary lymph nodes using a high end ultrasound device (Philips iU22). Elastographic strain ratio (SR) was determined and results were compared to histological findings of the removed lymph nodes.

Results

Axillary metastases were found in 33 of 97 patients (34%). The stiffness measurements were significantly different between the group of nodal negative and nodal positive patients (SR mean p= 0.016, SR max p=0.009). The areas under the ROC curves were 0.66 (95% confidence interval [CI]: 0.54-0.79) for SR mean, 0.68 (95% CI 0.56-0.80) for SR max and 0.58 (95%CI 0.45-0.72) for cortical thickness, respectively. Sensitivity/specificity/positive predictive value and negative predictive value were 74.1%/50.9%/41.7% and 80.6% for SR max in comparison with subjective axillary ultrasound evaluation, which reached 33.3%, 98.4%, 91.7% and 74.1%.

Conclusion

In a subgroup of patients with low prevalence of lymph node metastases elastographic strain ratio could improve diagnostic performance of axillary ultrasound by increasing sensitivity and negative predictive value. Further studies with higher number of cases are necessary to confirm these promising results.
RELATIONSHIP QUALITY AFTER BREAST CANCER RECONSTRUCTIVE SURGERY: A PROSPECTIVE FOLLOW UP STUDY

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Aims
The aim of the present study is to evaluate the effect of reconstructive surgery on relationship quality in women undergoing operation for breast cancer.

Method
We prospectively studied 22 women diagnosed with invasive breast cancer. In half of them, an oncoplastic procedure was performed, while in the rest, only lumpectomy was applied. Twenty-two patients were operated for benign breast lesions, matched for demographic characteristics (control group). In all participants, the comradeship dimension of relationship quality were evaluated at the time of diagnosis and a year postoperatively.

Results
A significant improvement of the “comradeship” and “emotional proximity” dimensions were observed in the study group compared to the control group (4.96±3.35, 5.03±3.85 respectively), but the degree of improvement was greater among older patients in the cancer group (6.35± 3.48, 6.02± 3.84 respectively) (p=0.022, p= 0.147 respectively). Both “relationship quality” and “body image” scores were significantly higher in the reconstruction compared to the no-reconstruction group among younger patients. There was a significant negative correlation between “relationship quality”, “sexual function” and “emotional proximity” (p<0.001).

Conclusion
The psychological effect of cancer diagnosis and treatment seems to explain the observed influence on companionship dimension of relationship quality. Among younger patients, reconstructive surgery improves patient’s satisfaction of body image and self-esteem on the contrary among older patients their relationship is based on comradeship and emotional proximity.
BREAST CANCER

ESGO7-0475

HOW IMPORTANT ARE TUMOR MARGINS OF THE DUCTAL CARCINOMA IN SITU, AN EARLY FORM OF BREAST CANCER? FINE-TUNING OF THE VAN NUYS PROGNOSTIC INDEX

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Aims

We investigated whether the Van Nuys Prognostic Index (VPNI), prospectively applied, is a reliable guideline for the treatment of patients with ductal carcinoma in situ (DCIS) in our hospital. Furthermore, we are going to try to refine the VPNI and thus also our policy. We will do this by using the combination of the obtained VPNI and the more specific score of the tumor margins. Our goal is to keep local recurrence rate less than 20% at 12 years.

Method

From 2004 to 2014, 142 patients diagnosed, treated and followed at the University Hospital of Antwerp are included in our analysis. Exclusion criteria are male gender, treatment with chemo- or endocrine therapy and invasive cancer. Kaplan-Meier plots were used to estimate the probability of remaining free of local recurrences. The statistical significance between the survival curves was determined by the log-rank test.

Results

108 patients were treated according to the VPNI. The local recurrences were 6%, 4% and 4% for group 1, 2 and 3, respectively. The local recurrences in the subgroup of patients who score 9, have margins < 1 mm and were treated with excision and radiotherapy was 20%.

Conclusion

With low numbers of local recurrences we can conclude that the VPNI is a reliable guideline for the treatment of patients with pure DCIS. Mastectomy is required for patients who score 9 and have margins < 1 mm and for all patients who score 10, 11, or 12 to keep the local recurrence rate less than 20% at 12 years.
BREAST CANCER

ESGO7-1315

STATHMIN, A PREDICTIVE BIOMARKER FOR TAXANE RESPONSE IN BREAST CANCER?
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Aims

There are no clinically applicable predictive biomarkers for taxane response in (breast) cancer. Stathmin, a critical modulator of microtubule dynamics, has been suggested in preclinical and retrospective studies. We aimed to investigate if stathmin (STMN) or phosphostathmin (pSTMN) expression are linked to response to paclitaxel in a large breast cancer series, and if such treatment response effects are mirrored in differences in survival.

Method

We used data from an open label multicentre study with long follow-up including 223 patients. Patients were stratified to either paclitaxel (n=114) or epirubicin (n=109) neoadjuvant monotherapy prior to surgery/radiation. STMN and pSTMN levels were determined by immunohistochemistry and mRNA expression levels. Response was graded by the UICC system. Immunohistochemistry data for hormone receptors (oestrogen and progesterone) were available. An independent dataset (GSE21997) with mRNA microarray data (STMN005563) was used for validation.

Results

High STMN/pSTMN expression was associated with improved response to paclitaxel (p=0.04; p=0.006), but not epirubicin treatment. Subgroup analysis showed this effect was more pronounced in hormone receptor positive patients (p=0.008 and p=0.005). However, high STMN expression was associated with worse recurrence free and disease specific survival in paclitaxel (p=0.04; p=0.03) but not epirubicin treated patients (p=0.40; p=0.73). The independent dataset confirmed a lower residual cancer burden in patients with high vs. normal stathmin levels after paclitaxel but not doxorubicin treatment (p=0.01; p=1.00).

Conclusion

High STMN/pSTMN levels are associated with improved response to paclitaxel but not epirubicin treatment. This effect is enhanced in hormone receptor positive patients. However, high stathmin levels are associated with worse survival.
CERVICAL CANCER

ESGO7-0455

EXTENDED-FIELD RADIOTHERAPY WITH CONCURRENT CHEMOTHERAPY (EXTENDED-FIELD CCRT) FOR CERVICAL CANCER WITH PARA-AORTIC OR HIGH COMMON ILIAC LYMPH NODE INVOLVEMENT

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Aims

Lymph node metastasis in cervical cancer is a potentially important risk factor for recurrence. For cases of suspected para-aortic lymphadenopathy or high common iliac lymph node involvement, extended-field radiotherapy was applied. The present study aimed to retrospectively evaluate the efficacy of extended-field CCRT as primary treatment.

Method

Between January 2010 and December 2014, 26 patients with cervical cancer positive for para-aortic and/or high common iliac lymphadenopathy were treated with extended-field CCRT at our hospital.

Results

The median age was 56 years (range, 30-75), and the median size of the tumors was 55.5 mm (range, 27-106). The distribution of stage was as follows: Ib2, n=2; IIb, n=6; IIIa, n=2; IIIb, n=16, and MA, n=15. The 2- and 5-year OS rates were 86% and 52%, respectively. Eleven patients had a recurrence. Adjuvant therapy was administered to 12 patients (9 in MA), and TC therapy was administered monthly for 3 cycles after extended-field CCRT. Three patients had a recurrence (locoregional failure, n=2; distant recurrence, n=1). The other 14 patients were treated without adjuvant chemotherapy, of whom 8 had a recurrence (locoregional failure, n=4; distant recurrence, n=4). No significant differences were found in PFS or OS between the patients treated with and those treated without adjuvant chemotherapy (p=0.546 and p=0.895, respectively).

Conclusion

Extended-field CCRT appears effective as reported in previous studies. When followed by adjuvant chemotherapy, it decreased the incidence of distant recurrence. However, owing to the small number of cases in this study, the benefits of extended-field CCRT to PFS and OS could not be observed.
CERVICAL CANCER

ESGO7-0897

ADJUVANT SMALL FIELD PELVIC RADIATION AFTER RADICAL HYSTERECTOMY AND PELVIC LYMPHADENECTOMY IN SELECTED PATIENTS WITH EARLY STAGES CERVICAL CANCER

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Aims

In a retrospective cohort study we have evaluated the role of small field (SF) pelvic radiotherapy as adjuvant therapy, in stages 1a2, 1b and 2a FIGO cervical cancer following radical hysterectomy and pelvic lymphadenectomy.

Method

Sixteen women with stage 1b and 2a cervical cancer treated by radical hysterectomy plus pelvic lymphadenectomy, who were considered to be at intermediate risk for recurrence on basis of clinicopathological findings, between 2003-2013 in Yas Hospital Tehran University of Medical Science, were enrolled in our study. These patients were treated by small field pelvic radiation and were followed for average 48.5 month. Their complications and physical exam were recorded. Small field radiotherapy morbidities are compared with standard radiotherapy morbidities in 28 patients with high risk prognostic factors who were treated by radical hysterectomy and adjuvant standard pelvic radiotherapy.

Results

Mean age of these patients is 44.6 ±8.8 and mean follow up duration was 48.5±33 months. In small field group one case was recurred (6.3 %) and two patients had minor morbidities (12.5 %). In standard radiotherapy group, 4 cases were recurred (14.3%) and 6 cases were reported with minor morbidities (21.4%). Although, morbidities in standard pelvic radiotherapy was higher than small field group, this difference was not statistically significant. In our series, 5 cases from 54 patients had recurrence.

Conclusion

Small field pelvic radiotherapy as adjuvant therapy can be useful without enhancing serious morbidity in selected cases of cervical cancer with intermediate clinicopathological risks for recurrence.
CERVICAL CANCER

ESGO7-1070

SURGICAL VIDEO OF LAPAROSCOPIC RADICAL TRACHELECTOMY (LRT)

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Aims

Radical trachelectomy is one of the fertility sparing treatment options for women with early cervical cancer. The first report on laparoscopic radical trachelectomy was presented in 2005. Kim et al 2010, described their procedures were performed by a laparoscopic approach except for vaginal resection and cervical amputation, which were performed by the vaginal approach. Minimal invasive technique has advantages such as reduced length of hospital stay, less blood loss, lower analgesic requirements during the postoperative period, a decrease in the rate of blood transfusions, a decrease in the rate of complications, an early recovery of physiological functions, and better aesthetic outcomes. Our main aim is to describe the technique we use for laparoscopic radical trachelectomies.

Method

Careful and thorough assessment pre operatively or consideration of LRT

Surgical technique:

Laparoscopic approach:

1. Insertion of Uterine manipulator
2. Number of Ports and placements
3. Pelvic lymph node dissection
4. Identifying structures and creating spaces
5. Uterine Artery
6. Vaginal cuff

Vaginal approach:

1. Cervical canal length
2. Amputation of cervix
3. Cervical cerclage
4. Anchoring of vaginal wall to the lower part of the uterine body.

Results

We have performed 3 laparoscopic radical trachelectomies using this technique and women have recovered well and been discharged on the first postoperative day. None of these women needed to undergo any additional treatment.

Conclusion

LRT is a safe and feasible surgical option for women wishing to preserve fertility, but thorough assessment of women and detailed pre operative counselling in addition to trained surgeons are very important.
CERVICAL CANCER

ESGO7-1145

A RANDOMIZED STUDY OF ADXS-DUAL IMMUNOTHERAPY COMBINED WITH NIVOLUMAB VERSUS SINGLE-AGENT CHEMOTHERAPY IN PATIENTS WITH METASTATIC CERVICAL CANCER


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Aims

Persistent, recurrent metastatic cervical cancer (PRmCC), largely due to infections with high-risk types of HPV, remains an area of high unmet need for patients progressing after ≥1 line of systemic chemotherapy. ADXS DUAL is an irreversibly attenuated Listeria monocytogenes immunotherapy that secretes a fusion protein, containing both HPV-16 and HPV-18 E7, that induces HPV-specific cytotoxic T-cell generation while reducing immune suppression in the tumor microenvironment. Nivolumab is a programmed death receptor-1 (PD-1) blocking antibody. Preclinical models demonstrated synergistic mechanisms of action and improved tumor elimination when ADXS was combined with a PD-1 inhibitor. In separate clinical studies with PRmCC patients, both ADXS and nivolumab were well tolerated and both have shown anti-tumor activity. This randomized, active-controlled, open-label study will compare the efficacy/safety of ADXS DUAL+ Nivolumab to single-agent chemotherapy in PRmCC patients who failed first-line treatment, with/without bevacizumab.

Method

Eligible patients must have metastatic squamous or non-squamous cell, adenocarcinoma or adenosquamous carcinoma of the cervix. Approximately 400 patients will be enrolled: 300 will be randomly assigned (1:1) to receive ADXS-DUAL + Nivolumab or investigator’s choice of protocol-approved single-agent chemotherapy. An additional 100 patients will also receive (1:1) ADXS-DUAL or Nivolumab monotherapy to characterize the contribution of each. Primary objective is to compare duration of overall survival of the combination versus single-agent chemotherapy; secondary objectives are ORR, PFS (RECIST 1.1), milestone OS rate, and safety. The trial requires ≥ 273 deaths from the combination and single-agent chemotherapy arms to ensure 85% power to detect a statistically significant difference.

Results

N/A

Conclusion

N/A
DORSAL RHIZOTOMY FOR INTRACTABLE PAIN FROM NEOPLASTIC LUMBOSACRAL PLEXOPATHY IN ADVANCED CERVICAL CANCER

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Aims

The present study seeks to find out the effectiveness of selective dorsal rhizotomies for intractable pain from neoplastic lumbosacral plexopathy in terminal cervical cancer patients.

Method

Dorsal rhizotomies of the involved segments were performed on 6 cervical cancer patients in whom neuropathic pain from lumbosacral plexus involvement in terminal cervical cancer had been refractory to other therapies. Clinical efficacy of the procedure was assessed by comparing patient pain ratings and narcotic usage before and after dorsal rhizotomy.

Results

Examination of the results indicated a significant reduction in pain ratings as well as a significant reduction in daily narcotic use. No adverse neurological effects were observed and no recurrence of pain from neoplastic lumbosacral plexopathy was noted.

Conclusion

These findings provide corroborating clinical evidence for the effectiveness of selective dorsal root rhizotomy for the intractable pain from lumbosacral plexopathy in terminal cervical cancer patients.
CERVICAL CANCER

ESGO7-0923

METASTATIC BREAST CANCER IN UTERINE CERVIX LEADING PROLONGED VAGINAL BLEEDING: A RARE CASE

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Aims

Metastasis to cervix from a primary breast cancer is extremely rare. Most cases have been diagnosed in the follow-up of known cases of breast carcinoma. Although metastasis may occur as a disseminated disease or as an isolated involvement of cervix, most cases had disseminated disease at the time of diagnosis of cervical involvement. Patients usually present with abnormal bleeding, pain, and dyspareunia.

Method

We present a case of involvement of the uterine cervix in a patient with previously diagnosed breast cancer.

Results

The patient was a 46-year-old with a history right-sided intraductal carcinoma of the breast who underwent mastectomy. The patient was treated by adjuvant radiation and chemotherapy therapy. The patient had no history of gynecologic problems, including previously normal pap smears. She began to have prolonged vaginal bleeding. Clinical examination raised the suspicion of cervical neoplasia. The cervix was approximately 4 cm wide and abnormal in appearance of barrel-shaped cervix. Computed tomography revealed the 4 cm cervical mass. Cervical biopsy showed infiltrative malignant tumor with cytologic features similar to those observed in the breast biopsy specimen.

Conclusion

We would recommend detailed gynecological examination as an important part of the follow-up investigations in women with primary breast cancer. We should keep in mind that any abnormal bleeding may be caused by cervical involvement of breast cancer. In this case, local control of bleeding has been reported with the use of radiation therapy, hysterectomy, uterine artery embolization, and conization.
CERVICAL CANCER

ESGO7-0952

ENDOMETRIOTIC CERVICAL MASS SIMULATING A MALIGNANT LESION: A CASE REPORT
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Aims

The patient was a 55-year-old woman referred for an abnormal uterine bleeding in the last month and anemia.

Method

On speculum examination a necrotic cervical mass of about 5cm was identified protruding through the external cervical orifice. Parametrium was free.

Ultrasound examination revealed a poorly defined cystic mass (5 cm in diameter) in the endocervical canal arising from the endometrial cavity with abundant signal observed on color Doppler examination.

Histologic examination of biopsy revealed secretory endometrium with fibrous stroma compatible with endometrial polyp.

Magnetic resonance imaging demonstrated a heterogeneous mass of 6x5x4.5 cm, affecting the ectocervix and extending to the parametrium, bilateral round ligament and the upper third of the vaginal wall.

Serum cancer antigen 125 level was elevated to 130 U/mL.

Results

A total hysterectomy and double anexectomy was performed. Histopathologic examination showed severe cervical endometriosis. Absence of malignancy.

Conclusion

Endometriosis is a common benign gynecologic disorder. The previously reported ratio is 0.11-2.4%.

It usually affects pelvic genital organs. Cervical endometriosis is rarely seen and the main symptoms are vaginal and postcoital bleeding. However, most cases are asymptomatic. On speculum examination, we can see small bluish or fresh red nodules but it also could be a mass and appear like a cyst, polyp, or fibroma. That's why, the diagnosis is difficult and usually is found retrospectively on histopathologic reports.

If we find a mass involving the cervix we have to consider benign disorders and malignancy.

There are few previous reports of cervical endometriosis and there is a retrospective review. Excision is the most commonly used method.
CERVICAL CANCER

ESGO7-0831

LAPAROSCOPIC EXTRAPERITONEAL PARA-AORTIC LYMPH NODE DISSECTION IN LOCALLY ADVANCED CERVICAL CANCER

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Aims

To demonstrate step-by-step laparoscopic extraperitoneal para-aortic lymph node dissection

Method

A 56-year-old lady, smoker, presented with postcoital bleeding. Speculum examination showed a cervical growth measuring around 4 cm. The Right parametrium was obliterated. Biopsy result showed non-keratinizing squamous cell carcinoma. Patient was staged as stage IIB and planned for laparoscopic extraperitoneal para-aortic lymph node dissection. Laparoscopic extraperitoneal paraaortic lymph node dissection performed. The 1st trocar inserted in the umbilicus to explore the abdominopelvic cavity. Then an incision made 3 cm above the anterior superior iliac spine till the fascia reached. Gently finger inserted and the peritoneum dissected along the psoas muscle. When adequate space opened, a trocar inserted and gas insufflated, the 3rd and the 4th trocar inserted in the axillary line. The trocar tip should blunt to avoid any tear in the peritoneum which will compromise the procedure. The gas is released from the abdomen. At the end of the procedure an opening done in the peritoneum to avoid the formation of lymphocele.

Results

Patient was discharged on the 2nd day. The final histopathology results showed no paraaortic lymph node metastasis. Patient was posted for pelvic EBRT, brachytherapy and chemotherapy.

Conclusion

Laparoscopic extraperitoneal paraaortic lymph node dissection is feasible. Also it will allow to start the treatment faster
IMAGE GUIDED BRACHYTHERAPY IN CERVICAL CANCER: PROGRAM INITIATION, LEARNING CURVE AND RESULTS

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Aims

To report our 10 years’ experience and learning curve of the treatment of cervical cancer patients with chemo/radiotherapy and image guided, high dose rate (HDR) brachytherapy (BT) with combined intracavitary/interstitial (IC/IS) applicators.

Method

Ninety one consecutive patients with cervical cancer were treated between 2007 and 2016. Patients received external beam radiotherapy ± chemotherapy followed by a HDR BT boost. The first 8 patients were treated according CT- and rest with MRI-based plans. Contouring was done according to the GEC-ESTRO recommendations. 85% had stage IIB-IV disease. The mean tumor diameter was 5.5 cm, 40% had mean tumor volume over 40cm³, and 60% had metastatic lymph nodes. 82% patients were treated with IC/IS technique.

Results

Overall, the mean D90 for the HR-CTV were 90 Gy (Fig. 1). There was a learning curve of 16 patients to reach D90 of 85 Gy. Mean needle count per application was five. At a mean follow-up of 34 months, local control rate for all patients was 90%. The overall survival at 3 years was 59%. Patients with D90 over 85 Gy had better prognosis (p=0.028).

Conclusion

Although the majority of the patients presented with advanced disease, excellent local control rate were achieved. Combined IC/IS brachytherapy enables adequate dose for D90 HR-CTV.
KNOWLEDGE OF THE LEBANESE POPULATION TOWARDS HUMAN PAPILLOMAVIRUS AND ITS IMPLICATION IN CERVICAL CANCER

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Aims

To evaluate the knowledge of Lebanese women concerning the Human Papillomavirus (HPV), its implication in cervical cancer as well as the screening methods and vaccination. To measure the pap smear and HPV vaccination uptake and to determine the factors influencing them in the same population.

Method

We have recruited randomly Lebanese women over 18 years old, residing in the greater Beirut area and with no medical history. 444 women were asked to fill out a questionnaire composed of 33 questions evaluating their knowledge about HPV and cervical cancer.

Results

14.4% had not heard of cervical cancer and 64.4% had not heard of HPV. Of those who did, 80.4% thought their information was lacking. Only 54.4% and 64.6% were aware of screening tests and vaccination for HPV respectively and over 50% could not correctly identify true facts about HPV, its diagnostic tests and vaccination. Only 37.6% had had a pap smear at least once in their lifetime whereas 9% did not know what a Pap smear was. Screening was significantly associated with cervical cancer awareness and regular visits to a gynecologist (p<0.001). Only 11.7% of participants aged between 18 to 26 years were vaccinated against HPV. Vaccination uptake was significantly associated with religion (p = 0.021), profession (p = 0.03) and regular visits to a gynecologist (p = 0.022).

Conclusion

Lebanese women are not well informed about HPV and cervical cancer. Screening by Pap smear and HPV vaccination uptakes are non-satisfactory. Further interventions are required in order to improve these numbers.
METASTATIC CERVICAL SQUAMOUS CELL CARCINOMA OF THE OVARY
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Aims

To raise the awareness of late rare metastatic presentations of squamous cell carcinoma of the cervix.

Method

We report one case of a patient with a late recurrence in form of a multi-cystic ovarian mass, who was diagnosed with occult stage I squamous cell carcinoma of the cervix following a simple hysterectomy for CIN3.

Results

A 43 years old patient underwent a cervical cone biopsy for CIN III. Her follow-up smear revealed mild dyskaryosis. Subsequently, she was offered an ovary sparing simple hysterectomy with resection of a vaginal cuff. The histopathological report showed occult stage IAI squamous cell carcinoma with clear resection margins. Following discussion in the loco-regional MDM, it was decided no further adjuvant therapy was indicated.

Nine years following this episode, radiological investigations for vague bowel symptoms and weight loss revealed a right sided multi-cystic ovarian mass as well as and an ileocaecal mass.

A right hemicolecction, bilateral salpingo-oophorectomy and omental biopsy was performed in University hospital Wales.

The post-operative histopathology diagnosed metastatic squamous cell carcinoma of the right ovary and caecum secondary to occult cervical carcinoma. No evidence of teratoma or endometriosis was found. The patient chose to defer her palliative chemotherapy but became unwell with sepsis and subsequently passed away 12 months following the recurrence of her cervical cancer.

Conclusion

Metastatic cervical squamous cell carcinoma to the ovary is infrequent compared to adenocarcinoma of the cervix or from other extraovarian primaries. Unilateral multicystic ovarian tumours should prompt the clinician to exclude recurrence of the primary tumour.

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CERVICAL CANCER

ESGO7-0507

SYNCHRONOUS NEUROENDOCRIN TUMOUR OF THE CERVIX AND BREAST DUCTAL CARCINOMA
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Aims

Breast and cervical cancer are the two most common cancers in female. However, synchronous breast and cervical cancer has very rarely been reported. We report such a case of 44 year old woman who has synchronous breast and cervical cancer.

Method

A 44 year-old woman presented with prolonged menorrhagia and a 4x5 cm painless lump in the right breast for the last 8 months. She was multipara and has smoking history. A cervical biopsy was done and showed a large cell high grade neuroendocrine tumours of the cervix. Examination of the right breast showed a 5 cm firm palpable mass in the upper outer quadrant which was not fixed to the skin or chest wall. Axillary examination on the right side revealed a single mobile 1.2 x 0.8 cm lymph node. A breast ultrasound and mammogram were reported as BIRADS V. A Tru-cut biopsy of the right breast mass revealed an Infiltrating Ductal Carcinoma. She underwent radical hysterectomy, bilateral salpingo-oophorectomy, bilateral pelvic lymph node dissection, modified radical mastectomy with axillary dissection. She was thus staged as pT2N2 and planned for four cycles of adjuvant chemotherapy with cyclofosfamide (600 mg/m2) and doxorubicin (60 mg/m2) on day 1; to be repeated every 21 days.

Results

Despite cancer of breast and cervix being among the common malignancies in females, they have diverse etiological factors.

Conclusion

We herein decided to treat our patient with curative intent in view of early stage of disease at both sites.
CERVICAL CANCER

ESGO7-0555

ISOLATED UPPER ABDOMINAL METASTASIS AFTER SURGICALLY TREATED CERVICAL CANCER

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²Carol Davila University of Medicine and Pharmacy, Obstetrics and Gynaecology, Bucharest, Romania

Aims

To report the case of a 45-year-old patient who was diagnosed with a solitary splenic metastasis at two year follow up after surgically treated cervical cancer.

Method

The patient was initially submitted to neoadjuvant radiotherapy followed by radical hysterectomy with bilateral adnexectomy and lymph node dissection for stage IIB cervical cancer.

Results

At two year follow up she was diagnosed with an isolated splenic recurrence so a splenectomy was performed (Figures 1,2).
The histopathological studies confirmed the cervical origin.

**Conclusion**

Although not commonly reported, isolated upper abdominal metastases from cervical cancer might develop and seem to be best managed through a radical surgical manner.
SEGMENTAL RESECTION OF THE EXTERNAL ILIAC VEIN FOR PELVIC RECURRENCE AFTER SURGICALLY TREATED CERVICAL CANCER

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²Carol Davila University of Medicine and Pharmacy, Obstetrics and Gynaecology, Bucharest, Romania

Aims

To exemplify the benefits of radical resections for pelvic recurrences after cervical cancer

Method

A 67-year-old patient who had been previously submitted to surgery for stage IIIA pre-irradiated cervical cancer was diagnosed with a pelvic recurrence invading the right ureter and the right external iliac vein.

Results

The recurrent tumor was successfully resected en bloc with the invaded vascular and urinary structures. The continuity of the urinary tract was re-established by ureteral reimplantation while the iliac vein was laterally sutured without any graft interposition (Figures 1-3).
At one year follow up the patient is free of recurrent disease.

**Conclusion**

Although vascular invasion has been considered for long time as a contraindication for pelvic recurrent tumors resection, it seems that it can be safely performed and can improve survival.
THE UTILITY OF THE ILEOCOLIC SEGMENT FOR URINARY TRACT RECONSTRUCTION AFTER SURGERY FOR LOCALLY ADVANCED CERVICAL CANCER

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²Ponderas Academic Hospital, Visceral surgery, Bucharest, Romania

Aims

To illustrate the utility of the ileocolic segment for urinary tract reconstruction after surgery for locally advanced cervical cancer with urinary bladder invasion

Method

We present a case series of five patients in whom the ileocolic segment was successfully used for urinary bladder reconstruction

Results

In one case an anterior pelvic exenteration was performed and a neo-bladder was created from the ileocolic segment in which the two ureters were reinserted. In the other three cases a partial cystectomy was needed, so the volume of the remnant urinary bladder was augmented by using the ileocolic loop while the ureters were re-inserted in the digestive segment (Figures 1,2,3).
The postoperative outcome was uneventful in all cases.

Conclusion

The ileocolic segment can be successfully used to reconstruct the urinary bladder after extended pelvic resections for cervical cancer.
CERVICAL CANCER

ESGO7-1159

SIZE OF THE SENTINEL NODE METASTASIS AND THE RISK OF NON-SENTINEL NODE METASTASIS IN CERVICAL CANCER

G. Baiocchi, H. Mantoan, L. Kumaga, L. Badiglian-Filho, C. Faloppa, L. De Brot, A. AC Camargo Cancer Center, Gynecologic Oncology, Sao Paulo, Brazil

Aims

Correlate the size of metastatic sentinel node (SLN) with the risk of non-sentinel node (N-SLN) metastasis in cervical cancer.

Method

The study included 68 patients who met the FIGO staging criteria from IA2 to IB2, treated at AC Camargo Cancer Center from May 2014 to March 2017. The patients underwent SLN mapping using patent blue dye and systematic bilateral pelvic lymphadenectomy.

Results

Median SLN count was 2 (range, 1-8) and median total lymph node (LN) count 24 (range, 6-81). Bilateral pelvic detection was found in 41 (60.3%) cases. We found metastatic LN in 11/56 (19.6%) of patients. Of the 97 hemi-pelvises mapped, SLN was able to predict LN involvement in 96 (98.9%). Two patients had bilateral positive LNS. A total of 12 hemi-pelvises had LN metastasis, and in 11 the SLN was involved, resulting in a sensitivity of 91.7%, NPV of 98.8%. In 3 (6.4%) cases the SLN was positive only after immunohistochemistry – 6 macrometastasis, 2 micrometastasis and 1 ITC. The median positive SLN was 1 (range, 1-3) – 1 patient had 2 positive SLN and another had 3 positive SLN. Of 9 patients with positive SLN, 4 (66.6%) also had positive N-SLN. Of 6 patients with macrometastasis, 2 (33.3%) had positive N-SLN (1 contralateral positive N-SLN) – 1/7 (14.2%) hemipelvises. Of 3 patients with metastasis ≤2mm, 2 (66.6%) had positive N-SLN – 1/4 (25%) hemipelvises.

Conclusion

Macrometastasis (>2mm) of SLN in cervical cancer was not related to a higher risk of N-SLN metastasis compared to SLN metastasis of ≤2mm.

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DETECTION OF LYMPH NODE METASTASIS IN CERVICAL CANCER USING THE SENTINEL NODE MAPPING ALGORITHM

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Aims

Evaluate the sensitivity and negative predictive value (NPV) of sentinel node (SLN) procedure in cervical cancer, and test the SLN algorithm proposed by Memorial Sloan Kettering Cancer Center (MSKCC).

Method

The study included 68 patients, stages IA2 to IB2, treated at AC Camargo Cancer Center from May 2014 to March 2017. Following the SLN procedure with blue dye, a radical hysterectomy or trachelectomy that included parametrectomy and systematic bilateral pelvic lymphadenectomy was performed.

Results

Median SLN count was 2(range, 1-8) and median total lymph node (LN) count 24(range, 6-81). Fifty-six (82.4%) patients had at least 1 SLN detected. Bilateral pelvic detection was found in 41 (60.3%) cases. We found overall metastatic LN in 14/68 (20.5%) patients and in 11/56 (19.6%) of patients with SLN detected. There were 9 in 11 patients with LN metastasis with a positive SLN (one patient had positive node in hemipelvis where no SLN were found), with an overall sensitivity of 81.8% and NPV of 96.6%. Of the 97 sides mapped, SLN was able to predict LN involvement in 96 (98.9%) hemi-pelvises. A total of 12 hemi-pelvises had LN metastasis, and in 11 the SLN was involved, resulting in a sensitivity of 91.7%, NPV of 98.8%. In 3 (6.4%) cases the SLN was positive only after immunohistochemistry (2 micrometastasis and 1 ITC).

Conclusion

We found that SLN procedure is a safe and accurate technique that increases metastatic nodal detection rates by 6.4% after IHC. We found better performance of the SLN procedure when analyzing per side, however we still had one false negative even applying the MSKCC’s algorithm.
FUNCTIONAL AND ONCOLOGIC OUTCOMES OF RADICAL TRACHELECTOMY IN EARLY-STAGE CERVICAL CANCER: A PROSPECTIVE MULTICENTRIC COHORT OF 61 PATIENTS

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8Centre hospitalier universitaire vaudois, Gynecology Department, Lausanne, Switzerland

Aims

To assess the post-operative morbidity of patients who have undergone a radical trachelectomy for early-stage cervical cancer and the oncologic outcomes.

Method

We retrospectively analyzed the data of two prospective trials on sentinel node biopsy for cervical cancer (SENTICOL I & II) between January 2005 and March 2012 from 8 French oncologic centers.

Results

A total of 61 patients have undergone a radical trachelectomy: 41 patients by laparoscopic-assisted vaginal way, 7 patients by total laparoscopic way, 11 patients by total vaginal way and 2 patients by laparotomy. The median age was 33 years (range = 22-68 years). 88.5 % of patients had a stage IB1 disease. There were 63.9% of epidermoid carcinoma and 34.4 % of adenocarcinoma. Eighteen patients (29.5%) had only a sentinel lymph node biopsy and 43 patients (70.5%) had an additional pelvic lymphadenectomy. The median follow-up was 46 months (range = 0-85 months). There were 12 cases of urinary infections (19.6%), 6 cases of dysuria (9.8%), 3 cases of urinary incontinence (4.9%), and one case of ureteral fistula (1.6%). The genito-femoral nerve was injured in 4 cases (6.5%) and the obturator nerve was injured in 5 cases (8.2%). There were 12 cases of limb lymphedema (19.7%) and 5 cases of pelvic lymphocyst (8.2%). During the follow-up, 3 patients (4.9%) had a local recurrence and two patients died: one from a breast cancer and one from a liver metastasis.

Conclusion

The radical trachelectomy is a safe alternative option for young patient with an early-stage cervical cancer to preserve their fertility.
CERVICAL CANCER

ESGO7-0508

EARLY AND LATE MORBIDITY OF RADICAL HYSTERECTOMY WITH LYMPHADENECTOMY IN EARLY-STAGE CERVICAL CANCER: A PROSPECTIVE MULTICENTRIC COHORT OF 232 PATIENTS

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6CHU Bretonneau, Service de Chirurgie Pelvienne Gynécologique et Oncologique, Tours, France
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8Service de gynécologie, Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland

Aims

The aim of this study was to assess the post-operative morbidity of patients who have undergone a radical hysterectomy (RH) for early-stage cervical cancer.

Method

We retrospectively analyzed the data of two prospective trials on sentinel node biopsy for cervical cancer (SENTICOL I & II). Patients underwent a radical hysterectomy for early-stage cervical cancer between January 2005 and March 2012 in 23 French oncologic centers.

Results

A total of 412 patients were enrolled and 284 had a radical hysterectomy. Data were complete for 232 patients: 115 by laparoscopic-assisted vaginal way, 80 patients by total laparoscopic way, 9 patients by total vaginal way, 22 patients by laparotomy and 6 patients by robot-assisted way. The median age was 44 years (range = 25-85 years). 89.6% of patients had a stage IB1 disease. 72.4% were epidermoid carcinoma and 24.6% adenocarcinoma. Eighty-one patients (35%) had only a sentinel lymph node biopsy and 151 patients (65%) had an additional pelvic lymphadenectomy. There were 45 cases of urinary infections (19.4%), 17 cases of dysuria (7.3%), 10 cases of urinary incontinence (4.3%), and 6 cases of ureteral or vesical fistula (2.6%). The genito-femoral nerve was injured in 25 cases (10.7%) and the obturator nerve was injured in 22 cases (9.5%). There were 38 cases of limb lymphedema (16.3%) and 14 cases of pelvic lymphocyst (6%).

Conclusion

These complications rates are similar with those found in the current literature. Urinary infections and limb lymphedema are the main complications of RH. The functional outcomes could be improved by applying nerve-sparing techniques.
CERVICAL CANCER

ESGO7-0514

FUNCTIONAL AND ONCOLOGIC OUTCOMES OF TRACHELECTOMY IN EARLY-STAGE CERVICAL CANCER: VAGINAL VERSUS LAPAROSCOPIC WAYS

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Aims

To compare the vaginal radical trachelectomy (VRT) and the laparoscopic-assisted vaginal radical trachelectomy (LAVRT) surgical approaches and to provide data on functional outcomes.

Method

We prospectively included patients who were elective to a radical trachelectomy for early-stage cervical cancer between March 2009 and March 2012 from 10 French oncologic centers.

Results

A total of 32 patients were included. Eleven patients had a VRT: 5 with a sentinel lymph node detection only and 6 with an additional pelvic lymphadenectomy. Twenty-one patients had a LAVRT: 13 with sentinel lymph node detection only and 8 with additional pelvic lymphadenectomy. The median age was 35 in the LAVRT group and 34 in the VRT group. The median follow-up was 43 months (range = 0-68 months). There were more urinary infection and dysuria in the VRT group than in LAVRT group respectively, 36.4% and 23.8% and, 9% and 4.8%. The genito-femoral nerve and the obturator nerve were more frequently injured in the VRT group (27.3% and 27.3%) than in the LAVRT group (4.8% and 4.8%). There were more limb lymphedema in the VRT group than in LAVRT group, respectively 54.5% and 23.8 % and more lymphocele in the VRT group than in the LAVRT group, respectively 18.2% and 9.5%. There were two recurrences and one death in the LAVRT group and none in the VRT group.

Conclusion

The functional outcomes after a radical trachelectomy seem to be better with a laparoscopic-assisted vaginal approach for the early-stage cervical cancer with an aim of fertility-sparing. Bigger population is needed.
CERVICAL CANCER

ESGO7-0964

TREATMENT PLANNING COMPARISON OF FIXED FIELD INTENSITY MODULATED RADIOTHERAPY AND VOLUMETRIC ARC THERAPY IN PATIENTS WITH CERVICAL CANCER

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Aims

In this study we compared the planning target volume (PTV) coverage and dose to organs at risk (OAR) of intensity modulated radiotherapy (IMRT) plans with volumetric arc radiotherapy (VMAT) plans in 10 patients with localised cervical cancer.

Method

CT datasets of 10 patients previously treated using VMAT for histologically proven, localised squamous cell carcinoma of cervix between May and November 2016 were used to generate 7 field IMRT plans. All patients had received 50Gy in 25 fractions to the pelvis. Plans were optimized to ensure conformal PTV coverage whilst minimising the dose to OARs. Dose volume histograms for IMRT and VMAT plans were compared for each patient and homogeneity index was calculated for PTV as described by RTOG. We examined the mean dose to OARs and V45 for rectum and bladder, excluding PTV.

Results

The median age of patients in this study was 46.6 years. IMRT plans had improved dose homogeneity with median homogeneity index 1.12 compared to 1.15 for VMAT plans. There was no significant difference in the V45 to rectum or mean dose to bowel cavity between the two planning techniques. V45 for bladder minus PTV was significantly higher in IMRT plans (student's t-test, p<0.01).

Conclusion

Both IMRT and VMAT deliver homogenous and conformal radiotherapy plans for localised cervical cancer however, VMAT allows improved bladder sparing.
CERVICAL CANCER

ESGO7-1217

DOES STAGING PARAORTIC LYMPHADENECTOMY REMOVE OCCULT METASTATIC DISEASE IN LOCALLY ADVANCED CERVICAL CANCER?

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Aims

Staging paraaortic lymphadenectomy (st PALND) has demonstrated occult metastatic disease in locally advanced cervical cancer. Nevertheless, its therapeutic role remains controversial as far as all nodes-positive patients will undergo additional treatment over this area, mainly extended field radiation. We thought to evaluate whether st PALND could potentially remove hidden tumor within nodes initially reported as negative based on routine histopathology work up.

Method

Eighteen consecutive laparoscopic extraperitoneal st PALNDs were assessed. The number of lymph nodes harvested ranging from 7 to 29. Three patients (16.7%) were excluded due to positive results. Among the remaining fifteen node-negative women, pancytokeratine (panCK) stain was performed in nine of them judged to be at the highest risk of harboring occult tumor spreading due to either extensive local disease and/or suspicious/positive pelvic lymph nodes.

Results

Two patients stained panCK (+). Light microscopy reassessment showed a small foci with endometriotic features in one case; however, the second sample appeared as the presence of isolated tumor cells within a lymphatic channel. This latter woman remains without evidence of disease after 17 months of follow up despite the lack of a targeted treatment to the paraaortic region or any additional systemic therapy.

Conclusion

Ancillary pathologic procedures, such as ultrastaging with immunohistochemistry stain, might reveal occult disease involving paraaortic lymph nodes in locally advanced cervical cancer. The potential therapeutic role of st PALN by removing these tumor deposits deserves further investigation.
A COMPARISON OF TOTAL LAPAROSCOPIC RADICAL HYSTERECTOMY (TLRH) VERSUS LAPAROSCOPICALLY ASSISTED VAGINAL RADICAL HYSTERECTOMY (LAVRH) FOR CERVICAL CANCER TREATMENT

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Aims

To compare outcomes and complications of TLRH versus LAVRH for cervical cancer treatment.

Method

A retrospective cohort study, comprising all women who underwent TLRH (n=34) or LAVRH (n=65) for cervical cancer treatment during the period 2008 – 2016 at the Department of Obstetrics and Gynaecology of Lithuanian University of Health Sciences, was carried out. Patients characteristics, intraoperative and postoperative outcomes and complications were evaluated. Statistical analysis was performed using SPSS version 21.0.

Results

Women in the TLRH group had more often history of abdominal operations (32.4%) than women in LAVRH group (15.4%, p=0.04). Other patient’s characteristics (age, body mass index, comorbidities, history of caesarean delivery) did not differ between the groups.

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>TLRH (n=34)</th>
<th>LAVRH (n=65)</th>
<th>P value</th>
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</thead>
<tbody>
<tr>
<td>Duration of operation (mean±SD, min.)</td>
<td>326±66</td>
<td>363±89</td>
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<tr>
<td>Bleeding (mean±SD, ml)</td>
<td>220.6±22.2</td>
<td>297.7±29.1</td>
<td>0.03</td>
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<tr>
<td>Intraoperative complications</td>
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<td></td>
<td></td>
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<tr>
<td>Bladder injury</td>
<td>0</td>
<td>1 (1.5%)</td>
<td>0.66</td>
</tr>
<tr>
<td>Ureteric injury</td>
<td>0</td>
<td>2 (3.0%)</td>
<td>0.43</td>
</tr>
<tr>
<td>Postoperative complications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fever &gt;38 °C</td>
<td>7 (20.6%)</td>
<td>20 (30.8%)</td>
<td>0.01</td>
</tr>
<tr>
<td>Wound infection</td>
<td>0</td>
<td>1 (1.5%)</td>
<td>0.66</td>
</tr>
<tr>
<td>Sepsis</td>
<td>0</td>
<td>1 (1.5%)</td>
<td>0.66</td>
</tr>
<tr>
<td>Peritonitis</td>
<td>0</td>
<td>1 (1.5%)</td>
<td>0.66</td>
</tr>
<tr>
<td>Bladder injury</td>
<td>5 (14.7%)</td>
<td>12 (18.5%)</td>
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</tr>
<tr>
<td>Ureteric injury</td>
<td>0</td>
<td>6 (9.2%)</td>
<td>0.06</td>
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<tr>
<td>Rectovaginal fistula</td>
<td>0</td>
<td>2 (3.0%)</td>
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<td>Lymphocele</td>
<td>2 (5.9%)</td>
<td>2 (3.0%)</td>
<td>0.72</td>
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<tr>
<td>Neuropathies of legs</td>
<td>1 (3.0%)</td>
<td>3 (4.6%)</td>
<td>0.08</td>
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<tr>
<td>Postoperative stay (mean±SD, day)</td>
<td>9.5±1.2</td>
<td>14.8±1.5</td>
<td>0.018</td>
</tr>
</tbody>
</table>

Conclusion

TLRH was more often done after abdominal operations and associated with shorter duration, lower amount of bleeding and lower number of postoperative complications, when compared with LAVRH for cervical cancer treatment.
CERVICAL CANCER

ESGO7-0622

LINA LOOP MONOPOLAR DEVICE FOR CERVICAL AMPUTATION DURING LAPAROSCOPIC RADICAL TRACHELECTOMY

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Aims

Cervical cancer is the third most common gynaecological malignancy. Irish figures state that 52% of cases are under the age of 45. We present an intraoperative video and case series of 13 patients from two tertiary centres with early stage cervical cancer who underwent laparoscopic radical trachelectomy (LRT) and sentinel pelvic lymph node sampling. LRT involves excision of the cervix, upper 2cm of the vagina, parametrium and paracolpos and is a recognized fertility preserving procedure.

Method

The video demonstrates sentinel node biopsy using ICG, nerve-sparing radical trachelectomy and cervical amputation, performed using the Lina Loop monopolar device at the level of the internal os. The utero-vaginal anastomosis was performed using a V-Loc suture. The Lina Loop allows for an accurate and safe cervical amputation and clear interpretation of pathological margins, which is demonstrated in the video.

Results

13 women (9 nulliparous) were included in the case series with ages ranging between 25 to 39 years. All cases were FIGO stage 1B1. There were eight cases of squamous cell carcinoma, four cases of adenocarcinoma and one large cell neuroendocrine tumour. Two patients received neo-adjuvant chemotherapy. Post-operative margins were clear in all cases, two patients required adjuvant treatment. There was one death in the cohort.

Conclusion

The above cases were done using the Lina Loop monopolar device to amputate the cervix. This 5mm single use device provides a more accurate amputation of the cervix than standard monopolar devices, providing excellent haemostasis and clear, even margins for pathological assessment.
CERVICAL CANCER

ESGO7-0971

MESONEPHRIC CARCINOSARCOMA OF THE UTERINE CERVIX
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Aims

Carcinosarcomas represent less than 5% of uterine neoplasms arising rarely in the uterine cervix. They belong to the histological group of mixed tumors with both epithelial and mesenchymal components. They mainly occur in postmenopausal women and usually associated with poor prognosis.

Method

We report a case of cervical carcinosarcoma. We describe clinical, histological and therapeutic features of a case of cervical carcinosarcoma.

Results

A 57-year-old woman complained of vaginal bleeding and pelvic pain. Clinical examination revealed a 9 cm mass in the cervix extending to the right parametrium. Cervical biopsy concluded to undifferentiated carcinoma. There was no obvious metastasis to pelvic or paraaortic lymph nodes in imaging studies. The patient underwent concurrent chemoradiation therapy at the dose of 45 grays followed by radical hysterectomy with bilateral salpingo-oophorectomy and pelvic lymphadenectomy. Histology confirmed residual carcinosarcoma of the cervix measuring 3 cm extending to the right parametrium. Pelvic lymph nodes, uterus, adnexa, and vagina were not involved. Postoperative high-dose brachytherapy was performed. After 14 months, the patient did not show any signs of relapses.

Conclusion

Cervical carcinosarcomas are rare neoplasm and there is no consensus regarding their prognosis and treatment which remain based on data available for sarcoma uterine corpus.
CERVICAL CANCER

ESGO7-0768

MESTASTATIC PARAORTIC LYMPH NODES IN LOCALLY ADVANCED CERVICAL CANCER: DO WE NEED TO BE MORE AGGRESSIVE IN THE TREATMENT?

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Aims

To study risk factors in patients with LACC undergoing pretherapeutic laparoscopic paraaortic lymphadenectomy (LPL), as well as the progression-free and overall survival rates specifically in the subgroup of patients with metastatic paraaortic lymph nodes (PLN).

Method

Prospective study, conducted between 2009-2015, based on the review of data on demography, pathology, surgery, complications and disease-status of patients with LACC undergoing pretherapeutic LPL. All patients were treated with chemoradiotherapy and those with metastatic-PLN received extended lumbo-aortic radiation therapy. Survival analysis was performed with the Kaplan-Meier method. Statistical significance was considered for p-values<0.05.

Results

The study included 139 patients. Their mean age was 49.2 years (SD10). The most frequent histologic type was SCC (77%) and the most frequent FIGO stage was IIB (48.2%). Metastatic PLN were identified in 18.7% of patients (26). The OS rate after 28 months follow-up was 68.2 months (OR2.7; CI95%, 63-73.5). For N- patients, the mean survival time was 76.9 months (OR1.8; CI95%, 73.4-80.4) while for N+ patients; the mean survival time was 24.9 months (OR4.6; CI95% 15.9-33.9; p<0.0001). A logistic regression analysis revealed that the presence of metastatic PLN and tumor size were both independent risk factors for poor OS [(O117.5; CI95% 11.6-990.2; p<0.0001) and (OR 21.5; CI95% 2-230.3; p=0.01)].

Conclusion

Women with LACC with metastatic PLN had a poor prognosis and low survival rate. We postulate that this finding could be accounted for by the presence of hidden systemic disease and high-recurrence rate following therapy. Efforts should be made to improve the available therapeutic schedules for this particular subgroup of patients.
CERVICAL CANCER

ESGO7-1239

EPIDEMIOLOGY OF CERVICAL CANCER IN A REGION OF SOUTHERN ALGERIA

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Aims

The early stages of cervical cancer can be free of symptoms, Infection with some types of HPV is the greatest risk factor for cervical cancer. Screening is beneficial in women between 25 and 65 years old. Its used in combination with HPV testing

Method

It’s a prospective analysis of data about cervical cancer from 2016 to 2018 in the province (wilaya) of LAGHOUAT (Algeria). During this two-year study period, 400 cervical screening are required. Actually 200 cervical screening were made. The women were between 25 and 64 years old

Results

The results was like this: invasive cases 10 %, high-grade 22%, normal result 54 %

It’s was the first screening for all the 200 women, and 56 percents had only one sexual partner all their life and 12 percent had more than two.

Conclusion

in Algeria an organized screening policy must be set up to reduce the mortality rate from this cancer.
MICRONA PROFILING OF HUMAN PAPILLOMAVIRUS MEDIATED CERVICAL CANCER IN INDIAN WOMEN
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Aims

Though persistent HPV infection is needed for development of cervical cancer but HPV infection alone is not sufficient but together with other genetic factors might be responsible for cervical carcinogenesis. There are two licensed prophylactic vaccines against HPV -16 and -18; but they are prophylactic in nature. So, there is an urgent need to find novel molecular diagnostic markers and therapeutic targets for the treatment of cervical cancer.

Method

We investigated the role of miRNAs in HPV-mediated cervical pre-cancer and cancer cases in Indian population. We analysed the HPV infection and its genotypes both in cases and controls. Also, microRNA profiling was done in a subset of cervical pre-cancer (n = 20), cancer cases (n = 50) and normal samples (n = 30) by real-time quantitative PCR (qRT-PCR).

Results

The miRNA profiling revealed that in cervical pre-cancer, 100 miRNAs were significantly (p < 0.001) differentially expressed with 70 miRNAs upregulated and 30 miRNAs downregulated. In cervical cancer cases, 383 miRNA were found to be differentially expressed (p < 0.001), of which 350 miRNAs were upregulated and 33 miRNAs were downregulated. We also observed that 182 miRNAs were differentially expressed (p < 0.001) in HPV-16/18-positive (SiHa/HeLa) cell lines compared with HPV-negative (C33A) cell line. In addition, we identified the novel microRNAs such as miR-892b, miR-500, miR-888, miR-505 and miR-711 in cervical precancerous lesions and cervical cancer cases in Indian population.

Conclusion

Ultimately, the study demonstrates a crucial role of microRNAs in cervical cancer, which may serve as potential early diagnostic markers for cervical carcinogenesis.
CERVICAL CANCER

ESGO7-0106

INTRODUCING NERVE SPARING APPROACH DURING LAPAROSCOPIC RADICAL HYSTERECTOMY

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Aims

To evaluate how the introduction of nerve-sparing (NS) approach affects outcomes of locally advanced stage cervical cancer (LACC) patients undergoing minimally invasive radical hysterectomy (LRH).

Method

Data of consecutive patients undergoing minimally invasive surgery for LACC were retrieved between 2010 and 2016. Patients included had minimally invasive class III radical hysterectomy (LRH or NS-LRH). Propensity-score machining and inverse probability weighting algorithms were used to decrease a possible allocation bias when comparing outcomes between groups.

Results

Overall, 66 patients were included. The prevalence of patients undergoing NS approach increased over the study period (from 10% in the year 2010-2011 to 100% in the year 2015-2016; p for trend <.001). Data of consecutive 40 patients undergoing NS-LRH were compared with 26 patients undergoing LRH before the introduction of NS approach. After the application the inverse probability weighting algorithm, we observed that the introduction of NS approach did not increase operative time and blood loss. Postoperative complications rate was similar between groups. Patients undergoing NS-LRH experienced shorter hospital stay than patients undergoing LRH. 30-day pelvic floor dysfunction rates, including voiding, fecal and sexual alterations, were lower in the NS group in comparison to control group (p<.05). Five-year disease-free (p=.76) and overall (p=.81) survivals were similar comparing NS-LRH with LRH.

Conclusion

The implementation of NS approach in the setting of LACC improves patients’ outcomes, minimizing pelvic dysfunction rates. NS approach have not detrimental effects on survival outcomes.
CERVICAL CANCER

ESGO7-0201

FACTORS PREDICTIVE OF 30-DAY MORBIDITY, READMISSION AND COSTS IN PATIENTS UNDERGOING PELVIC EXENTERATION
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Aims

To identify perioperative factors predictive of 30-day morbidity, readmission and cost in patients undergoing pelvic exenteration due to recurrent gynecological malignancies.

Method

Data of consecutive patients undergoing pelvic exenteration (anterior / posterior or total) between 2004 and 2016 were collected prospectively. Complications were graded per the Accordion classification. Only severe (grade 3 or worse) complications were evaluated for the study purpose. Readmissions within 30 days after surgery were recorded. Thirty-day cost analyses were expressed in 2017 euros.

Results

Overall, 58 patients were evaluated. Anterior, posterior and total exenterations were executed in 39 (67%), 9 (16%) and 10 (17%) patients, respectively. Ten (15.5%) severe complications occurred: eight (20.5%), 0 (0%) and one (10%) after anterior, posterior and total exenterations, respectively. Radiotherapy dosage and previous administration of chemotherapy did not increase the risk of developing 30-day complications and readmission. Low postoperative albumin levels (<3g/dl), history of deep vein thrombosis, and ASA score >2 correlated with an increased risk of developing severe postoperative complications (p<.05). The occurrence of postoperative complications did not correlate with adverse survival outcomes. The occurrence of severe complications per se increased costs. After controlling for confounding factors, we observed that low postoperative albumin levels was associated with significant increase in costs; while, the execution of colostomy reduced 30-day costs.

Conclusion

Preoperative patients selection is a key point for the reduction of postoperative complications following pelvic exenteration. The implementation of enhanced perioperative recovery might be useful in reducing morbidity and costs of salvage surgery.
CERVICAL CANCER

ESGO7-0091

PRETREATMENT NEUTROPHIL:LYMPHOCYTE RATIO IN PREDICTING THERAPEUTIC RESPONSE IN CERVICAL CARCINOMA TREATED WITH CONCURRENT CHEMORADIATION

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Aims

Cancers have been linked with systemic inflammation. Neutrophil-to-lymphocyte ratio (NLR) has been investigated as prognostic markers for different cancers. The aim is to investigate the role of the pretreatment NLR and other factors in predicting response to treatment in cervical cancer patients treated with chemoradiation.

Method

This was a retrospective study with cervical cancer patients treated with chemoradiation at a single institution from January 2012 to December 2014. Primary end point was tumor response to treatment. Logistic regression analysis was used to identify prognostic factors to NLR and treatment response.

Results

A total of 150 subjects were included. The median NLR was 2.43, and patients were divided into high NLR and low NLR. Patients with low NLR had 100% complete response. Among patients with high NLR, 56% had complete response and 44% had incomplete response (p<0.01). Regression analysis showed that stage, tumor size and NLR are significant prognostic factors (p<0.01) with treatment response. The odds ratio for a complete response is decreased by a factor of 0.121 in high NLR, by 0.208 for >4cm tumors, and by 0.050 for stage III disease.

Conclusion

Pretreatment NLR may be used as parameter to predict therapeutic response to chemoradiation in cervical cancer. A low NLR is associated with good treatment response, and patients with advanced stage, larger tumor size and high NLR have lower chances of complete response to treatment.
CERVICAL CANCER

ESGO7-0987

COMPARISON OF INDOCYANINE GREEN VS RADIOCOLLOID AND/OR BLUE DYE FOR SENTINEL NODE MAPPING IN STAGE IB1 >2 CM–IIB CERVICAL CANCER: A RETROSPECTIVE EUROPEAN EXPERIENCE.

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Aims

Compare the detection rate and bilateral mapping of sentinel lymph node (SLN) in women with cervical cancer (CC) with tumor > IB1 (>2cm) by using Indocyanine Green (ICG) versus Tc99m ± blue-dye (BD).

Method

Between 2008 and 2016, 95 women with stage IB1 (>2cm) or IB2, IIA and IIB cervical cancer at final pathology who underwent SLN mapping with Tc99m ± BD (n=47) or ICG (n=48) underwent radical hysterectomy with or without BSO were retrospectively reviewed from 4 European centers. Detection rate and bilateral mapping of ICG were compared with those obtained using the Tc99m radiotracer ± BD. A lymphadenectomy was performed, and false negative rate was assessed.

Results

Overall detection rate of SLN mapping was 91.5 and 100% for Tc99m ± BD and ICG respectively. Bilateral mapping rate for ICG resulted 91.7%, significantly higher with respect to 66% obtained with Tc99m + BD (p=0.025). False negative rate was 11.5% (3 false negative cases in ICG group only). Nine out the 23 SLN-positive patients (39,1%), were exclusively diagnosed as a result of ultrastaging, that allowed to identify micrometastasis or ITC only.

Conclusion

In advanced CC (stage IB1>2cm-IIB) the real-time fluorescence SLN mapping with ICG achieved higher detection rate and higher bilateral migration rate when compared to Tc99m radiotracer ± BD. SLN and ultrastaging could provide additional information on nodal staging also in advanced CC. In this setting, ICG is a promising tool for mapping, as it seems less affected by the higher stage of disease respect to the traditional methods.
CERVICAL CANCER
ESGO7-1111

MULTIPLE ALLELE SEQUENCE IN MICA INFLUENCE SUSCEPTIBILITY TO CERVICAL CANCER IN A KOREAN POPULATION
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Aims
We aimed to identify that variants of MICA (MHC class I chain-related gene A) can influence susceptibility to cervical cancer in a Korean population

Method
A case-control study was conducted on 124 cervical cancer patients and 200 controls in Korean women. The MICA 129 genotypes, MICA 129 alleles, STR allele, and sequencing alleles frequencies of the MICA gene were compared by PCR-SBT (polymerase chain reaction-sequence base typing) method.

Results
We identified protective effects of MICA-A5 (OR = 0.4, P= 2.4 x 10⁻⁵) and MICA*027 (OR = 0.3, P=0.2 X 10⁻²), MICA*008:01 increased the susceptibility to cervical cancer (OR = 1.6, P = 0.043) with the same association shown with MICA-A5.1 but, no association was observed between MICA-129 allele, genotypes and risk of cervical cancer.

In subgroup analysis, MICA * 008: 01 (OR = 2.6 corrected P = 0.045) and MICA * 027 (OR = 0.2, corrected P = 0.005) allele frequency were different in HPV 16 or 18 confirmed cervical cancer patients compared to HPV non-16,18 confirmed cervical cancer patients, the susceptibility was increased and corrected P value was validated.

In MICA * 002.01, there was a difference between the two groups at Stage IIA and below. And in stage IIA and above, Odd ratio was significantly increased in MICA * 002.01.

Conclusion
Our results revealed the susceptible and protective effect of MICA*008:01, MICA*027 in the pathogenesis of HPV 16 or 18 infected cervical cancer in Korean population
CERVICAL CANCER

ESGO7-0586

POSTOPERATIVE COMPLICATIONS AND SURVIVAL AFTER PELVIC EXENTERATION: OUR EXPERIENCE ON 50 PATIENTS

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Aims

The pelvic exenteration became an ultimate, salvage therapy for patients with advanced or recurrent pelvic cancers. The aim of the study was to analyse our results regarding postoperative complications and survival after pelvic exenterations performed in a tertiary referral center.

Method

Between 2011 and January 2017, 50 patients underwent a pelvic exenteration. The indications were advanced or recurrent cervical (35 patients), vaginal (4), advanced or recurrent ovarian (7), advanced endometrial (2), recurrent vulva (1) or advanced bladder cancer (1).

Results

Out of the 50 exenterations, 25 were total, 17 anterior and 8 posterior. In respect to levator ani muscle, a supralevatorian exenteration was performed in 32 cases, an infralevatorian in 9 and an infralevatorian with vulvectomy in 9. A Bricker non-continent ileal or sigmoid urinary conduit was performed in 41 out of 42 anterior and total exenterations, and a continent orthotopic Budapest pouch in one. Four patients (8%) developed grade V Dindo-Clavien complications (perioperative deaths), 3 patients grade IVa (6%), and 12 (24%) grade IIIb. Among the 50 patients, at this moment, 28 are alive; 20 are dead because of the disease, one is dead of non-oncologic cause and one is lost to follow-up.

Conclusion

Pelvic exenteration for recurrent or advanced pelvic malignancies can be associated with long-term survival and even cure without high perioperative mortality in properly selected patients. However, postoperative complications are common and can be lethal.
PREVALENCE OF HUMAN PAPILLOMAVIRUS GENOTYPES IN CERVICAL CANCER SPECIMEN FROM A ROMANIAN POPULATION

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Aims

Persistent HPV infection is a well-established cause of cervical cancer. The prevalence of HPV infection among Romanian women has not been broadly studied.

Method

Eighty histologically confirmed invasive cervical cancer specimens of previously non-irradiated Romanian women were collected and a HPV genotyping was performed. Detection was based on DNA isolation, PCR amplification of target DNA, hybridization of PCR products with oligonucleotide probes and colorimetric identification of products. A statistical analysis was performed.

Results

HPV-DNA prevalence was 87.5%. Among HPV-DNA positive cervical cancers, most of the cases presented as single infections (87.14%); 7 patients harbored 2 HPV types (10%); and in 2 patients, 3 different HPV types were discovered (2.85%). HPV16 was the most detected type, with 72.5% relative contribution as single (58 patients) or multiple infection. It was not found any statistical association between the HPV genotype, patients' age, histology of the tumour or stage of disease (p>0.05).

Discussion. Our results are intriguing, with a high prevalence of HPV16 (72.5%) and 10 other high risk HPV type, with a low prevalence (1.3-2.7%) for each one. Multiple infection was detected in 12.85% of women. HPV18 was detected in only one patient, despite the presence of 4 adenocarcinoma and one neuroendocrine carcinoma histologies.

Conclusion

This high variety of HPV types among Romanian population is quite specific, compared to other recently published data. This study provides important baseline data for improving the acceptance of HPV vaccination in Romania.
ROBOTIC VERSUS LAPAROSCOPIC RADICAL HYSTERECTOMY FOR EARLY CERVICAL CANCER: A CASE MATCHED CONTROL STUDY

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Aims

To evaluate the surgical, pathological and oncological outcomes of robotic radical hysterectomy (RRH) versus laparoscopic radical hysterectomy (LRH) in patients with early-stage cervical cancer (ECC).

Method

Between 2010 and 2016, 204 patients underwent RRH (n=70) and LRH (n=134) were retrospectively evaluated and compared.

Results

No statistically significant difference were found between the two approaches with regard to clinical characteristics. Median operative time was longer in RRH (245.5 vs 210 min, p: 0.008) compared to LRH; no difference in terms of EBL, intraoperative complications and rate of conversion to open approach were revealed between the two groups. In all series, 15 patients experienced major postoperative complications, with no difference between the two groups. Pathological characteristics did not differ significantly between the two groups, as well as no significant differences were found in pathological FIGO stage, histology and tumor grade. Pathological results revealed 19 (9.3%) patients with parametrial invasion and 29 (14.2%) patients with lymph nodes metastasis. 96 (47%) patients underwent adjuvant therapy. With a median follow up of 30 months no differences in DFS (p: 0.866) and OS (p: 0.723) were found between the two groups. In all series 22 patients experienced relapse of disease and 5 died of disease.

Conclusion

The present study showed feasibility, safety of minimally invasive approach for ECC with no relevant differences in surgical and clinical outcomes between RRH and LRH.
CERVICAL CANCER

ESGO7-0020

SPONTANEOUS UTERINE RUPTURE SECONDARY TO PYOMETRA IN A CERVICAL CANCER PATIENT: A CASE REPORT
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Aims
Pyometra is a rare gynecologic disease entity. It is the accumulation of pus within the uterine cavity which is commonly caused by a blockage or compromise in the outflow tract of the uterus. Pyometra in itself is rare, much so is uterine rupture occurring secondary to it.

Method
This is a case of a 63 year old Gravida 5 Para 5 (5-0-0-4), diagnosed case of Cervical Endometrioid Adenocarcinoma Stage IIIB, who was presented with abdominal pain. Computed Tomography Scan of the whole abdomen with intravenous contrast revealed moderate pneumoperitoneum of indeterminate etiology, for which an initial assessment of acute abdomen secondary to pneumoperitoneum probably secondary to ruptured viscus was made.

Results
Patient underwent exploratory laparotomy. Intraoperative finding was ruptured pyometra and peritoneal toilette and insertion of drainage were subsequently done. Culture guided antibiotics were administered and patient underwent radiotherapy and brachytherapy after infection was resolved.

Conclusion
Spontaneous rupture of pyometra with associated malignancy is a serious medical condition which requires prompt surgical and medical management. However, pre-operative diagnosis is difficult despite the presence of advanced imaging techniques, hence high level of suspicion is warranted in identifying this condition. Accurate diagnosis of pyometra prior to rupture may require less invasive management, therefore it is of same importance to identify pyometra even before it causes its catastrophic complications.
CERVICAL CANCER

ESGO7-0733

CERVICAL CANCER PATIENTS BECOME MALNOUROSHED DURING TREATMENT WITH CONCOMITANT CHEMO- RADIOTHERAPY

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Aims: To evaluate the magnitude of malnutrition in cervical cancer patients that received cisplatin based chemotherapy concomitant with radiotherapy

Method

55 patients with locally advanced cervical cancer were included in this longitudinal, prospective, observational study, at the National Cancer Institute in Mexico. Nutritional evaluation was performed using objective and subjective tools, including anthropometric, biochemical and dietary data, during and after patients received treatment and standardized dietary recommendations. Percentage change and trajectory analysis were calculated, comparing the initial and final evaluations.

Results

By the end of treatment, 96.3% patients lost weight (p=0.001); of these, 78.2% had severe weight loss (>5.1% weight loss); 62% patients presented anemia and all of them had lymphopenia. All patients consumed less than 95% energy required; carbohydrate intake increased, while protein and fat intakes decreased during treatment.

At the initial nutritional evaluation, 8 patients were undernourished, during treatment 31 patients, and by the third evaluation 45 patients were undernourished, showing a clinical and statistical significance (p<0.001). The percentage change between the initial and third evaluation was 462%. In other words, the number of undernourished patients increased 4 times in a period of 9 weeks. By the end of treatment only 2 patients (3.6%) presented an adequate nutritional status (p=0.001).

Conclusion

Malnutrition in cervical cancer patients undergoing chemo-radiotherapy, is clinically and statistically significant. Since nutritional status has been proven determinant in the quality of life, response to treatment and survival of patients, it is of utmost importance to take individualized nutritional measures to prevent malnutrition.
CHEMORADIOTHERAPY WITH GEMCITABINE IN CERVICAL CANCER PATIENTS WITH RENAL FAILURE: A RETROSPECTIVE ANALYSIS AT THE NATIONAL CANCER INSTITUTE FROM MEXICO


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Aims

Introduction: Currently chemotherapeutic scheme is based on platinum with a high renal toxicity, limiting the options to those patients with renal dysfunction. In this respect, Gemcitabine has a saffer toxicity profile and changes in dosage are not required in patients with renal dysfunction, representing a viable option for cervical cancer patients with renal failure.

Objective: To investigate response rate, progression free survival, overall survival and toxicity of chemoradiotherapy combined with gemcitabine in untreated patients with locally advanced cervical cancer undergoing kidney dysfunction and obstructive nephropathy.

Method

This is a retrospective analysis employing data from patients diagnosed with locally advanced carcinoma of the cervix and renal detritment, wich were treated with chemoradiotherapy and gemcitabine at the National Cancer Institute from Mexico from January 2003 to December 2015.

Results

A total of 85 patients were included in the study. We found a 78.8% objective response in patients treated with the chemoradiotherapy plus gemcitabine scheme, with a follow up median of 22.76 months, the progression free survival median was 26.34 months (95% CI, 14.78–37.91) and the overall survival media was 32.69 months (95% CI, 23.0–42.35). Hematologic toxicity was the most common event, white cell decreased and neutropenia were observed in 20.0% and 23.5% of the patients as grade 3 respectively and 1.2% as grade 4 for both cases. Improvements in GRF were seen, with a mean increased of 9.65 mL/min (p=0.000)

Conclusion

This study demonstrates that gemcitabine is well tolerated when used as a radiosensiblizing agent in patients with locally advanced cervical carcinoma affected with renal failure.
CERVICAL CANCER

ESGO7-0812

CHEMORADIOTHERAPY WITH CISPLATIN VS GEMCITABINE IN PATIENTS WITH LOCALLY ADVANCED CERVICAL CANCER WITH COMORBIDITIES. RETROSPECTIVE ANALYSIS OF PATIENTS TREATED AT THE NATIONAL CANCER INSTITUTE

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Aims

Cervical cancer is third most frequent cancer in worldwide. In Mexico it represents 49% of new cancer cases in women. Standard treatment consists of chemoradiotherapy with cisplatin, which could be cause impair renal function, neuropathy and ototoxicity. Currently, two emerging problems are being presented: the increase in the geriatric population and the chronic noncommunicable diseases. These variables impose an increased risk of adverse effects in patients with cervical cancer and comorbidities, which may limit them to receive standard treatment

Objective: To Evaluate the activity and Toxicity of cisplatin vs gemcitabine chemoradiotherapy in locally advanced cervical cancer

Method

A retrospective review was conducted of 212 patients with cervical cancer diagnosis (stage FIGO IB2-IVA) and fragility data (Diabetes Mellitus type 2, systemic arterial hypertension or geriatric patients) treated with cisplatin vs gemcitabine chemoradiotherapy

Results

Significantly more acute hematologic and gastrointestinal toxicity was present in cisplatin group. Changes in creatinine clearance, pretreatment, posttreatment, and one year after treatment were analyzed; creatinine clearance declined at one year in cisplatin group (p= 0.0001). No difference was found in terms of response rates, overall survival (OS) and disease-free survival (SLE) between the two groups. The 5-year OS was 77.2% for gemcitabine group and 86.4% for cisplatin group (p= 0.15). The 5-year SLE for the gemcitabine group was 76.8% vs 84% for the cisplatin group (p= 0.827).

Conclusion

Response and survival rates of gemcitabine group were similar to those of cisplatin, but in cisplatin group, renal function was significantly deteriorated at one year after the end of treatment, compared with gemcitabine.
CERVICAL CANCER

ESGO7-0176

THE ROLE OF HUMAN PAPILLOMAVIRUS-52 E6 IN CARCINOGENESIS

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Aims

To investigate the geographical/ethno predilection in disease burden and the biology of HPV-52 that exhibits an unexpected high prevalence in East Asia.

Method

An epidemiological study was conducted to examine HPV-52 variations and their associated risk with cervical cancer in East Asia. The role of HPV-52 E6 and its variants in carcinogenesis was determined using molecular and functional assays.

Results

An HPV-52 variant, designated as V1, which was more frequently detected in East Asia, was identified to be significantly associated with higher risk for cervical cancer. Similar to HPV-16 E6, HPV-52 E6 was found to bind E6AP and degrade p53, but could only recognize Psd95/Dlg/ZO-1 (PDZ) proteins weakly. V1 did not show any significant difference in E6AP association and p53 degradation as compared with the wild type and other variants. Functional assays with HPV-52 E6 V1-transformed baby rat kidney (BRK) primary cells were conducted to determine its effect on anchorage-independent growth, cell migration and invasion.

Conclusion

HPV-52 E6 V1 is the most prevalent variant associated with cervical cancer in East Asia. It might exert its higher oncogenicity through association with proteins other than E6AP and p53. Our findings will help to devise new strategies for improving HPV surveillance and therapeutic design, especially in East Asia.
CERVICAL CANCER
ESGO7-0667

LATE RECURRENCE OF CERVICAL CANCER: OUTCOMES AND PROGNOSTIC FACTORS
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Aims
The study was to investigate the outcomes and prognostic factors of cervical cancer that relapsed more than 5 years after primary treatment (late recurrences).

Method
Total 45 cervical cancer patients with late recurrences treated at Chang Gung Memorial Hospital between January 1993 and March 2017 were retrospectively reviewed. The survival outcomes and the related prognostic factors, including treatment, clinicopathological, demographic, and HPV, were analyzed.

Results
The time to recurrence (TTR) was not significantly different between the primary surgical group and the non-surgical group. HPV 18 (HR 2.8, 1.1-7.7, p=0.038) or (HR 3.0, 1.2-7.7, p=0.020) positivity at recurrence were significant prognostic factor (HR 0.4, 0.1-0.9, p = 0.029) for shorter TTR. The median survival after recurrence (SAR) of the surgical group was 8.18 years and non-surgical group was 1.32 years (p = 0.123). Those with asymptomatic late relapse had significantly better SAR than those relapse with symptoms (5.25 vs 0.93 years, p = 0.003). By multivariate analysis, the SAR of total cohort was significantly decreased for those failed at pelvic+ distant (HR 5.50, 1.5-19.7; p = 0.009), while HPV 16 positivity at recurrence was confirmed as a good prognostic factor (HR 0.4, 0.1-0.9, p = 0.029).

Conclusion
Pelvic with distant failure had poor SAR in patients with late recurrent cervical cancer, but HPV 16 positivity at recurrence implied good prognosis. Since asymptomatic late recurrence had better SAR, the further follow-up strategy beyond 5 years of remission should be deliberated to detect asymptomatic late relapses.
SAFETY AND EFFICACY OF A QUADRIVALENT HPV (QHPV) VACCINE IN CHINESE WOMEN: RESULTS OF BASE STUDY WITH 30-MONTH FOLLOW-UP

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Aims

To assess safety and efficacy of a quadrivalent HPV (types 6, 11, 16, 18) L1 virus-like particle vaccine (qHPV vaccine, Gardasil®) in women of mainland China.

Method

A randomized, double-blind, placebo-controlled, multicenter trial was conducted among 3006 women subjects aged 20-45 years who were randomized (1:1) to receive 3 doses of vaccine/placebo at Day 1, Month 2 and 6, and followed up for 30 months (base study). The co-primary efficacy endpoints of base study were combined incidence of HPV 6/11/16/18-related 6-month persistent infection (PI) and genital disease endpoints in two age groups (20-45 and 20-26 years). Efficacy against 6-month and 12-month PI was also analyzed. Safety measurements included adverse events (AEs) within 15 days after each vaccination, deaths, vaccination-related serious AEs (SAEs), and pregnancy outcomes. (ClinicalTrials.gov registry: NCT00834106)

Results

The co-primary efficacies were 76.8% (95% CI: 44.8, 91.7) in women aged 20-45 years (N=3006) and 82.3% (95% CI: 38.3, 96.7) in women aged 20-26 years (N=1840). The base study met the co-primary efficacy objectives. The efficacies against HPV6/11/16/18-related 6-month persistent infection (PI) and genital disease endpoints in two age groups (20-45 and 20-26 years). Efficacy against 6-month and 12-month PI was also analyzed. Safety measurements included adverse events (AEs) within 15 days after each vaccination, deaths, vaccination-related serious AEs (SAEs), and pregnancy outcomes. (ClinicalTrials.gov registry: NCT00834106)

Conclusion

The qHPV vaccine is generally well-tolerated and highly efficacious against HPV6/11/16/18-related PI and genital disease among Chinese women aged 20-45 and 20-26 years.
WHO'S TALKING ABOUT GYNAECOLOGICAL ONCOLOGY ON TWITTER

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Aims

Patients and physicians live in an information era dominated by the Internet and social media. Patients have unparalleled access to medical information from all sources. Much of present-day patient education occurs online through social media platforms like Twitter.

The aim of this study was to gain a better understanding of what online conversations about gynaecological cancers are taking place and what sources most commonly provide information to the general public.

Method

Over an 80 day period, individual tweets containing hashtags relating to women’s cancer were collected via the Twitter API. Data collection was limited to 14 terms relating to women’s cancers, sourced from the CDC web site.

Results

Of the 200 most linked websites on Twitter, 14% were social media (e.g. www.youtube.com), 13% were general news (e.g. www.telegraph.co.uk), 12% were medical/science news (e.g. www.medicalnewstoday.com), 12% were charity/advocacy websites (e.g. www.jostrust.org.uk), 11% were commercial websites (e.g. www.amazon.co.uk) and 8% were academic journals (e.g. oncology.jamanetwork.com).

Conclusion

The dissemination of good quality information by Healthcare professionals to patients has always presented challenges. Social media presents further challenges, as any users may broadcast or promote content without regulation. Also, social media organizations need to generate revenue and depend on advertising and other commercial entities. Our results demonstrate that only 20% of Twitter conversations that specifically tag gynaecological cancers contain links to web sites associated with credible medical or scientific professional sources. Analysis and deeper understanding of social media content allows healthcare professionals to enter this global social conversation and to leverage it for the benefit of patients.
CERVICAL CANCER

ESGO7-0705

COMPARING OUTCOMES OF COMBINATION CHEMOTHERAPY BETWEEN PACLITAXEL/IFOSFAMIDE/CISPLATIN AND PACLITAXEL/CISPLATIN FOR THE PATIENTS WITH RECURRENT OR PERSISTENT CERVICAL CANCER: RETROSPECTIVE ANALYSIS

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Aims

Palliative chemotherapy for recurrent cervical cancer is combination of paclitaxel and cisplatin (TP). Our institution had used paclitaxel, ifosfamide and cisplatin combination chemotherapy (TIP) for recurrent cervical cancer before the national health insurance approved combination therapy of TP. We compared response and toxicity between TP and TIP.

Method

We retrospectively reviewed the medical records of recurrent or persistent cervical cancer patients treated between 2003 and 2015 at Samsung medical center. Response rate, progression free survival (PFS) and overall survival(OS) of TIP was compared with Paclitaxel and cisplatin combination therapy. Toxicity was measured by dose reduction of therapeutic agents, regimen modification and treatment schedule delay.

Results

The overall response rate of TIP was significantly higher (69 patients, 52.7%) than that of TP (28 patients, 36.4%, P = 0.031). Median OS and median PFS were similar for TP and TIP. (OS: 22.43 months vs.18.5 months p=0.44, PFS:6.37 month vs. 8.3 months, p = 0.48).

Conclusion

The TIP showed higher response rate in recurrent cervical cancer patients without increase of severe complications. Considering high response rate, TIP could be an option for neoadjuvant chemotherapy.
Aims

Pelvic exenteration (PE) offers a chance of 40–60% for long-term survival to selected patients with recurrent pelvic malignancies and no other curative alternative. Traditionally, the involvement of large vessels, nerves, and pelvic bones are considered contraindications. The aim of the paper is to present the outcome of the procedures performed with curative intent that go beyond the traditional limits of PE.

Method

Extended pelvic resections (EPR) were defined as procedures that included the resection of large pelvic nerves, external and common iliac vessels, and pelvic bones.

Results

EPR were performed in 20 patients with the recurrence of gynecological malignant tumours between 2011–2017. The spectrum of procedures comprised nerve resections in 18, bone resection in 5, and large vessel resection in 6 patients. No patient died of complications, but postoperative complications occurred in 12 patients, 9 of which required re-operation. Bone resection was not associated with any specific morbidity. Two cases of vascular resection required femoro-femoral artery bypass. Resection of large nerves caused functional loss and loss of sensation corresponding to individual nerve injury. Within the median follow-up of 18 months, 6 patients died of disease progression, 1 died of another cause, 2 are alive with disease, and 11 are without evidence of disease.

Conclusion

EPR is associated with specific short- and long-term morbidity; it is, however, feasible. The involvement of large vessels, nerves and bones do not represent an absolute contraindication for surgery in selected cases with pelvic recurrence.
CERVICAL CANCER

ESGO7-1055

A NEED FOR ADJUVANT RADIOTHERAPY IN HIGH-RISK STAGE IB LYMPH-NODE-NEGATIVE PATIENTS WITH CERVICAL CANCER AFTER PROPER SURGICAL TREATMENT? THE SEDLIS CRITERIA REVISITED AFTER 30 YEARS.

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Aims

The role of adjuvant radiotherapy (RT) in LN negative patients with high-risk stage IB cervical cancer is not uniformly accepted. It is advocated based on GOG RCT, which was initiated in 1989. The aim of the current study was to assess the oncological outcome of a similar cohort of patients treated recently by surgery without adjuvant radiotherapy.

Method

Data from patients who were treated by radical surgery in a single institution and who fulfilled the inclusion criteria for original GOG RCT were reviewed. None of the patients received adjuvant treatment.

Results

136 patients were included in the final analysis. Distribution of histological types and tumor size groups did not differ significantly from the GOG trial. The 2-year recurrence rate (RR) reached 7% in our study, while in the GOG trial the figures were 12% and 21% in groups with and without RT. The corresponding figure for 5-year RR was 13% in our study, but 15% and 28% in the GOG trial. The isolated pelvic RR was 4% in our trial, and 14% and 21% in the GOG trial. Only the adenosquamous histological type and the presence of micrometastases in LN were significant prognostic factors in univariate analysis in our study.

Conclusion

Excellent oncological outcome, especially pelvic control, was achieved by tailored radical surgery in high-risk IB cervical cancer patients without adjuvant RT. The substantially better outcome than in the GOG trial can be attributable to more accurate pre-operative or pathologic LN staging, improvement in surgical standards, or both.
CERVICAL CANCER

ESGO7-1275

TREATMENT OF LOCALLY ADVANCED CERVICAL CANCER WITH POSITIVE FDG-PET AORTIC NODES WITH HELICAL INTENSITY MODULATED RADIATION THERAPY

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Aims

To evaluate toxicity and disease outcome among patients treated with extended-field helical tomotherapy (EFHT) in locally advanced cervical cancer (LACC) with para-aortic nodes (PAN) uptake on ¹⁸FDG-PET. Few data are available as regard to extended-field chemoradiation in the treatment of PAN gross disease without previous lymphadenectomy.

Method

We retrospectively evaluated 34 patients with LACC (FIGO stage IB1 to IVA) and PAN involvement on ¹⁸FDG-PET, treated with EFHT, concurrent chemotherapy and intra-cavitary brachytherapy. Patients received a median dose of 50.4 Gy to the pelvic volume and PAN, and 59.92Gy in simultaneous integrated boost (SIB) to the primary cervical tumor and macroscopic lymph nodes. Patients were assessed for toxicity using NCI-CTCAE v4.0 scale.

Results

At a median follow-up of 34 months, 18 patients (53%) relapsed. The sites of persistent/recurrent disease were as follows: metastatic (41%), local (26%), pelvic lymph nodes (15%) and PAN (15%). No patient had isolated PAN recurrence. Five patients developed PAN recurrence and always experienced synchronous metastatic evolution. The 3-year OS, PFS and loco-regional relapse free survival (LRFS) rates were 67%, 37% and 54% respectively. Neutrophilia, defined as a neutrophils count >7500μl, was the only significant univariate prognostic factors for poorer LRFS (HR= 3.74, p=0.038). Grade 3 gastrointestinal late toxicity occurred in only 1 (3%) patient.

Conclusion

EFHT with SIB to involved nodes was well tolerated. Nevertheless, the prognosis of these patients remained poor with a high rate of metastatic relapse. More studies are expected to statuate on the potential benefit from adjuvant chemotherapy.
CERVICAL CANCER

ESGO7-0032

ROLE OF ST3GAL5 POLYMORPHISM (RS72842068) IN CERVICAL CANCER DEVELOPMENT

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Aims

To determine whether polymorphisms in the ST3GAL5 gene represents risk factor for cervical cancer.

Method

In total, 164 women participated in our study. Peripheral blood samples were obtained from 81 cervical cancer patients and 83 healthy controls at University Hospital for Tumors, Zagreb, Croatia. The diagnosis of cervical cancer was confirmed by histological examinations of tissues from biopsies or resected specimens. The controls were represented by age-matched females with a normal Pap smear and no previous history of cervical dysplasia or malignant disease. Informed written consent was obtained from all participants. A 3 mL sample of venous blood was collected from each subject into a test tube containing EDTA as anticoagulant. Genomic DNA was extracted by QIAamp DNA Blood Mini Kit (Qiagen Company) according to the manufacturer’s protocol. The ST3GAL5 (rs72842068) single nucleotide polymorphism was genotyped with TaqMan allele-specific PCR amplification technology on an Applied Biosystems 7500/7500 Real-Time PCR System.

Results

There was no significant difference between the two groups in the frequency distributions of age (P = 0.786) suggesting that matching of subjects based on this variable was adequate. We detected only one genotype for the ST3GAL5 (rs72842068) polymorphism. All genotyped subjects carried the homozygous wild-type genotype AA, while heterozygous genotype AG and homozygous genotype GG were not detected.

Conclusion

The present study did not show association of the ST3GAL5 polymorphism (rs72842068) with cervical cancer, but it opened future research direction. In our opinion, the relationship between ganglioside biosynthesis and cervical cancer is far from being elucidated.
CERVICAL CANCER

ESGO7-0116

LAPAROSCOPIC LYMPHADENECTOMY IN ADVANCED CERVICAL CANCER: PROGNOSTIC AND THERAPEUTIC VALUE

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4Hospital Clinic, Department of Pathology-, BARCELONA, Spain

Aims

Objective: To analyze the prognostic and therapeutic value of laparoscopic paraaortic lymphadenectomy and selective excision of suspicious pelvic nodes in patients with locally advanced cervical cancer.

Method

Study Design: Retrospective study including 146 women treated in a single institution from 2000 to 2013. FIGO stage was Ib2 in 15 women, IIb in 77 and IIIb-IVa in 51. None had suspicious paraaortic nodes by pre-surgical imaging evaluation. All patients underwent extraperitoneal paraaortic laparoscopic lymphadenectomy with selective excision of enlarged pelvic nodes and received pelvic radiotherapy with concomitant chemotherapy. Extended lumboaortic radiation therapy was added to patients with metastatic paraaortic nodes. The mean follow-up was 43.1 ± 33.7 months.

Results

Results: Metastatic lymph nodes were identified in 29/146 (19.9%) patients in the paraaortic area and in 36/65 (55.4%) patients who underwent selective excision of pelvic nodes. Patients with nodal metastases had increased risk of mortality than those with negative nodes, independently of the location (pelvic and/or paraaortic) of the metastases (hazard ratio: 4.07; 95%CI: 1.36-12.16 for patients with pelvic; p=0.012, and 3.73; 95%CI 1.38-10.09 for patients with paraaortic metastases; p= 0.010). The subset of women with paraaortic metastases were at higher risk of distant metastasis compared with women showing positive pelvic nodes and negative pelvis and paraaortic lymph nodes (27.5% vs. 17.6% vs. 5.2%; p=0.016).

Conclusion

Conclusion: Paraaortic and pelvic lymphadenectomy provides valuable information about mortality risk in patients with locally advanced cervical cancer. Current treatment seems not enough to decrease distant metastasis.
CERVICAL CANCER

ESGO7-0988

EFFECT OF TRACHELECTOMY ON QUALITY OF LIFE, AND ONCOLOGICAL OUTCOMES IN PATIENTS WITH EARLY STAGE CERVICAL CANCER

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Aims

to follow up patients undergoing laparoscopic assisted vaginal trachelectomy by objective questionnaires in order to evaluate changes in bladder, bowel and sexual functions and compare these with patients undergoing vaginal assisted laparoscopic radical hysterectomy (RH).

Method

51 patients were included prospectively. Control group consisted of patients undergoing RH. German pelvic symptom questionnaire was used preoperatively and re-evaluated 6 months after surgery.

Results

Mean age of patients was 38.6 years. 26 patients underwent trachelectomy. 25 patients underwent RH. In preoperative testing median scores of all four items were comparable between patients with trachelectomy and RH. In six month control all four items and pelvic scores were comparable in two groups. When difference between changes in scores preoperatively and six months postoperatively were evaluated, all scores were also comparable but there is a tendency for higher scores in bladder function of patients undergoing RH. Regarding urinary morbidity 4 out of 26 patients (15%) undergoing trachelectomy experienced urinary problems while 40% of patients undergoing RH had urinary problems in 6 month control. Urinary morbidity in early postoperative period was more prevalent in patients with RH. However, urinary morbidity was not pronounced as higher scores in questionnaires in 6 months control. Regarding the oncological outcomes, two patients experienced early relaps.

Conclusion

Radical trachelectomy is a reasonable option for fertility preservation in young patients. Urinary morbidity is acceptable. Urinary, sexual, pelvic prolapse and bowel symptoms are not augmented after 6 months which all are important aspect long term effects of radical oncologic surgeries.
CERVICAL CANCER

ESGO7-1134

RELIABILITY OF SLN BIOPSY IN PATIENTS WITH BULKY CERVICAL CANCER

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Aims

Lower detection rate of SLN was reported in cervical cancer tumors ≥ 2 cm and SLN biopsy is considered unreliable in tumors ≥ 4 cm. The importance of intraoperative detection of SLN however grows with the size of the tumor as the risk of LN involvement increases. The aim of the study was to assess the detection rate, sensitivity and false negative rate of SLN in LN staging in tumors ≥ 2 cm.

Method

Data from patients with stage IA1 - IIB cervical cancer who were referred for surgical treatment including SLN biopsy followed by systematic pelvic lymphadenectomy were retrospectively analyzed. Combined technique with blue dye and radiocolloid was modified to inject the tracer into the residual stroma.

Results

350 patients were included into the study with stages IA (6%), IB1 (67%), IB2 (13%) and II (14%). Median number of retrieved LN was 37. Macrometastases, micrometastases and isolated tumor cells were found in 9%, 9% and 4% of cases. Macrometastases were detected in tumors < 2 cm, 2-3.9 cm, and ≥ 4 cm in 2%, 4% and 11%.

<table>
<thead>
<tr>
<th>Pathologic largest tumour size p</th>
<th>&lt;2 cm</th>
<th>2-3.9 cm</th>
<th>≥4 cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detection rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unilateral</td>
<td>91%</td>
<td>97%</td>
<td>89%</td>
</tr>
<tr>
<td>Bilateral</td>
<td>79%</td>
<td>83%</td>
<td>76%</td>
</tr>
<tr>
<td>FNR if bilateral SLN detected</td>
<td>1%</td>
<td>1%</td>
<td>0%</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>80%</td>
<td>85%</td>
<td>83%</td>
</tr>
</tbody>
</table>

Conclusion

This is the first study showing that SLN biopsy can be reliable in LN staging in large tumors. The bilateral detection rate, FNR and sensitivity did not differ in tumors < 2 cm, 2-3.9 cm, and ≥ 4 cm.
WHY TRANSVAGINAL ULTRASOUND IS A „MUST-DO” IN STAGING OF CERVICAL CANCER

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Aims

Transvaginal ultrasound (TVS) is an accurate method to assess the pelvis. Indications for its use are expanding and it can „see” increasingly more details of pelvic organs.

This cheap and accessible investigation becomes extremely useful in experienced hands, contributing to a precise staging of cervical cancer since the first consultation.

Method

The treatment plan can be quickly established and the cases are triaged into operative and nonoperative categories. Transvaginal ultrasound can assess tumor size, stromal and parametrial invasion, the extension to the ureters, bladder and rectum.

Results

It can differentiate the parametrial invasion of a concomitant rigidity caused by endometriosis; it can identify the accurate size and extension of an endocervical tumour with minimal exocervical expresion or detect the imminence of the ureteral invasion to prevent the loss of renal function. Local extension of cervical cancer can be determined with an accuracy at least similar to MRI. In addition to MRI, ultrasonography allows a dynamic evaluation of tumour’s mobility over the surrounding tissues.

Conclusion

Therefore, TVS is a feasible and valuable imaging method for the assessment of cervical cancer and should be used routinely for the staging of this disease.
CHANGES IN EPIDEMIOLOGY OF OPERATED CERVICAL CANCER AT PRETORIA ACADEMIC HOSPITAL COMPLEX: 2000 VS 2010

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Aims

Our objective was to compare and evaluate epidemiology data on cervical cancer patients collected during two periods, ten years apart, at the Pretoria Academic Hospital Complex.

Method

Data were collected on cervical cancer patients with FIGO stage Ib1 – Ila during two retrospective descriptive studies, each study extending over a 5-year interval and performed ten years apart. Data obtained included demography, HIV status, FIGO stage, tumour histology type & grade and referral for adjuvant therapy.

Results

The first study (A) included 188 patients treated 1 Jan 1999 to 31 Dec 2003, while the second study (B) included 242 patients treated 1 Jan 2008 to 31 Dec 2012. Age distribution was comparable in both studies. HIV positivity rates were 2.5-fold higher in the second study: 9.4% vs 24.9%. FIGO stage Ib1 (43.5% vs 48.3%) and stage Ila (22.6% vs 17.8%) differed in the respective studies (A vs B), but stage Ib2 was similar in both (33.9%). Histological type differed slightly (A vs B): squamous- (76.6% vs 68.8%); adeno- (13.3% vs 20.2%) and adenosquamous carcinoma (10.1% vs 5.8%). Referral for adjuvant therapy were higher in study B: 40.4% vs 51.7%.

Conclusion

Longitudinal data from operated cervical cancer patients indicate a favourable trend toward downstaging. This could be due to increased screening, mainly targeting HIV positive women.
CERVICAL CANCER

ESGO7-0465

TRANSLEVATOR PELVIC EXENTERATION WITH VULVECTOMY: VIDEO PRESENTATION

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Aims

Total pelvic exenteration is a radical operation, involving en bloc resection of visceral pelvic organs, including uterus, ovaries, vagina, bladder, and rectosigmoid together with their parametrial structures and lymph nodes. The aim of this video is to demonstrate the surgical steps of the translevator pelvic exenteration with vulvectomy.

Method

Video demonstration of translevator anterior and total pelvic exenterative procedures with vulvectomy.

Results

complete surgical clearance of disease (R0 resection) was reached in all patients who underwent this procedures.

Conclusion

Exenterative procedures for gynecological cancers are rarely performed and present clinical challenges both for patients and clinicians.
A multidisciplinary surgical approach is essential to reach good patient outcome.
CERVICAL CANCER

ESGO7-1185

PREGNANCY COMPLICATED BY CERVICAL SQUAMOUS INTRAEPITHELIAL LESIONS IN WOMEN FROM MACEDONIA

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Aims

The aim of our study was to evaluate the persistence, progression and regression of cervical intraepithelial neoplasia (CIN) during pregnancy compared to non-pregnant-women.

Method

We have analyzed 50 patients, 25 pregnant and 25 no- pregnant, in the University clinic for gynecology and obstetrics. The rates of persistence, progression and regression of CIN were estimated according to histological findings in the initial visit and after delivery. The results were compared with the non-pregnant group of women followed up for nine months.

Results

A total of 50 pregnant women with cervical intraepithelial neoplasia were included into the study. LSIL and HSIL was histologically proved in 17 and 33 of all pregnant women, respectively. The histological findings after delivery showed a considerably higher affinity to spontaneous regression (28 vs. 16 patients $p=0.010$) On the other hand, the persistence rate was significantly lower than in non-pregnant women (20 vs. 29 patients, $p=0.048$). The progression rate was very low in pregnant women.

Conclusion

The regression rate of cervical intraepithelial neoplasia is significantly high after delivery. For that reason, the decision for the definite type of treatment should be made according to the findings after delivery. On the other hand, the time and the method of treatment should be made according to the severity of the lesion.
CERVICAL CANCER

ESGO7-1186

THE ASSESSMENT OF RECURRENT OR RESIDUAL CERVICAL INTRAEPITHELIAL NEOPLASIA LESIONS AFTER CO2 LASER VAPORIZATION AND COLD KNIFE CONISATION

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Aims

Cervical cancer ranks as the 4th leading cause of female cancer in the World. Annual incidence for CIN 1 and CIN 2,3 was 1.6 and 1.2 per 1,000 women, respectively. Current estimates indicate that every year 527,624 women are diagnosed with cervical cancer and 265,672 die from the disease. Incidence was highest among women aged 21 to 30 years (3.3 and 3.6 per 1,000) and women aged 31 to 40 years (2.9 and 2.7 per 1,000). The aim of our study is to assess recurrent or residual cervical intraepithelial neoplasia lesions after CO2 laser vaporization versus cold knife conisation.

Method

We evaluated 100 patients in the University Clinic for Gynecology and Obstetrics with histologically proved high grade squamous intraepithelial lesions (HSIL). 54% were qualified for cold knife conisation according to World Health Organisation guidelines, and 46% were treated with CO2 laser vaporization. The patients were followed up every 4 months for two years, and afterwards twice a year for the next 3 years.

Results

In our study we have found that the effect of the treatment depends on the type and number of HPV, localization of the cervical intraepithelial lesion, and the free margins of the removed tissue. In the most cases recurrent or residual disease was found within the first year after treatment.

Conclusion

Our study showed that the positive endo-cervical or ecto-cervical margin, positive ECC specimens, and severity of cervical disease were all predictors of residual/recurrent disease.
CERVICAL CANCER

ESGO7-0126

PROMISING SURVIVAL RESULTS FOR DOSE-INTENSE NEOADJUVANT WEEKLY CHEMOTHERAPY, CONCURRENT CHEMOIRRADIATION, HDR BRACHYTHERAPY AND PELVIC SIDE WALL BOOSTS IN PATIENTS WITH CERVICAL CANCER

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Aims

To audit our survival results for cervical cancer patients treated with radical radiotherapy.

Method

Retrospective review of 32 patients from Derriford Hospital (Plymouth, UK) treated March 2012-April 2015. Median follow-up 29.6 months (data locked November 2016).

Patients received pelvic external beam radiotherapy[EBRT] with concurrent chemotherapy, HDR brachytherapy and pelvic side wall boosts[PSWB]. Stage IIB+ disease offered neoadjuvant dose-intense weekly chemotherapy.

Results

Median age: 54 years (range25-83). Histology: 18 squamous, 8 adenocarcinoma and 6 adenosquamous. TNM staging: IB=1, IIB=17, IIIb=10 and IVB=4 patients. PET staging in 31 patients; median SUV of 12 (range0-59). Median EBRT dose to pelvis 50.4Gy/28 fractions[#]; 2 patients received 45Gy/25#. 12/32 received PSWB; median dose of 3.6Gy/2# (range3.34-5Gy/2-3#). Fourteen received neoadjuvant chemotherapy; median of 6 cycles (range2-6). 29/32 received concurrent chemotherapy, median 5 cycles (range3-6). Median duration of EBRT/brachytherapy was 45 days (range38-86, IQR44-50); median duration of EBRT/brachytherapy/PSWB was 49 days (range38-86, IQR45-55). 6 patients relapsed; 3 within the radiotherapy field. Median time (months) from diagnosis to relapse was 12.5 (range0-17). Four patients died. 2 year actuarial overall survival [OS] was 92% (95%Ci 76-100) and 3 year OS 88% (95%CI 76-100). Actuarial relapse-free survival at 2 years 81% (95%CI 68-96) and at 3 years 76%. 10/32 patients experienced grade 3+ toxicities. Nil exploratory analyses were significant.

Conclusion

Our survival data are promising, giving credence to current hypotheses being explored in clinical trials of definitive chemoradiotherapy in cervical cancer (e.g. minimum 5 cycles of concurrent chemotherapy, total treatment time <50 days, adequate brachytherapy dosage (ICRU 89), and use of neoadjuvant/adjuvant chemotherapy).
CERVICAL CANCER

ESGO7-1339

ANALYSIS AND TREATMENT RESULTS OF CANCER CERVIX; TEN YEARS EXPERIENCES IN ALEXANDRIA CLINICAL ONCOLOGY DEPARTMENT

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Aims

1. Reviewing the demographic and clinicopathological features of these patients.
2. Reviewing all the treatments lines received by these patients (chemotherapy protocols and radiotherapy).
3. Assessment of treatment results.

Method

We conducted a retrospective analysis of patients with cervical cancer who presented at a Alexandria main hospital department of oncology between 2003 and 2012. A total of 162 patients with the median age of 54 years (20-80) were studied. The demographic and clinical variables included age, marital status, menstrual history, comorbidities, pathology, degree of differentiation, clinical stage and treatment administered.

Results

In our study, most of patients presented with vaginal bleeding. 17\% associated with anaemia either at diagnosis or during treatment. Majority of the patients (60 patients 37.7\%) had regional spread disease. Since majority presented at later stages, chemotherapy-radiotherapy was the most common treatment modality used in our population. On histopathology, 116 patients (71.6\%) had squamous cell carcinoma while 5 patients (3\%) had adenocarcinoma and 3 patients (1.9\%) had liposarcoma. In 80 patients (49\%), the tumour differentiation was not known in 80 (49.8\%) while it was moderate, poorly & undifferentiated in 44 (27\%), 35 (21\%), and 3 (1.9\%) patients, respectively. The 5 years overall survival was 53.7\%. The significant factors affecting survival were age, stage at diagnosis and treatment modality (P=0.003, P=<0.001 and P=<0.001 respectively)
Table (1) Demographic data and histopathological data of patients (n=162)

<table>
<thead>
<tr>
<th>Demographic Data</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
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<tr>
<td>&lt;50</td>
<td>61</td>
<td>37.7</td>
</tr>
<tr>
<td>51-60</td>
<td>57</td>
<td>35.2</td>
</tr>
<tr>
<td>&gt;60</td>
<td>44</td>
<td>27.2</td>
</tr>
<tr>
<td><strong>Min. - Max.</strong></td>
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</tr>
<tr>
<td><strong>Mean ± SD.</strong></td>
<td>54.11 ±12.63</td>
<td></td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
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<td></td>
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<tr>
<td>Single</td>
<td>1</td>
<td>0.6</td>
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<tr>
<td>Married</td>
<td>137</td>
<td>84.56</td>
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<td>24</td>
<td>14.8</td>
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<tr>
<td><strong>Pathological Findings</strong></td>
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<td>%</td>
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<tr>
<td>Pathology</td>
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<tr>
<td>SCC</td>
<td>116</td>
<td>71.6</td>
</tr>
<tr>
<td>Adenocarcinoma</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Cervical liposarcoma</td>
<td>3</td>
<td>1.9</td>
</tr>
<tr>
<td>Adeno-squamous carcinoma</td>
<td>4</td>
<td>2.4</td>
</tr>
<tr>
<td>NA</td>
<td>34</td>
<td>21</td>
</tr>
<tr>
<td><strong>Degree of differentiation</strong></td>
<td>No.</td>
<td>%</td>
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<tr>
<td>Undifferentiated</td>
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</tr>
<tr>
<td>Poorly differentiated</td>
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<td>21.0</td>
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<tr>
<td>Moderately differentiated</td>
<td>44</td>
<td>27.16</td>
</tr>
<tr>
<td>NA</td>
<td>80</td>
<td>49.38</td>
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<tr>
<td><strong>Primary Tumor Size</strong></td>
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<td></td>
</tr>
<tr>
<td>Min. -- Max.</td>
<td>4.0-9.0</td>
<td></td>
</tr>
<tr>
<td><strong>Means ± SD.</strong></td>
<td>6.2 ± 1.36</td>
<td></td>
</tr>
</tbody>
</table>

A total of 162 cancer-affected patients were included in the survival outcomes analysis. Overall survival estimates for cancer-related outcomes using Kaplan-Meier methodology are shown in the figure. One year OS was 96.6% and two years OS was about 53.7%.
### Conclusion

Patients in our centre present at regional and later stages which could be improved by creating awareness, improving their personal hygiene, and adequate screening.
CERVICAL CANCER

ESGO7-0797

INTRAOPERATIVE AND POSTOPERATIVE MORBIDITY IN SENTINEL LYMPH NODE BIOPSY VS PELVIC LYMPHADENECTOMY IN EARLY-STAGE CERVICAL CANCER

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Aims

To compare the morbidity associated to lymph node staging in patients with early-stage cervical cancer undergoing sentinel lymph node biopsy (SLNB) vs. bilateral pelvic lymphadenectomy (LDN).

Method

Retrospective cohort study in patients with FIGO IA1-IB1/IIA1 cervical cancer. From February 2001 until May 2011 lymph node staging was performed by SLNB and LDN and between June 2011 and October 2016 by only SLNB, being LDN performed when SLNB was unilaterally or non-detected. When SLNB was intraoperatively positive, para-aortic lymphadenectomy was performed in order to plan the radiation field. Otherwise, radical surgical treatment was performed. Intraoperative and early postoperative complications following Clavien-Dindo classification were assessed.

Results

We recruited 134 patients. Fifty-four patients were included in the SLNB group and 80 in the LDN group. The median age of the whole cohort was 43 years (range 22-76). Ninety patients (67.2%) presented tumors ≤ 2cm. Most of the patients had FIGO stage IB1 (121/134, 90.3%) and squamous cell carcinoma (91/134, 67.9%). No differences regarding type of surgery (trachelectomy vs. hysterectomy) and rate of para-aortic lymphadenectomy was observed between both groups.

In the SLNB group we observed 1 (1.8%) intraoperative complication (urinary tract lesion). In the LDN group, we observed 4 (5%) intraoperative complications (2 urinary tract lesion, 1 vascular lesion and 1 intestinal lesion). We observed a lower rate of Clavien-Dindo ≥ II complications in SLNB group compared with LDN group (5.5% vs. 11.2%). All these differences were not statistically significant.

Conclusion

SLNB seems to be associated with less intraoperative and early postoperative morbidity compared with LDN.
CERVICAL CANCER

ESGO7-0307

MULTI CENTRIC PAGET’S DISEASE AND REVIEW OF LITERATURE

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Aims

The aim of this report is to introduce a case of multi centric Paget's disease and review of literature.

Method

A 62-year-old woman with complaints of vulvar pruritus, painful vulvar lesion for 4 years was referred to oncology department of Ghaem hospital, Mashhad University of Medical Sciences in 2016. Pathological results of erythematous and exfoliated lesion of the major and minor labia extend to anus was reported as PDV with full-thickness involvement. In investigations, she had persistent hematuria. Pelvis and abdomen investigation revealed irregularity in the posterior wall of the bladder and biopsy detected urothelial carcinoma in the bladder. Radical cystectomy was performed subsequently. In addition, complete response of vulvar lesion to imiquimod cream was seen after 6 weeks of therapy. The patient is free of disease and now she is under serial follow-up.

Results

Generally standard treatment modality in patients who experienced multicenteric Paget's disease is surgical resection, also topical 5% imiquimod cream may be considered as an alternative option in setting metastatic vulvar Paget.

Conclusion

Generally standard treatment modality in patients who experienced multicenteric Paget's disease is surgical resection, also topical 5% imiquimod cream may be considered as an alternative option in setting metastatic vulvar Paget.
CERVICAL CANCER

ESGO7-1101

THE EFFICACY OF NEOADJUVANT CHEMOTHERAPY FOLLOWED BY FERTILITY AND NERVE SPARING ROBOT-ASSISTED LAPAROSCOPIC RADICAL TRACHELECTOMY IN PATIENTS WITH FIGO STAGE IA2-IB1 UTERINE CERVICAL CANCER.

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Aims

To evaluate the efficacy of neoadjuvant chemotherapy followed by single port access robot-assisted radical trachelectomy in patients with FIGO stage Ia2-Ib1 uterine cervical cancer.

Method

Patients who are of child bearing potential, with FIGO stage Ia2-Ib1 are selected for platinum based Neoadjuvant Chemotherapy. The tumor size should be 2 cm in diameter or less. The patients are assessed with Transvaginal ultrasound, hysteroscopy, MRI, and pre-and postsurgical Color Doppler ultrasound of the uterine arteries. Neoadjuvant chemotherapy is given, according to the following schedule: Cis-platinum 50 mg/ m²/day 2-3; Paclitaxel 175 mg/ m²/day 1; 5-fluororacil (5FU) 800 mg/ m²/day 1-2-3. Four cycles, every 21 days, are given and the surgery is performed one month after the last cycle. Single port access robot-assisted laparoscopic radical trachelectomy is performed. This surgical procedure consists of 3 steps. First, after the insertion of the trocar, the intra-abdominal cavity is explored with a laparoscope. da Vinci surgical system docking followed. Second, a robotic uterine artery preservation and hypogastric nerve plexus-sparing radical trachelectomy with pelvic lymphadenectomy are carried out. Finally, after undocking the da Vinci surgical system, puncture site repair and drainage insertion are performed.

Results

This chemotherapeutic regimen followed by single port access radical trachelectomy achieved satisfactory oncologic and surgical outcomes for those patients.

Conclusion

The combined neoadjuvant chemotherapy regimen and the minimally invasive robot assisted radical trachelectomy for early stage cervical carcinoma is safe, and has satisfactory oncologic and obstetric outcomes. It does provide those patients with the opportunity to become pregnant.
Aims

The first aim of our study was to report retrospectively our fertility sparing treatment assessing the overall and disease free survival rate in women affected by FIGO IB1 (> 2 cm) – IIA1 cervical cancer. The second aim of our study was to investigate the rate of pregnancy after our conservative treatment.

Method

Between March 2006 and September 2017, 17 patients affected by invasive CC with a size greater than 2 cm were addressed to our institutions. All the patients were undergone NACT followed by laparoscopic SLN mapping, laparoscopic PND and vaginal radical trachelectomy.

Results

The median age was 27.4 years
Tumor stages were: IB1, tumor size > 2 cm in 8 patients, IB2 in 5 patients, and IIA1 in 4 patients.
Nine patients were diagnosed with squamous cell carcinoma, eight patients with adenocarcinoma, two of which with clear cells.
At least one pelvic SLN was identified per patients and at the frozen section assessment all the SLNs resulted negatives.
Median removed pelvic LNs were 16 (7-25).
All the patients addressed were undergone FST. 4 out of 17 patients attempted to conceive.
Only three out of 4 patients become pregnancy. Nowadays three patients are trying to conceive and other three patients have decided to continue oral progestin contraceptive.
Two patients out of 17 presented early pelvic relapse and radical treatment was proposed.
After median follow up of 38 months the other patients are free of disease (5-112 months).

Conclusion

NACT followed by conservative surgery is an innovative approach that allows a FST in many young women affected by CC.
CONTINENT CUTANEOUS ILEOCECAL RESERVOIR USING THE SUBMUCOSALLY EMBEDDED APPENDIX AFTER ANTERIOR EXENTERATION FOR GYNAECOLOGICAL MALIGNANCIES: TECHNIQUE AND COMPLICATIONS

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²HELIOS Klinikum, Department of Urology, Krefeld, Germany

Aims

Patients with advanced gynecological malignancies or recurrences of gynecological malignancies (vaginal carcinoma, endometrial carcinoma and cervical carcinoma), who had to be treated by anterior exenteration and did not have an appendectomy, were reconstructed by continent cutaneous ileoccel reservoir using the submucosally embedded appendix. Data of 14 patients from the years 2008 and 2014 were analysed for intraoperative and early postoperative complication rate.

Method

The appendix-pouch technique starts with the transsection of the terminal ileum about 12 cm away from the ileoceleal valve and of the colon ascendens about 15 cm away from the hepatic flexure. In order to reduce the tension of the wall of the pouch a teniamyotomy of the colon is performed. The efferent segment of the pouch is built by the appendix and is passed out at the umbilicus.

Results

The mean operation time for the complete anterior exenteration was 280 (range 230 – 320) minutes, for the reconstruction by the appendix pouch 75 (range 60 – 90) minutes. The main complications were: problems with wound healing and retention of secretion in the small pelvis. Insufficiencies of the sutures were not observed.

Conclusion

Our experience shows, that the appendix-pouch-technique is a good alternative for continent reconstruction of the bladder after anterior exenteration. This technique is combined with a quite low complication rate.
CERVICAL CANCER

ESGO7-0131

A PHASE III STUDY OF ORAL ONDANSETRON VERSUS TRANSDERMAL GRANISETRON FOR WOMEN WITH GYNECOLOGIC CANCERS RECEIVING PELVIC CHEMORADIATION

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Aims

Pelvic radiation with cisplatin is highly emetogenic and late onset (days 4-7) nausea and vomiting occurs in > 25% of these women. The objective of this study was to measure response rates to anti-emetic therapies of granisetron administered via a transdermal patch (TG) compared to orally administered ondansetron (OO) in women with cervical, endometrial or vaginal cancer undergoing chemoradiation therapy.

Method

Eligible patients were assigned either granisetron formulated in a transdermal patch replaced every 7 days or 8 mg of ondansetron orally thrice daily starting with cisplatin administration and continued for 72 hours after chemotherapy infusion using outcome adaptive randomization. The primary endpoint was complete response to anti-emetic therapy on days 4-7 of chemoradiation therapy. Data on compliance/ease of administration, amount of nausea and vomiting, and effect of nausea and vomiting on quality of life were collected.

Results

Seventy-five women were randomized. The majority of patients were receiving chemoradiation for cervical cancer (83%) followed by endometrial (14%) and vaginal cancers (3%). TG achieved a success rate of 49.8% (90% CI 37.5-62.1%) and OO achieved a success rate of 39.7% (90% CI 26.6%-53.5%). The posterior probability that TG achieved a higher success rate in controlling late onset nausea and vomiting compared to OO was 82%. There was no difference between the 2 groups in the compliance or in the effect of nausea and vomiting on quality of life.

Conclusion

Transdermal granisetron is better than oral ondansetron in controlling late onset nausea and vomiting from pelvic radiation with weekly cisplatinum in women with gynecologic malignancies.

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CERVICAL CANCER

ESGO7-0782

SEMI-NERVE SPARING RADICAL HYSTERECTOMY WITH SHORT-TERM ELECTRICAL STIMULUS HAVE POSITIVE EFFECTS ON POST-OPERATION BLADDER FUNCTION

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Aims

Radical hysterectomy (RH) is the standard primary treatment for early stage invasive cervical cancer. Patients may have poor quality of life. Nerve-sparing radical hysterectomy (NSRH) is aimed to improve the post-operation pelvic dysfunction, which its safety is under controversy. Therefore, we propose a surgical method which partially spare the pelvic splenic nerve and bladder branch, along with post operation short-term electrical stimulus, to evaluate the effects on post-operation bladder, bowel and sex dysfunction.

Method

Retrospective case-control study and prospective cohort study with consecutive patients who underwent RH ad semi-nerve-sparing RH (semi-NSRH) were included in the study. Patients were assigned to a semi-NSRH + stimulus group (group 1) vs. a RH + stimulus group (group 2) vs. semi-NSRH group (group 3) vs. RH group (group 4). In group 1 and 2 bladder-sacral plexus electric stimulus began 5 days after surgery, qd × 5 days. Self-reported questionnaire and urodynamic test were performed.

Results

It was found that there were significant differences in irrigative and obstructive scores of PFDI scoring system, between pre and post operation group (P = 0.004, P = 0.0016). Radical hysterectomy had significant deteriorating effect on sexual life, based on scores of PISQ-12. Urodynamic is consistent with the inventory. The results had relevance with the factor of parametrium width taken during the surgery. The bladder syndrome and rectal syndrome had a significant improvement in the group of nerve-sparing radical hysterectomy and stimulus group (P = 0.028, P = 0.017).

Conclusion

Semi-radical hysterectomy along with post-op bladder-sacral plexus electric stimulus can give a better outcome of bladder and rectal function. Otherwise, the effect of post-op bladder-sacral plexus electric stimulus towards the sexual function is not clear.
CERVICAL CANCER

ESGO7-0501

VALUE OF HUMAN PAPILLOMA VIRUS GENOTYPING IN TISSUE FROM CERVICAL CANCER, LYMPH NODES AND RECURRENT TISSUE IN POSTSURGICAL MANAGEMENT

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Aims

Human Papilloma Virus (HPV) is obligate for the development of cervical cancer. HPV has previously been detected in tissue from cervical tumor, lymph nodes and recurrent disease. The aim of this study was to evaluate the value of HPV genotyping in postsurgical management.

Method

We conducted a hospital-based case-control study. All patients had previously undergone surgery for early-stage cervical cancer during 2003 to 2014 at the Department of Obstetrics and Gynecology, Aarhus University Hospital, Denmark. Formalin-fixed, paraffin-embedded tissue from the primary tumor, pelvic lymph node stations, and recurrent disease were genotyped using INNO-LIPA HPV Genotyping Extra (Fujirebio, Europe, Ghent, Belgium).

Results

Thirty-three patients with HPV positive primary cervical tumor were included, 18 recurrent and 15 non-recurrent cases. Not surprisingly, women diagnosed with lymph node metastases were more likely to be diagnosed with recurrence compared to women without metastases (86% vs. 46%, p=0.10). Metastatic lymph nodes were more likely HPV positive than non-metastatic lymph nodes (71% vs. 27%, p=0.07). Women with HPV positive lymph nodes, with and without metastases, were more likely to be diagnosed with recurrence than women with HPV negative lymph nodes (83% vs. 38%, p= 0.03). From ten women with recurrence tissue biopsies were available and sufficient for HPV genotyping and HPV was detected in eight (80%). For all women the HPV genotype in the three tissues was consistent.

Conclusion

Preliminary, the presence of HPV in the lymph nodes seems to be associated with an increased risk of recurrence and HPV genotyping may very likely be valuable in postsurgical management.
CERVICAL CANCER STAGING IN THE NORDIC COUNTRIES - SURVEY FROM THE NORDIC SOCIETY OF GYNECOLOGICAL ONCOLOGY (NSGO)

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9Odense University Hospital, Dept. of Obstetrics and Gynecology, Odense, Denmark

Aims

In the Nordic countries much resources are spent on pretreatment imaging like ultrasound, MRI, PET-CT or CT, and sentinel node for cervical cancer patients. The NSGO surgical group performed this survey to collect information about the use of these modalities, handling of the information gained, and how the information is integrated into the treatment algorithm.

Method

We conducted a questionnaire-based survey from 1 January to 31 March 2017. The NSGO surgical group elaborated a questionnaire in the fall 2016. In the five Nordic countries, all 22 Gynecological Oncology Centers were invited to participate. (Denmark 5, Finland 5, Iceland 1, Norway 4, and Sweden 7).

Results

The questionnaires were returned by 19 (86%) centers. The median number of cases treated in each center was 32 (15-120). All, except one center that only used PET-CT, used a combination of imaging for treatment planning. Eighteen (94%) centers used MRI and 15 (79%) centers used PET-CT. The clinicians knew the imaging results before FIGO clinical staging in 14 (74%) centers. The result of the imaging had an influence on the clinical staging in more than half of the centers, 11 (58%). Sentinel node was a routine procedure in three (16%) centers and was used in protocol in five (28%) centers.

Conclusion

The majority of the Nordic Gynecological Oncology Centers report a FIGO clinical stage influenced by pretreatment imaging. Therefore, the NSGO surgical group plans to elaborate a proposal for future amendments of the staging guideline and streamlining the reporting of the stage to increase transparency of results.
CERVICAL CANCER

ESGO7-0210

XPA EXPRESSION IS A POTENTIAL PREDICTIVE MARKER OF NEOADJUVANT CHEMOTHERAPY EFFECTIVENESS FOR LOCALLY ADVANCED UTERINE CERVICAL CANCER

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Aims

We examined the correlation between XPA (xeroderma pigmentosum complementation group-A) expression and the efficacy of Neoadjuvant chemotherapy (NAC) for locally advanced uterine cervical cancer.

Method

We reviewed 56 cases of locally advanced uterine cervical cancer stage IIIA-IIIB from 1995 to 2010. Cases were divided into two groups: one group in which NAC was effective, surgery was possible and radiotherapy was performed (group A; n=31), and another group in which NAC was ineffective and radiation therapy was performed (group B; n=25). XPA expression was examined immunohistochemically in paraffin-embedded sections using the avidin-biotin peroxidase complex method. This study was approved by the institutional review board in our facility.

Results

The expression of XPA was significantly higher in the group B than in the group A (p=0.001). The overall survival of group A was significantly longer than of group B (P<0.01). Cases were divided into two groups: one group in which XPA expression was low level (weighted score≤3, n=17), and another group in which XPA expression was high level (weighted scores≥4, n=39). Low XPA expression group might be responsive to NAC than high expression group (p=0.001).

Conclusion

It is suggested that the expression of XPA may predict the efficacy of NAC as a treatment for locally advanced uterine cervical cancer.
CERVICAL CANCER
ESGO7-0524

AMPHICRINE CANCER OF THE CERVIX
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Aims

Only 1-2% of all cervical cancers are neuroendocrine cancers, which are known to be one of the most aggressive forms of cervical cancer and are associated with poor prognosis. Tumours can also have a (neuro-)endocrine and exocrine differentiation, called amphicrine cancer, which is a relatively uncommon cancer type.

Method

A 30-year old patient was admitted to hospital due to a histologically-confirmed adenocarcinoma of the cervix uteri, with a sonographically suspicious ovary. We planned primary surgery per laparatomy. The intraoperative frozen section of the right ovary and fallopian tube was first reported as a granulosa cell tumour. A total mesometrial resection (TMMR) with pelvic and inframesenteric para-aortal lymph node dissection, bilateral salpingo-oophorectomy, and infragastric omentectomy were performed.

Results

The final histological analysis of the samples confirmed an amphicrine cervical carcinoma with ovarian metastases (FIGO IIA1, pT2a1, pN0 (0/62), L0, V0, pM0, G3, R0). The diagnosis of an amphicrine cancer of the cervix was made due to the parallel expression of neuroendocrine (Synaptophysin, Chromogranin) and exocrine (CEA) markers.

Due to the neuroendocrine differentiation, the patient received 6 cycles of cisplatin/etoposide. The adjuvant chemotherapy was performed within the standard duration. There has been no evidence of tumour recurrence at the end of chemotherapy.

Conclusion

While amphicrine cancers have commonly been reported in the gastrointestinal tract, this is the second reported case of an amphicrine cancer of the cervix uteri to date. The differential diagnoses include cervical metastases of amphicrine gastrointestinal cancers and adenocarcinoma of the cervix, containing isolated cells that demonstrate a neuro-endocrine differentiation.
A CASE OF PRIMARY DIFFUSE LARGE B-CELLS LYMPHOMA OF THE UTERINE CERVIX

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Aims

Extranodal Non-Hodgkin’s Lymphoma (NHL) of the female genital tract account for only 0.5% to 1% of cases. Among all cervical malignancies, the overall incidence of primary cervical lymphoma is less than 1%. The most common histological subtype is diffuse large B-cell lymphoma. We describe clinical, histological and therapeutic feature of a case of NHL of the cervix.

Method

We describe clinical, histological and therapeutic feature of a case of NHL of the cervix.

Results

A 59-year-old female presented with flank pain and irritative urinary voiding. Clinical examination revealed a 5 cm mass in the cervix and extending to the middle third of vagina, involving both parametria. Cystoscopy revealed an external mass effect distorting the bladder without mucosal invasion. Imaging studies showed a pelvic mass centering on the cervix and extending into the bladder and the right ureter with hydronephrosis and retroperitoneal nodes measuring 46 mm in diameter, there were no evidence of secondary cerebral, hepatic or mediastinal localizations. Cervical biopsy demonstrated a cervical proliferation of lymphoid cells positive for CLA and CD20, and negative with cytokeratin and Myeloperoxidase suggesting a diffuse large B-cell lymphoma of the cervix. Bone marrow was uninvolved. This patient was treated with four cycles of ACVBP (adriamycine, cyclophosphamide, Bleomycin, vincristine and prednisolone) chemotherapy followed by consolidation with radiotherapy. The patient showed complete clinical, histological and radiological response.

Conclusion

NHL of uterine cervix is rare entity. Standard treatment is not established. Combination of radiotherapy and chemotherapy is the treatment of choice with encouraging results.
CERVICAL CANCER

ESGO7-1359

TOTAL LAPAROSCOPIC RADICAL SURGERY FOR CERVICAL CANCER

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Aims

Objective: To compare surgical complications of laparoscopic approach to laparotomy in single institution

Method

We describe the technique for laparoscopic radical hysterectomy LRH and total laparoscopic radical trachelectomy for women diagnosed with FIGO stage 1b1 cervical cancer. The surgical approach in our institution involved the use of harmonic scalpel and bipolar diathermy, monopolar diathermy was not used. Detailed pre-op MRI are presented as well as intra-op pictures and short videos to illustrate our technics. We also report on the perioperative morbidity and mortality. The medical records of the first 20 patients who had undergone LRH/total laparoscopic radical trachelectomy for invasive cervical cancer between October 2012 and April 2017, were reviewed retrospectively.

Results

There was significant reduction in blood loss in the laparoscopic cases compared to laparotomy. 6% of cases have had urinary retention, none last than 30 days, the urinary retention cases were managed expectantly. None of the patients had had urinary fistulas. There was no post-operative mortality. One patient had a pelvic haematoma.

Conclusion

This is an observational study, laparoscopic approach is feasible and associated with significant reduction in perioperative morbidity and should be standard approach in women diagnosed with cervical cancer.
CERVICAL CANCER

ESGO7-0039

COST UTILITY ANALYSES DEMONSTRATING SUPPORT FOR INDICATION SPECIFIC PRICING FOR THE TARGETED THERAPY BEVACIZUMAB

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Aims

Medications in the U.S. are approved because of safety and efficacy not price. The object of this study was to see what potential prices would look like if indication specific pricing existed for bevacizumab in cervical and colon cancer using various willingness to pay (WTP) thresholds ($50,000 – 150,000/QALY).

Method

Information from two phase III studies was examined with pharmacoeconomic techniques, specifically Markov analysis and deterministic sensitivity analysis.

Results

The per cycle cost of bevacizumab for both indications is currently $10830 for a standard 100 kg patient ($72.03/10mg, Medicare Average Sales Price (ASP)+6%). If a WTP of $50,000/QALY was used, the cost of bevacizumab should be lowered to $29.15/10mg for cervical cancer and $11.80/10mg for colon cancer. If instead a WTP of $100,000/QALY was the target, the cost would be decreased to $63.38/10mg for cervical cancer and $30.22/10mg for colon cancer. Alternatively, if a WTP $150,000/QALY was chosen, the price would be increased to $97.63/10mg for cervical cancer and still decreased to $48.78/10mg for colon cancer. This would be a 36% increase in cost per dose for a cervical cancer indication and a 32% decrease in cost per dose for an indication of colon cancer.

Conclusion

Indication specific pricing would change prices for bevacizumab when used for cervical cancer and colon cancer depending on the WTP target.
PROGNOSTIC VALUE OF THE CONUT - SCORE IN PATIENTS WITH CERVICAL CANCER

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Aims

The pretreatment Controlling Nutritional Status (CONUT) Score was established as a screening tool for early detection of poor nutritional status. However, it is an independent prognostic marker in oncologic patients, the prognostic value in patients with cervical cancer is still unknown.

Method

The pretreatment CONUT — Score of 429 patients with cervical cancer was calculated. Patients were classified as either as „low risk or „high – risk” depending on their score. The Patients’ prognosis was calculated by uni- and multivariated analysis.

Results

371 patients (86.3%) had a low risk, 59 (13.7%) patients a high risk CONUT Score. In univariate analysis, patients in the high risk group were associated with a shorter overall survival (p=0.024). Thus, those results couldn’t be verified in the multivariate analysis (HR 1.3 [0.8-2.3], p=0.33). There was a significant association between the CONUT – Score and tumor stage (OR 3.4 [1.8-6.2], p<0.001) and tumor Grading (OR 6.6 [0.9-49.1], p=0.04) There was no significant result regarding the patients’ age or the histological subtype.

Conclusion

The overall survival of patients with cervical cancer and a CONUT – Score > 2 was significantly shorter. A CONUT Score >2 was associated with severe malnutrition. The benefit of nutritional intervention in patients with pretherapeutic malnutrition should be investigated in further studies.
CERVICAL CANCER

ESGO7-1006

THE PROGNOSTIC VALUE OF PRETHERAPEUTIC HYPONATREMIA IN PATIENTS WITH CERVICAL CANCER.
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Aims

Preoperative hyponatremia is associated with postoperative mortality and morbidity in women with ovarian cancer. However, the prognostic impact in patients with cervical cancer is still unknown.

Method

429 patients with cervical cancer, who were treated at the Medical University of Vienna, were included in this retrospective study. The preoperative sodium was classified as normal (135 mmol/L – 142 mmol/L) or hyponatremic (<135 mmol/L). The patients’ prognosis was calculated by uni- and multivariate analysis.

Results

16 (3.7 %) patients had a pretherapeutic hyponatremia. In univariate analysis, patients with preoperative hyponatremia and cervical cancer were associated with a shorter overall survival (p=0.004). Thus, those results couldn’t be verified in the multivariate analysis (HR 1.8 [0.8 - 3.9], p=0.15). Interestingly, there was a significant association between pre-treatment hyponatremia and tumor grading (HR 3.4 [1.8 - 6.2], p<0.001). Nevertheless, there was no significant result regarding the patients age, the stage or histological subtype of the tumor.

Conclusion

In univariate analysis, the overall survival of patients with cervical cancer and a preoperative hyponatremia was significantly shorter. A preoperative hyponatremia was associated with higher grade of the tumor. Additional work is needed to determine if correction of hyponatremia in the preoperative period alters the patients’ outcome.
CERVICAL CANCER

ESGO7-0535

SMALL CELL NEUROENDOCRINE TUMORS OF THE CERVIX (SCNEC). DO TUMOR CHARACTERISTICS AND ORDER OF MULTIMODALITY THERAPY INFLUENCE OUTCOMES IN EARLY STAGE DISEASE?


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4Oslo University Hospital - The Norwegian Radium Hospital, Department of Pathology, Oslo, Norway

Aims

To report our experience in the management of women with SCNEC. To explore favorable tumor and treatment characteristics related to survival.

Method

All cases with SCNEC treated at our institution from 01/1978-12/2015 were identified. Demographic, pathologic, treatment and survival data were collected. Appropriate statistical methods were applied.

Results

64 women met inclusion criteria. 22 (34%) presented as early stage (ES) (I-IIA). 41% (9/22) had lymph node metastasis (LNM). 20/22 (91%) ES cases underwent initial radical surgery accompanied by platinum-based neoadjuvant chemotherapy (NACT) in 10/20 (50%), adjuvant chemotherapy (AdCT) in 6 (30%) and adjuvant radiotherapy in 4 (20%). NACT versus surgery as initial therapy did not influence overall survival (OS) (p=0.72). There was no association between ≤3 NACT<3 cycles and recurrence free survival (RFS) (p=0.61) or OS (p=0.55). Tumor size ≤ 4cm< did not influence RFS (p=0.31) or OS (p=0.08). Early versus advanced stage (AS) was not associated with RFS (p=0.073), it was however associated with OS (p=0.002). Presence of LNM negatively influenced RFS (p=0.015) and OS (p=0.008). With a median follow up of 23.3 months (range 0.4-315.7) 1 patient is currently without evidence of disease. Median time to recurrence was 28.1 months in ES and 13.5 months in AS. The 5-year OS was 49.4% for ES and 18.1% for AS.

Conclusion

SCNEC is an aggressive disease. LNM and AS were negatively associated with survival. NACT versus AdCT did not influence survival. Targeted therapies being investigated for small cell lung cancer should also be tested for patients with SCNEC.
CERVICAL CANCER

ESGO7-0549

SURGICAL MORBIDITY OF WOMEN WITH CERVICAL CANCER: THE ROLE OF LAPAROSCOPY

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Aims

The aim of this study was to identify surgical outcomes of cervical cancer patients undergoing radical hysterectomy or trachelectomy at the Royal Cornwall Hospital, a gynaecology oncology centre in the UK.

Method

Retrospective study of women undergoing radical surgery for treatment of cervical cancer from 2007 to date.

Results

In total 41 women were identified with stage 1B1 - 2A. 37 patients underwent radical hysterectomy and 4 radical trachelectomy. At diagnosis mean age was 46 years and mean BMI 26.9 Kg/m². 15 patients underwent laparotomy and 26 laparoscopy. Conversion rate from laparoscopy to laparotomy was 7.7%. Median tumour distance to parametrial and vaginal resection margins was 5mm and 11mm respectively. Median number of lymph nodes removed was 14, positive in 3 cases. Median intraoperative EBL in laparotomies was 600 mls whereas in laparoscopies 200 mls (p<0.00001). Median in-hospital length of stay was 5 days.

Intraoperative complications included 1 bladder injury and 1 superficial obturator nerve injury. Other postoperative complications included: sepsis (4), ileus (2), thromboembolism (1), urinary incontinence (1), obturator neuropathy (1), lymphoedema (8) and lymphocyst formation (2). Only 3 patients (7.3%) experienced major complications compared to published rates up to 30%. 2 had laparotomy and 1 had laparoscopy. The complications were ureteric stricture, ureterovaginal fistula and infected haematoma requiring re-operation. 7 patients received adjuvant radiotherapy or chemoradiation. 2 developed cervical cancer recurrence and eventually died.

Conclusion

Laparoscopic radical surgery for cervical cancer was associated with lower major morbidity compared to published rates and low recurrence rate.
CERVICAL CANCER

ESGO7-0774

RECURRENT FREE SURVIVAL AFTER SENTINEL LYMPH NODE BIOPSY IN PATIENTS WITH EARLY-STAGE CERVICAL CANCER


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Aims

To compare recurrence free survival (RFS) in women with early-stage cervical cancer who were primarily treated by radical surgery and pelvic bilateral lymphadenectomy (LDN) versus sentinel lymph node biopsy only (SLNB).

Method

From 02/2001 until 05/2011, patients with FIGO stage IA1-IB1/IIA1 cervical carcinoma underwent SLN biopsy followed by complete pelvic LDN as part of their primary treatment in University Hospital Clinic (Barcelona, Spain). Between 06/2011 and 10/2016, patients underwent radical surgery after SLNB. Patients underwent complete preoperative staging workup and were treated by radical hysterectomy or radical tachelectomy. Patients in whom SLN were detected unilaterally or not detected underwent a complete lymphadenectomy of the failed mapped side. SLN were evaluated by pathologic ultrataging. Intraoperative and postoperative as well as follow up data were prospectively recorded. SPSS 20.0 was used for statistical analysis.

Results

80 patients underwent radical surgery plus LDN and 54 patients underwent surgery with SLNB. No differences regarding age at diagnosis, size of the tumor (≤ 2cm vs > 2cm), FIGO stage, histology type and type of surgery were seen between both groups. Median follow up time was 60.6 months (0.13-190.3). Detection rate of the sentinel node group was 96% and it was bilaterally detected in 47 patients (87%). 121 patients were node negative patients, 73 LDN- and 45 SLNB-. No statistically significant differences were seen in term of RFS between both groups with negative nodes.

Conclusion

Patients with SLNB negative at the time of primary surgery seem to have the same RFS than patients with LDN negative nodes.
CERVICAL CANCER

ESGO7-0330

LAPAROSCOPIC PELVIC EXENTERATION FOR RECURRENT OR COMPLICATED PELVIC TUMORS: ANALYSIS OF
TECHNIQUE AND POSTOPERATIVE OUTCOMES
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Aims
Pelvic exenteration is an ultraradical surgical procedure with both palliative and curative intent in management of pelvic tumors. It remains one of the most difficult with high postoperative morbidity (31-90%). We want to represent our experience in performing laparoscopic pelvic exenteration (LPE).

Method
In 2012-2017 we performed 16 LPE (9 total, 4 anterior and 3 posterior). Indications were central pelvic recurrence of cervical (9), colorectal (6) and bladder cancer (1) after combined chemo-radiotherapy and surgery, complicated with different fistulas. Five ports technique was used in all cases. Dissection was performed with harmonic scissors and bipolar. Colorectal reconstruction: terminal colostomy (7) or anastomosis (5). For urinary diversion an ileal-loop conduit (the Bricker technique) was used. Uretero-ileostomy and stenting were performed intracorporally (2) and extracorporally (11).

Results
Average age 44.2(31-66) years. Average operative time 392(295-520) minutes. Estimated blood loss 295(95-500) ml. Mean length of hospital stay 8,9(5-14) days. The number of lymph nodes harvested 16 (5-34). Postoperative complications grade IIIB-IV (Clavien-Dindo, 2004) occurred in 6 patients (37,5%): anastomotic leak (4) with 2 relaparoscopy; small intestine perforation (1) with relaparoscopy and suturing; arterial thrombosis with multiple organ failure and death (1). Grade I-IIIA complications: gastroparesis (3), seroma (2), lymphocyst (2), positional fibular neuritis (1). After 1 year 10 out of 15 patients (66,7%) were alive, after 2 years: 4 out of 12 (33,3%).

Conclusion
Laparoscopic pelvic exenteration is technically feasible and can be offered to carefully selected patients with locally advanced pelvic tumors. Potential postoperative advantages of laparoscopic approach are faster recovery and relatively low morbidity.

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Aims

To evaluate the prognosis value of pretreatment leucocyte, platelet and hemoglobin disorders in locally advanced cervical cancer (LACC).

Method

We conducted a prospective study of 240 patients treated from 2007 to 2015 at Gustave Roussy for LACC with negative PET imaging of the PA area and undergoing laparoscopic PA lymphadenectomy. Patients with a poor prognosis histologic subtype or peritoneal carcinomatosis were excluded. All patients were treated by chemo-radiation and brachytherapy. All patients had preoperative blood cell count and clinical follow-up.

Results

Patients had clinical International Federation of Gynecology and Obstetrics stages IB2 (n=79), IIA (n=10), IIB (n=124), III (n=18), or IVA (n=9). One hundred ninety-one patients had squamous carcinoma, 43 had adenocarcinoma/adenosquamous lesions and 6 clear cells carcinoma. Twenty-two patients (9%) had nodal involvement (false-negative PET imaging). median follow-up was : 53 months [48-59]. We identified three cut-off whose impact disease free survival at 36 months: 114 g/L for hemoglobin (81% [75-89] vs 62% [52-74], p < 0.001); 11,7x10^9/L for leucocyte (48% [32-73] vs 79% [73-85], p < 0.0001); 308x10^9/L for platelet (65% [54-77] vs 79% [73-87], p = 0.005) for patients above and under the cut-off respectively.

Conclusion

Leucocyte, platelet and hemoglobin are significant prognostics factors for relapse in locally advanced cervical cancer. Those biomarkers could help identifying patients with higher risk of relapse and requiring new strategies as neo-adjuvant and adjuvant chemotherapy.
MUCOSAL MELANOMA OF THE FEMALE GENITAL TRACT

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Aims

Malignant melanomas of the female genital tract, including the cervix, vulva and vagina, are rare. These lesions arise from melanocytes, which can be found within the mucosa lining the female genital tract. Surgical resection is the mainstay of therapy, with little use for other modalities. We conducted a retrospective analysis of female genital tract melanoma, focusing on the high local recurrence rate of this tumor.

Method

Thirteen patients with primary mucosal melanoma of the female genital tract diagnosed and treated at Salah Azaiez Institution during a 15-year period were studied retrospectively. Specific information was obtained from the patients’ clinic charts. We excluded cases unsuitable for surgical curative treatment.

Results

Seven vulvar, four vaginal, and two cervical lesions were identified. The median age at diagnosis was 59 years. At initial presentation, two thirds of the patients had localized disease only. Tumor ulceration and thickness of the primary lesion had a measurable impact on prognosis. All patients underwent resection with curative intent. Many of the treatment failures were the result of local recurrences, hinting at the need to improve local control. Four patients underwent postoperative adjuvant treatment. Despite therapy, the overall 5-year survival rate was less than 50%.

Conclusion

Although malignant melanoma of the female genital tract is uncommon, all suspicious pigmented lesions found on a routine examination should be biopsied. The use of immunohistochemical assays could markedly improve diagnosis. Prospective multicenter trials for patients with vulvovaginal and cervical melanoma could be helpful in establishing uniform, standardized surgical protocols.
CERVICAL CANCER

ESGO7-1092

EVALUATION OF RESPONSE FOR CHEMOTHERAPY IN ADVANCED CANCER OF CERVIX UTERINE EXPERIMENT OF ALGIERS

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Aims

to show that the cervix cancer has a bad forecast in the advanced stages and 50% patients die during 5 years of follow-up

Method

we used the data of the files of our patients carrying cancer of cervix at the advanced stages

Cervical cancer is a very frightening disease because of its frequency and malignancy

02 type 90% squamous cell carcinoma

And 12% adenocarcinoma

Results

We report a series of 63 are exploitable, during the period (2011-2016)

the average age is 52 years [25-86 years]

Circumstances of discovery

Metrorrhagia (50%)

Slimming (6%)

Adenopathy sup clavicular (1%)

Leucorrhea (9%)

Not accurate (30%)

Fortuitous (1%)

Initial Stage

I 12(19%)

II 18(19%)

III 10(28%)

IV 15(15%)

No accurate 8(12%)

Stage IV: site of metastases

Adenopathy, sup clavicular 01

Ganglionic 06

Hepatic 03

Bone 01

Pulmonary 01
Ovarian 03

**Current Stage:**

Stage III (15 patients) and 12 patients who were immediately metastatic for supplemental management.

**Histological type:**

Epidermoid 55 87.3%

Adenocarcinoma 8 12.6%

38 patients received chemotherapy

25 did not receive chemotherapy

**Chemotherapy protocols 1st line:**

Docetaxel alone: 02 patients

Paclitaxel / cisplatin: 16 patients

- Paclitaxel / carboplatin: 12 patients

- Docetaxel / cisplatin: 01 patients

- Paclitaxel alone: 01 patient

- Paclitaxel / carboplatin / bevacizumab: 04 patients

- Paclitaxel / cisplatin / bevacizumab: 02 patients.

Response to treatment (chemotherapy) n: 38 patients

Full Response 22 35%

Partial Response 06 9%

Objective response ORR 28 44%

Stable disease 11 17%

Failure Treatment 24 38%

Li Living with chemotherapy 07 11%

Living in remission 01 1.5%

Died 55 87%

Average recall: 32months (5months-8years )

**Conclusion**

Cervical cancer is a serious disease in advanced and metastatic stages

But remains preventable through screening measures and vaccination progress
CERVICAL CANCER

ESGO7-1104

RHABDOMYOSARCOME UTERINE CERVIX IN THE YOUNG WOMAN BY THE WAY OF A CASE WITH REVIEW OF THE LITERATURE

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Aims

Is a rare tumor. It electively occurs at the young woman. One currently recommends a preserving treatment sometimes limited to a conisation, associated with chemotherapy and whose results are encouraging.

Method

19 years old, followed since 2014 for rhabdomyosarcoma of the uterine cervix, marked by protrusion through the vagina of an operated mass has 4 recoveries of the type exteriorized part whose histological study was in favor of a rhabdomyosarcoma embryonic botriode type keeps II.

The therapeutic decision of the multi-field committee was to make a chemotherapy 1ère has standard 8 IVAO (Ifosfamide, Mesna, Vincristine, Doxorubicine).

Results

The answer is considered to be partial with atumoral weight saving, disappearance of the hemorrhage it profited from an ovarian transposition by coelioscopy then an exérèse of the mass (pédiqulée of the uterine collar of 5 cm and been confined by the vagina) by gynaecological way, whose anapath was in favor of cervical embryonic Rhabdomyosarcome with healthy zones of resection the treatment was continued by a curiethérapie.

The patient is in complete remission with a pelvicscanner thoraco abdomino and MRI pelvic of evaluation without characteristic, it had a return of the menstruations, retreat of survival since the diagnosis is 3 years.

Conclusion

The RMS of the uterine collar is a rare tumour which occurs primarily in the young girl. The extension is especially locorégionale. The treatment consists of a surgical gesture with minima associated with an perish operational chemotherapy.
CERVICAL CANCER

ESGO7-1386

CLINICAL AND PATHOLOGICAL FACTORS ASSOCIATED WITH RESIDUAL DISEASE IN HYSTERECTOMY AFTER CONIZATION FOR MICROINVASIVE CERVICAL CANCER (STAGE IA1 AND IA2) TREATMENT.
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Aims

Evaluate clinical and pathological factors associated with residual disease in hysterectomy after conization for microinvasive cervical cancer (stage IA1 and IA2) treatment.

Method

603 patients diagnosed and treated for squamous cervix microinvasive carcinoma, FIGO stage IA1 and IA2 (MIC), from 1975 to 2013 were included.

Results

CKC was performed in 333 patients (55.2%) and 270 (44.8%) LEEP. The analysis of surgical resection margins showed 489 (81.1%) free ectocervical margins and 331 (54.8%) endocervical margins. Cervical conization was definitive treatment in 170 (28.2%) patients, but in 433 (71.8%) women, a further hysterectomy was performed. Of these, 387 women with stage IA1 were treated with extra fascial hysterectomy and 46 women with stage IA2 disease or with LVSI were treated with radical hysterectomy with pelvic lymphadenectomy. Residual disease (CIN3 or MIC) was found in 179 (41.3%) hysterectomies specimens. Only one case of positive lymph nodes was detected, 32 women (5.3%) recurred during the follow up and two patients died due to the disease.

Multivariate analysis showed that conization margins involvement (OR=6.80, p<0.001) were significantly associated with residual disease. Absence of residual disease in hysterectomy specimens was associated with conization depth >19mm in woman >40yr (p=0.001) and >19.2 for all women (p<0.001) There was no significant difference in the presence of residual disease in hysterectomies, in women treated with both types of conization (p=0.204).

Conclusion

In Women, which fertility desire is a concern, the conservative treatment is a possible option. However, conization margins involvement and conization depth <19mm should be strongly avoided in exclusive conization treatment.
CERVICAL CANCER

ESGO7-0871

BASELINE SERUM PROTEIN LEVELS ASSOCIATED WITH SURVIVAL IN AXALIMOGENE FILOLISBAC (AXAL)-TREATED METASTATIC CERVICAL CANCER PATIENTS: THE GOG/NRG-0265 TRIAL

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Aims

Prognostic biomarkers that identify high-risk patients may guide treatment decisions for patients with persistent, recurrent or metastatic cervical cancer (PRmCC). To identify such biomarkers, we evaluated the association between baseline inflammation-related serum protein levels and overall survival (OS) in 45 of the 50 AXAL-treated PRmCC patients participating in the phase 2 GOG/NRG-0265 trial (NCT01266460).

Method

The levels of inflammation-related analytes in PRmCC patients’ sera, collected prior to AXAL treatment, were measured using multiplex immunoassays. Linear regression and Kaplan-Meier analysis with log-rank test were used to evaluate the association of baseline levels of individual serum proteins with OS.

Results

Baseline levels of 4 serum proteins were significantly associated with OS (P < .01) and were significantly lower in patients surviving ≥12 months than in those surviving <12 months (P < .01). Unsupervised hierarchical clustering with complete linkage identified 2 patient clusters, distinguishable by low (cluster 1) or high (cluster 2) baseline levels of the 4 serum proteins. Survival analyses revealed that while the total patient population (n=50) exhibited a 12-month OS rate of 38%, cluster 1 (n=25) exhibited a rate of 56% and cluster 2 (n=20) exhibited a rate of 15%, suggesting that the baseline levels of these 4 serum proteins have prognostic value for OS (HR=0.23; 95% CI: 0.10-0.48; P<.001).

Conclusion

We have identified baseline levels of 4 distinct serum proteins as candidate prognostic biomarkers of clinical outcome in PRmCC patients. Cluster 1 criteria may identify PRmCC patients most likely to benefit from AXAL treatment.
CERVICAL CANCER

ESGO7-0327

CERVICAL BIOPSY AFTER CHEMORADIATION FOR LOCALLY ADVANCED CERVICAL CANCER TO IDENTIFY RESIDUAL DISEASE

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Aims

To evaluate the value of cervical biopsies 12 to 16 weeks post chemoradiation (CRT) in patients with locally advanced cervical cancer (LACC), in order to identify patients, eligible for salvage surgery.

Method

All patients with LACC, who received chemoradiation as primary treatment at the Radboud University Medical Center in Nijmegen between 1998 and 2015, were included in this retrospective study. In patients without suspicious lymph nodes on imaging and suitable for salvage surgery, a cervical biopsy was taken post CRT under general anesthesia, to evaluate if complete clinical remission was obtained. The follow-up of all patients as well as biopsy results, patient characteristics, and subsequent treatment were investigated.

Results

In total 154 patients with LACC received CRT. The median follow up time was 30.5 months. Sixteen (10.4%) patients were lost to follow up. Of the remaining 138 women, 78 patients underwent a cervical biopsy post CRT. Eight out of 78 patients (10.3%) had residual disease, whereas 70 had no vital tumor cells in the biopsy. Six of the patients with residual disease after CRT underwent salvage surgery. Long-term complete remission was achieved in 4 of them (66.7%).

Conclusion

Post CRT cervical biopsy in locally advanced cervical cancer patients was beneficial in 4 out of the 78 patients (0.5%). As 1 in 20 patients will achieve long-term survival by salvage hysterectomy, this biopsy remains advisable. This policy may cure a small subset of patients.
CERVICAL CANCER

ESGO7-0439

COUNTY/CITY OF RESIDENCY IS A PROGNOSTIC FACTOR OF OVERALL SURVIVAL IN CERVICAL CANCER

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Aims

Although some prognostic factors are studied for cervical cancer, environment factors are seldom investigated. The aim of present study is to investigate the impact of county/city of residency on survival of cervical cancer.

Method

We used Chang Gung Cancer Registry database to investigate the largest medical cancer in North Taiwan (Linkou Chang Gung Memorial Hospital: LCGMH) and South Taiwan (Kaohsiung Chang Gung Memorial Hospital: KCGMH). From January 2004 to December 2012, 8746 patients with cervical cancer were retrospectively reviewed in this study. The major country of patients in LCGMH was Taoyuan (Area 1A). The Area 1B and Area 1C of County and City is in the north and south of Taoyuan, respectively. The major country of patients in KCGMH was Kaohsiung City (Area 2A). The Area 2B and Area 2C of County is in the north and southeastern of Kaohsiung City, respectively. Cox regression model was used for multivariate analysis of overall survival.

Results

In addition to stage, age, and pathology, county/city of residency (p<0.001) is an independent factor of overall survival in cervical cancer. Compared with the Area 1A, there was no statistical significance in Area 2A (p=0.278) and Area 1C (p=0.381). Better survival was noted in Area 1B (p=0.046). Worse survival was noted in Area 2B (p=0.004) and Area 2C (p<0.001).

Conclusion

Because of no survival difference of major area between LCGMH (1A) and KCGMH (2A), county/city of residency should be considered for care of cervical cancer. The survival difference caused by residency is worth investigating in further studies.
PRELIMINARY RESULTS OF EXTENDED FIELD IMRT CHEMO-RADIOTHERAPY OR PELVIC IMRT CHEMO-RADIOTHERAPY FOLLOWED BY OPERATION IN PATIENTS WITH MULTIPLE PELVIC LYMPH NODE METASTASIS (PHASE II CLINICAL TRIAL)

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Aims

We use prospective randomize method to analysis the response rate and side effect rate of EF-IMRT and pelvic-IMRT combined with cisplatinum chemotherapy in patients with multiple pelvic lymph node metastasis.

Method

From 2012 to 2015, 96 cases enrolled into this study. Median Age was 46 years old. ECOG score was 0-2.FIGO stage was IB1-II A2. Histology included squamous 87cases, adenocarcinoma 3cases, squamous-adenocarcinoma 2 cases, low grade 4 cases. No adjuvant chemotherapy was done.All patients underwent radical operation, 20 cases of them were preserved both ovaries,2 cases were preserved one ovary.Para-aortic LN resection was done in 21 cases, while biopsy was done in one case. The median number of lymph nodewas 26(11~39).Patients were randomized into two groups: group A (EF-IMRT) or group B (pelvic-IMRT). The tumor dose was 45Gy/1.8-2Gy/25Fx, combined with cisplatinum 40mg/m2 weekly for 5 cycles. We used CTCAE3.0 to analysis the side effect.

Results

All the patients fulfilled the whole therapy.49 cases of them were enrolled into group A and 47 cases into group B. Blood and GI system were mainly side effects. Grade 4 of blood effect occurred only in one case group (A). Grade 1-2 of GI effect occurred in 10 cases (group B) and 20 cases (group A). With regards to acute or late toxicities, no statistically significant difference was observed between the two treatment groups.

Conclusion

Postoperative EF radiotherapy plus concurrent chemotherapy was effective and acceptable for treating patients with FIGO Stage IB1-II A2 cervical cancer displaying multiple pelvic lymph node metastases. This clinical trial is ongoing and long-term follow up is needed.
A LATE OMENTAL METASTASIS IN A PATIENT WITH CERVICAL CANCER

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Aims

To report a case of a late omental metastasis in a patient with cervical cancer.

Method

A 55-year-old woman presented with a history of a radical hysterectomy, bilateral salpingo-oophorectomy and bilateral pelvic lymph node dissection due to cervical adenocarcinoma of endometrioid type grade 3 St IB1 ten years ago and a left radical mastectomy due to ductal invasive breast cancer grade 2 three years ago. The patient was asymptomatic for 10 years. She was admitted in our gynaecologic oncology department with an upper abdominal cystic lesion which was found in follow-up imaging. The CT scan showed a cystic lesion next to the spleen measuring 3.3cm and a second cystic lesion in the transverse mesocolon of diameter 4.2cm. The PET/CT scan confirmed the diagnosis showing increased metabolic activity in the areas of the greater curve of the stomach, the left upper abdominal quadrant and the transverse mesocolon. Colonoscopy revealed involvement of sigmoid and transverse colon and gastroscopy showed no signs of malignancy.

Results

The patient underwent surgical excision of the splenic and gastric lesions as well as omentectomy. The pathology and immunohistochemistry report described a recurrence (grade 2-3 adenocarcinoma of cervical origin). The MDT decision was for the patient to start chemotherapy.

Conclusion

A late omental metastasis on a patient with history of cervical cancer is very rare, and this is the second case described in the current literature. We remind the role of long term follow-up in patients with cervical cancer and raise awareness of such a rare entity.
CERVICAL CANCER

ESGO7-0991

ASSISTED MOLECULAR STAGING GUIDED BY ONE-STEP NUCLEIC ACID AMPLIFICATION (OSNA) IN ADVANCED CERVICAL CANCER: A PROSPECTIVE STUDY

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Aims

Radiochemotherapy is the standard treatment for locally advanced cervical cancer. Para-aortic (PA) lymph nodes metastases remain a poor prognostic factor. Recently, a multicentric prospective study has reported the same survival rate for patients with PA nodal metastases ≤ 5 mm treated by an extended radiation field and patients pN0. Detecting occult metastases in PA lymph nodes may have an impact on survival.

We aimed to compare prospectively the accuracy of OSNA with both standard Hematoxylin and Eosin (H&E) analysis and intensive histopathology for the detection of lymph node metastases of cervical cancer

Method

A total of 127 lymph nodes from 10 patients with stage FIGO ≥ IIb cervical cancer were assessed. Among them, 68 were also assessed by OSNA. Half of each lymph node was analyzed initially by H&E followed by an intensive histologic workup: 5 levels of H&E and immunohistochemistry analyses. The other half was analyzed using OSNA. The OSNA method is based on the detection of CK19 mRNA as a marker for cervical cancer. The positivity of the CK19 was investigated on the prior cervical biopsy. A cut off value of 250mRNA copies/µL was used

Results

The concordance rate was 79%. 14 cases were discordant: 12 OSNA-positive/ histology negative (11 micrometastasis) and 2 OSNA-negative/histology positive (2 macrometastasis). OSNA was more sensitive for detecting micrometastasis compared with H&E and resulted in an upstaging of 5 of 10 patients

Conclusion

OSNA appeared to be a promising molecular tool for the detection of lymph nodes metastasis and may lead to an interesting upstaging
CERVICAL CANCER

ESGO7-0773

RADICAL VERSUS MODIFIED RADICAL HYSSTERECTOMY IN THE TREATMENT OF EARLY CERVICAL CANCER

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Aims

To compare survival outcomes and urologic morbidity of modified radical (type 2) hysterectomy with radical (type 3) hysterectomy in the treatment for early-stage cervical cancer patients

Method

Since February 2007, we retrospectively analysed oncologic outcomes and urologic complication in 72 patients with FIGO stage IA2, IB and IIA cervical cancer who treated with modified radical hysterectomy(MRH) (n=42) or radical hysterectomy(RH) (n=30) at our center

Results

Patients’ age and FIGO stages across the two types of surgeries were similar. Mean operation time and urologic morbidity were significantly less in MRH group. The mean number of lymph node obtained was similar across the two types of surgeries but lymph node metastasis and additional therapy after surgery was more frequent in the RH group. There was no significant differences in recurrence free and overall survival between two groups.

Conclusion

Modified radical hysterectomy appears to be similar efficacy, survival and associated with lower rates of urologic complications for patients with stage IA2 to IIA cervical cancer compared with radical hysterectomy.
CERVICAL CANCER

ESGO7-1095

3D-PRINTING NON-COPLANAR TEMPLATE ASSISTANT CT - GUIDED 125I SEEDS IMPLANTATION ON PELVIC RECURRENT CERVICAL CANCER

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Aims

To investigate the accuracy of 3D-printing non-coplanar template (3D-PNCT) assisted ¹²⁵I seed implants with CT guidance in the pelvic recurrent cervical between the pre-plan and post-plan dosimetric parameters.

Method

9 patients with pelvic recurrent cervical cancer in our center received ¹²⁵I seeds implantation under the CT guidance with 3D-PNCT assistant. A pre-plan based brachytherapy treatment planning system (B-TPS) with 3D-PNCT assistant for seed needle depth, direction and angle was designed. The dosimetry parameters including homogeneity index (HI), dose of 90% target volume (D90), volume of 100% prescribed dose(V100), volume of 150% prescribed dose(V150) and organ at risk between the pre-plan and post-plan were compared. Pair t-testing were used for statistics analysis with SPSS19.0 software.
Results

Total seeds number of 675 (median 44, 25-114) according to pre-plan and 669 (median 47, 25-113) seeds implanted actually. Total 138 needles (median 9, 6-21) according to preplan and 132 (median 9, 6-21) needles were implanted actually. The mean entrance point angle of all 675 needles designed in pre-plan were 30º~133º, and real angle from post-plan were 31º~129º, and the median deviation was 1.99º±2.94º(0~13º). There was no significant difference (F=0.1511, P=0.698) of angle deviation between per- and post-plan. The mean D90 of pre- and post- plan are 128.62±12.90Gy, 131.61±13.34Gy respectively, there were no significantly difference (F=0.012, P=0.913). The differences of V100, V150 and HI between pre- and post-plan were not shown significant.

Conclusion

The concidence of pre-plan and post-plan for 3D-PNCT assisted $^{125}$I seeds implantation in the pelvic recurrent cervical cancer could accurately perform under CT guidance.
CERVICAL CANCER
ESGO7-0532

HELICAL TOMOTHERAPY SYSTEM FOR ADVANCED CERVICAL CARCINOMA
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Aims

We evaluated the feasibility, effectiveness, safety and adverse events of Helical Tomotherapy system versus conventional intensity-modulated radiation therapy (IMRT) for cervical carcinoma.

Method

We examined the records from December 5, 2014 to date. 41 patients were identified undergone chemoradiation therapy. For HT treatment planning, tumor, pelvic, with or without paraaortic lymph nodes were defined as planning target volume (PTV) with a prescribed dose of 2.0/50 Gy (25 fractions). The lower target constraints were 95% of the prescribed dose in 95% of the target volume, and the upper dose constraint was 107%. The irradiated small-bowel volumes were kept as low as possible. The patients delivered by IMRT were identified as the comparative group. Patients were monitored for chronic toxicity using the Common Terminology Criteria for Adverse Events version 3.0 criteria.

Results

Both HT and IMRT techniques allowed excellent target volume coverage. Conformity index and conformity number results for PTV were significantly better with HT than IMRT. The median age of all patients was 50.4 years. The median overall radiation treatment time was 54 days. No patient developed a chronic Grade 3 GI complication. No other Grade 3 or 4 complications were observed. All patients are following up to date.
Conclusion

Both HT and IMRT techniques provide optimal treatment of gynecological oncology patients with acceptable levels of chronic toxicity. HT was significantly favored with regard to target conformity, homogeneity.
CERVICAL CANCER

ESGO7-0679

MUTATIONAL ANALYSIS OF KRAS AND ITS CLINICAL IMPLICATIONS IN CERVICAL CANCER PATIENTS

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Aims

The predictive and prognostic role of KRAS mutations in cervical cancer remains inconclusive. The aim of this study was to explore the clinicopathological and prognostic relevance of KRAS mutations in invasive cervical cancers (ICC).

Method

Reverse transcription polymerase chain reaction (PCR) and Sanger sequencing were employed to detect KRAS mutations in 876 ICC patients. Quantitative real-time PCR was used to detect human papillomavirus (HPV) 16 and HPV 18.

Results

Non-synonymous mutations of KRAS were identified in 30 (3.4%) patients. These mutations were more common in non-squamous carcinoma than in squamous cell carcinoma (8.2% vs 2.2%, respectively, p<0.001) and were associated with HPV18 infection (p=0.003). The prevalence of mutations was highest (18.2%) in the uncommon histological subtypes followed by adenocarcinoma (7.3%) and adenosquamous carcinoma (5.8%). During the median follow-up of 55 months, compared to patients with wild-type KRAS, a greater percentage of patients with mutant KRAS relapsed (20.0% vs 42.9%, respectively, p=0.007; Fisher’s exact test). The 3-year relapse-free survival (RFS) was poorer in patients with mutant KRAS than in patients without KRAS mutations (57.1% vs 81.9%, respectively, p=0.001). Furthermore, the multivariate analysis showed that the presence of a KRAS mutation was an independent predictor for disease recurrence (HR=2.064, 95% CI: 1.125–3.787, p=0.019).

Conclusion

KRAS mutations were predominant in non-squamous cell carcinomas of the cervix and were associated with HPV 18 infection. A combination of KRAS mutation detection and HPV genotyping would be useful in identifying patients with poor prognosis for further interventions.
CERVICAL CANCER

ESGO7-0648

OUTCOMES OF ELECTROSURGICAL EXCISION PROCEDURE FOR CERVICAL INTRAEPITHELIAL NEOPLASIA IN BRAZIL

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Aims

To analyze the short and long-term complications of women underwent electrosurgical excision procedure (LEEP) in a public hospital of an endemic area of cervical intraepithelial neoplasia in Brazil.

Method

A retrospective study was performed from January 2011 to August 2016, with a total of 223 medical records obtained from women underwent LEEP conization and had had follow-up on a public hospital of the Brazil were analyzed. In short-term outcomes were evaluated the histological status of endocervical margins and blood loss, and in long-term outcomes were included persistence/recurrence of the lesions and cervical stenosis. Were excluded patients with follow up < 12 months.

Results

A total of 223 women were analyzed, with a mean age of 37.08 ± 12.48 years (IC95%: 34.95-39.21 years). In these patients, 2.96% had positive margin in the histopathologic result. No patient had blood loss. The mean long-term follow-up time was 30.84 ±14.54 months (IC95%:28.35 ± 33.32 months) and included 134 women. 6.72% presented ASC-US as the worst result during follow-up and one patient had LIE-AG. No sample had residual lesion. Two patients presented cervical stenosis, five underwent hysterectomy, including the one with LIE-AG, and 2 faced up to another LEEP. In Squamocolumnar Junction (SCJ) analysis 89 patients (66.42%) hadn't visible SCJ.

Conclusion

Low index of positive margin in short-term outcomes associated with low complications and no recurrence of lesion in long-term outcomes suggests the efficacy of LEEP in patients treated for cervical intraepithelial neoplasia in endemic area of Brazil.
EPIDEMIOLOGIC PROFILE OF WOMEN UNDERWENT ELECTROSURGICAL EXCISION PROCEDURE IN BRAZIL
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Aims
To evaluate epidemiologic profile of women underwent LEEP conization in a public hospital of northeast of Brazil.

Method
A total of 240 medical records obtained from women underwent LEEP conization, between January 2011 to August 2016, on a public hospital in northeast of Brazil. Dates was obtained from medical record, and was composed by age, menarche, first age of sexual intercourse, smoking habits, parity and lifetime number of sexual partners.

Results
Mean age of selected patients was 36.90 ± 12.59 years, with mean menarche age of 13.11 ± 1.75 (CI95%: 12.89-13.33) and mean age of the first sexual intercourse of 17.65 ± 3.86 years (CI95%: 17.18-18.12). Smokers represent 10.42% of patients, with mean 8.76 ± 6.11 cigarettes/day. The mean sexual partners was 3.14 ± 3.83 (CI95%: 2.65-3.63), with 39.59% relating only one partner and 10% referred 6 or more. Permanence time with current partner was 10.61 ± 11.06 years (95% CI: 9.20-12.02) and 10% living with partner for at least 28 years. The mean of delivery was 2.83 ± 2.56, with 87.50% had at least one pregnancy and 28.33% reported at least one case of miscarriage.

Conclusion
The profile of patients underwent LEEP conization consisted of young adult women with high mean age of first sexual intercourse. Number of smokers and partners was low in our sample.
CERVICAL CANCER
ESGO7-0323

OUTCOME OF WOMEN WITH HIGH-GRADE CERVICAL INTRAEPITHELIAL NEOPLASIA (CIN 2/3) AFTER RECEIVING LOOP ELECTROSURGICAL EXCISION PROCEDURE (LEEP)

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Aims

The aims are to present the long-term outcome after loop electrosurgical excision procedure (LEEP) for high-grade cervical intraepithelial neoplasia (CIN2/3) and to identify the rate and risk of treatment failure.

Method

We reviewed retrospectively 1105 cases, confirmed to CIN2/3 after LEEP at our center from 2000 to 2009. Patients were followed with cervical cytology and HPV test. If the results were abnormal, patients received cervical biopsy. The CIN2 or worse was considered as treatment failure.

Results

During a mean follow-up of 94.6 months (range, 60-144), 100 cases (9.0%) had treatment failure; 6.1% in the first 2 years, 1.8% between 2 and 5 years, and 1.1% beyond 5 years. Excision margin involvement and positive result of immediate endocervical cytology after LEEP were significant risk factors for treatment failure (HR=4.280; 95% CI, 2.579-7.105; p<0.001 and 6.696; 2.832-15.833; p<0.001, respectively). Especially, positive endocervical margin had higher risk compared to positive ectocervical margin (5.743; 3.665-9.742; p<0.01 vs. 3.725; 2.627-6.835; p<0.01). Persistent or recurrent infection with HPV-16 (2.417; 1.527-4.484; p<0.01), HPV-18 (3.518; 1.941-6.715; p<0.01) or HPV-58 (1.460; 1.143-2.815; p=0.03) was associated with treatment failure in positive margin group. Persistent or recurrent infection with HPV-16 (3.742; 2.590-6.743; p<0.01), HPV-18 (4.155; 2.610-8.594; p<0.01), or HPV-31 (1.385; 1.092-2.475; p=0.03) was associated in negative margin group.

Conclusion

LEEP is effective, however, treatment failure can appear for a long time. Excision margin involvement and positive endocervical cytology after LEEP are strong predictors for treatment failure. Persistence or recurrence of HPV-16/18 increase the probability of treatment failure regardless of excision margin involvement.
IMIQUIMOD AS A VALUABLE OPTION FOR YOUNG WOMEN WITH HIGH GRADE SQUAMOUS EPITHELIAL LESION (HSIL): A RETROSPECTIVE STUDY

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Aims

In young women, it is not easy to decide on excisional therapy for cervical intraepithelial neoplasia (CIN). We aimed to evaluate how effective topical imiquimod is in the treatment of high-grade CIN in young women.

Method

Patients with high-grade CIN were allocated to this study. They required a once-a-week hospital visit for 8 weeks for the application of imiquimod to the cervix by a specialist. If the lesion got worse, we decided to convert to excisional therapy.

Results

A total of 55 patients with a median age of 30 years (range, 22–42 years). Twenty-nine patients (52.7%) had cervical intraepithelial neoplasm 3 (CIN3), and 24 (43.6%) had CIN2 on initial biopsy. Two patients had high-grade squamous intraepithelial lesion (HSIL) on their PAP without punch biopsy. Fifty-two patients (94.5%) finished the 8-week imiquimod therapy and two patients were treated with additional imiquimod therapy. One patient stopped treatment because of pregnancy. On the last examination, 32 patients (59.2%) had negative intraepithelial lesions, 7 (12.7%) had atypical squamous cells of undetermined significance, and 4 (7%) had LSIL. Three patients (5.6%) had ASC-H. Two of them underwent loop electrosurgical excision procedure (LEEP). The results were CIN3. Eight patients (14.8%) had persistent HSIL: 5 patients underwent LEEP, resulting in CIN 3 except two patients with superficially invasive squamous cell carcinoma.

Conclusion

This study showed that topical imiquimod therapy was effective for the treatment of high-grade CIN, with a regression rate of 79.6%, and HPV eradication rate of 33.3%. To confirm its efficacy, a phase II study with larger cohort would be needed.
CERVICAL CANCER

ESGO7-0064

RISK FACTORS OF DIAGNOSTIC DISCREPANCY BETWEEN COLPOSCOPICALLY DIRECTED BIOPSIES AND LOOP ELECTROSURGICAL PROCEDURE CONIZATION OF THE UTERINE CERVIX

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Aims

This study aimed to determine the factor of pathologic discrepancy between colposcopically directed punch biopsies and LEEP conization.

Method

A total of 1,200 patients with conization were identified in our center between 2004 and 2016, 667 patients of whom underwent all of cervical cytology, HPV test, punch biopsy, and conization were included in retrospective study. We analyzed patient’s age, menopausal status, number of delivery, abortion times, visualization of the entire transformation zone, number of punch biopsies and duration of between punch and conization.

Results

Logistic regression analysis of the final diagnosis showed that reproductive age and HPV type were associated with cancer diagnosis, while ASC-H, HSIL and HPV type 16 affected the diagnosis of CIN2. The overall concordance rate of histopathology between the punch biopsy and LEEP conization was 43.3%. The rates of detecting a more severe lesion by LEEP conization than gained by biopsy (biopsy underestimation) were 23.1%. The rates of a less severe lesion detected by LEEP conization than gained by biopsy (biopsy overestimation) were 33.6%. Logistic regression analysis of discrepancy has demonstrated that less than 1 time of vaginal delivery, HSIL, number of punch biopsies and HPV type were factors of biopsy underestimation. Punch biopsies number is a unique factor of biopsy overestimation.

Conclusion

Patients with ASC-H, HSIL and HPV type 16 may undergo conization immediately without punch biopsy by the colposcopic findings. Number of 3 or 5 punch biopsies affected both biopsy underestimation and overestimation. We suggest that colposcopically directed 3-5 punch biopsies may be used to determine conization.
THE TOLERANCE OF MULTIMODALITY TREATMENT FOR UTERINE CERVIX CANCER EMPLOYING ANTICERVICAL GROPRINOSIN THERAPY

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Aims

Assessing the tolerance of multimodality treatment for stage III uterine cervix cancer employing antiviral therapy.

Method

The materials are the results of experimental and clinical studies including the testing of the new techniques in 12 patients diagnosed with stage III squamous cell cervical cancer, T2-3N0M0, aged 29 to 64 years. The immunoassay included determining the absolute number of lymphocytes, subpopulation lymphocyte content, activation molecules, as well as analyzing the concentration of M, G, A, E immunoglobulins (lg).

Results

The procedure of multimodality treatment has been devised, including external-bean radiotherapy on the small pelvis area at a total target dose of 44-50 Gy and cisplatin radiosensibilization once a week, a total dose of 160-200 mg/m² with concurrent administration of Inosin pranobex (Groprinosin®) 1000 mg 3 times daily for 30 days. Then the patient received contact radiotherapy at a total dose of 20-30 Gy. Radiation morbidity was observed in one case. Hematologic toxicity and local morbidity were not noted. The study of immunological status found an increase in the percentage of T-killers, cytotoxic lymphocytes and a greater gain in the percentage of activated T-lymphocytes (p<0.05), MHC II expression of HLA-DR+ class vs standard chemoradiotherapy.

Conclusion

The inclusion of antiviral drug in the multimodality treatment regimen facilitates improving the tolerance of chemoradiotherapy for stage III cervical cancer and normalizes the immune status indices of the body.
CERVICAL CANCER

ESGO7-0649

MEDICOBIOLOGICAL PROPERTIES OF PHOTOLON IN A EXPERIMENTAL MODEL

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Aims

Evaluating the dynamics of Photolon sensitizer accumulation in HeLa tumor cells and it’s photodynamic activity by the criteria of cytostatic and cytotoxic effects.

Method

The in vitro studies were performed on a monolayer culture of HeLa tumor cells. The cellular culture was grown in the nutritious Medium 199 with addition of 10% blood serum of cow fetuses and canamicin 50 mg/ml. On the third day after the cell culture sowing in the nutritious medium, chlorin e6 conjugated with polyvinyl pyrrolidone (Photolon ®) solution was added. The photoradiation of the HeLa cells tumor was performed with a laser of 667 nm wavelength at a dose of 5 J/cm².

Results

Photolon accumulation in tumor cells was found to be lasting for 2 hours. No further significant change in its cell level was noted. For this reason, a 3-hour incubation time was selected for studying dark cytotoxicity and photodynamic activity of Photolon. Cell incubation with Photolon for 3 hours with 25 or 50 mg/ml end concentration of the photosensitizer resulted in dose-dependent inhibition of HeLa culture growth, and with a concentration higher than 100 mg/ml it led to intensive cell death. IC⁵₀ of Photolon cytostatic effect index was 43.60 ±3.67 mg/ml, and LC⁵₀ cytotoxic effect index was 152.63±3.67 mg/ml.

Conclusion

Photolon accumulation in tumor cells occurs in the course of 2 hours, with no further significant change in its level. Photoradiation of HeLa tumor cells at dose of 5 J/cm² after the incubation with the photosensitizer for 3 hours produces strong cytotoxic and cytostatic effects.
CERVICAL CANCER

ESGO7-0208

PRIMARY CHEMOTHERAPY FOLLOWED BY RADIATION THERAPY IN CERVICAL CANCER
H. Kato¹, Y. Todo¹
¹Hokkaido Cancer Center, Gynecologic Oncology, Sapporo, Japan

Aims

A therapeutic significance of primary chemotherapy followed by radiation therapy was negated before the advent of taxane derivatives and concurrent chemoradiotherapy. The aim of this study was to revisit a significance of primary chemotherapy followed by radiation therapy in the present era.

Method

This study included 101 consecutive patients with cervical cancer treated with primary chemotherapy followed by surgery (n=70) or definitive radiation therapy (n=31). Impact of radiation therapy on survival was assessed by Cox regression multivariate analysis.

Results

A total of 91 (90%) patients had stage II-IV disease. Forty-nine (49%) patients had radiologically pelvic lymph node (PLN) enlargement. The 5-year overall survival (OS) rate of the entire cohort was 62.1% with the median follow-up period of 50 months. Response rate to primary chemotherapy was 68.3%. Tumor diameter ≥ 6 cm, PLN enlargement, and stable disease or progressive disease to primary chemotherapy were confirmed as independent unfavorable prognostic factors. Selection of radiation therapy as locoregional treatment had an unadjusted hazard risk (HR) of 2.4 [95% confidence interval (CI) = 1.2–4.5, P=0.0089], but an adjusted HR of 1.2 (95% CI = 0.6–2.5, P=0.63) after adjusting for tumor diameter, PLN enlargement, and response to primary chemotherapy. In a subgroup of complete response or partial response to primary chemotherapy, the 5-year OS rates were almost the same (surgery, 75.8% vs. radiation, 71.4%; log-rank test, P=0.82).

Conclusion

As for selection of locoregional treatments following primary chemotherapy, radiation might not be inferior to surgery on survival under chemo-sensitive condition.
E Y. Ki¹, S. Min Jong¹, K. Jin Hwi¹, L. Sung Jong¹
¹The Catholic University of Korea, Obstetrics and Gynecology, Seoul, Republic of Korea

Aims
The aim of this study was to evaluate the immunocytochemical expression of human papillomavirus (HPV) L1 capsid protein in patients with atypical squamous cells of unknown significance (ASCUS), and low grade squamous intraepithelial lesions (LSIL) at high risk of HPV infection.

Method
Between January 2013 and December 2015, we performed immunocytochemistry of HPV L1 protein in cervical cytology samples obtained from 334 patients using the Cytoactiv® HPV L1 screening set. The expression of HPV L1 capsid protein was assessed by using cytology and was compared with the results of histopathological examination.

Results
Patients with ASCUS (n=70) or LSIL (n=215) showed negativity for L1 capsid protein when they were diagnosed as ≥ cervical intraepithelial neoplasia(CIN) 2 (ASCUS group : 82.6%, P=0.0046; LSIL group : 72.2%, P=0.02). The risks of developing ≥ CIN2 were 6.9 folds higher in patients with HPV16 and 18 infection and negativity for HPV L1 capsid protein in the ASCUS group (OR 6.9, 95% CI 2.2-22.2, P=0.001) and 6.7 folds higher in the LSIL group(OR 6.7, 95% CI 2.5-18.3, P=0.0002). Model comparison analysis revealed that cytology plus HPV capsid protein immunocytochemistry or cytology plus HPV test improved the diagnosis rate compared with cytology alone (AIC:191.7 vs 207.5 vs 216.4; SC: 206.3 vs 218.4 vs 223.7).

Conclusion
The results of this study siggest that immunochemistry negativity for L1 protein negativity can be used for detection of high grade cervical lesions(≥ CIN2) in ASCUS and LSIL patients.
BIM OF APOPTOTIC MARKER PREDICTS FAVORABLE SURVIVAL OUTCOME IN CERVICAL CANCER

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2Gangnam Severance Hospital, Obstetrics and Gynecology, Seoul, Republic of Korea
3National Institutes of Health, Experimental Pathology laboratory, MD, USA

Aims

Bcl-2 interacting mediator (BIM) is a pro-apoptotic protein belonging to the BCL 2 protein family. BIM elicits cell death by binding to prosurvival BCL-2 proteins. Even though association of BIM expression and cell death has been investigated, clinical survival significance for BIM is not investigated in cervical cancer. Prognostic significance of BIM was investigated by immunohistochemical analysis in cervical cancer.

Method

The study subjects included cervical intraepithelial neoplasia (CIN, n = 275) and invasive cervical cancer (n = 164). Immunohistochemistry (IHC) was performed to identify BIM protein expression. IHC scoring was performed using automated digital image analysis and the association of BIM with prognostic factors was investigated.

Results

BIM expression was higher in cervical cancer than normal cervix (p=0.001). Well and moderate differentiation showed higher expression of BIM than poor differentiation (p=0.001). Squamous cell type revealed high expression of BIM compared to non-squamous cell type (0.008). BIM expression was highly observed in radiation sensitive cervical cancer compared to radiation resistant cancer (P=0.049). High expression of BIM showed better 5-year disease-free survival and overall survival rate (p=0.049 and 0.030, respectively) than low expression group. In multivariate analysis, BIM was shown as an independent risk factor with hazard ratio of 0.22 (p=0.006) for disease-free survival and hazard ratio of 0.46 (p=0.046) for overall survival in cervical cancer.

Conclusion

BIM is associated with favorable prognostic marker to predict disease-free and overall survival in cervical cancer. High expression of BIM, apoptotic marker of tumor, might be significant survival factor in cervical cancer.
CERVICAL CANCER

ESGO7-0445

SENTINEL LYMPH NODES MAPPING WITH INDOCYANINE GREEN IN CERVICAL CANCER STAGE IAI – IIB : A SINGLE CENTER EXPERIENCE

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¹Asan Medical Center, Obstetrics and Gynecology, Seoul, Republic of Korea

Aims

To determine the validity of sentinel lymph nodes (SLN) mapping using Indocyanine green (ICG) in cervical cancer.

Method

We have performed a retrospective study of cervical cancer patients with SLN mapping from 2015 to 2017 at the Asan Medical Center. Hundred-three patients were included. After using ICG to detect SLN during surgery, we removed SLN following standard radical surgery and bilateral pelvic lymphadenectomy.

Results

The most common surgery was a laparoscopic radical hysterectomy (44.7%). Stage IB1 was most common (61.2%). The median tumor size was 2.4cm. At least One SLN was detected in all cases. Eighty-eight patients (85.4%) had bilateral pelvic SLN. Side specific detection rate was 92.7%. Twenty-seven patients had nodal metastasis after lymphadenectomy on final H&E. On a side-specific basis, the sensitivity of SLN was 71.43%, specificity was 100% and Native predictive value (NPV) was 93.98%. In the case of tumor size less than 2 cm and negative lymph node metastasis at imaging test, sensitivity was 100%, specificity was 100%, and NPV was 100% as side-specific. The size over 4cm, lymphovascular space invasion, parametrium (PM) invasion and previous LEEP history were the risk factors affecting false negative detection of SLN.

Conclusion

It may be possible to perform SLN Biopsy alone in an early stage in which the size is less than 2 cm and the lymph node metastasis is not suspected in the imaging test. However, if tumor size is large and vagina extension is suspected, and if any suspicion of PM invasion, we should be cautious in doing the SLN biopsy alone.
CERVICAL CANCER

ESGO7-0340

THE COMPARISON OF SURGICAL OUTCOMES AND LEARNING CURVES OF RADICAL HYSTERECTOMY BY LAPAROSCOPY AND ROBOTICS FOR CERVICAL CANCER: AN EXPERIENCE OF A SINGLE SURGEON

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4Korea University Guro Hospital, Department of obstetrics and gynecology, Seoul, Republic of Korea

Aims

The aim of this study was to compare and determine the feasibility, surgical outcomes, learning curves of robotic radical hysterectomy with lymph node dissection (RRHND) to conventional laparoscopic radical hysterectomy with lymph node dissection (LRHND) in patients with cervical cancer by a single surgeon.

Method

Between April 2009 and March 2013, 22 patients underwent LRHND and 19 patients underwent RRHND. Variables such as patients’ age, body mass index, International Federation of Gynecology and Obstetrics (FIGO) stage, histology, number of dissected lymph nodes, operative time, estimated blood loss, days of hospitalization, amount of transfusion and complications were analyzed.

Results

Most of characteristics were similar between two groups, except FIGO stage (p=0.034). LRHND group had more IB1(12 vs 8) and IB2(5 vs 0) patients, and RRHND had stage IIB(6 vs 0) patients predominantly. In surgical outcome analysis, RRHND(61.3±28.9 min) showed longer preparing time than LRHND(43.0±14.3 min). More positive lymph nodes were dissected through LRHND(0.6±1.3) than RRHND(0.1±0.2). In the LRHND group, 9 patients experienced a postoperative complication. On the other hand, in the RRHND group, 4 patients experienced a postoperative complication. The regression analysis failed to yield a learning curve for LRHND group, so comparison of learning curves between LRHND and RRHND could not be made.

Conclusion

During about 20 cases, the surgical outcomes and complication rates of RRHND were comparable to those of LRHND. A long-term follow-up study with larger cases is required to define the nature of the learning curve.
CERVICAL CANCER

ESGO7-0469

THERAPY MODALITIES, PROGNOSTIC FACTORS AND OUTCOME OF THE PRIMARY CERVICAL CARCINOSARCOMA: META-ANALYSIS OF EXTREMELY RARE TUMOR OF CERVIX

G. Kimyon Comert1, O. Turkmen2, A. Karalok2, D. Basaran2, D. Bulbul2, T. Turan2

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2Etlik Zubeyde Hanim Women’s Health Teaching and Researching Hospital, Pathology, Ankara, Turkey

Aims

To evaluate prognostic factors, treatment options and survival outcomes of the primary carcinosarcoma of the uterine cervix.

Method

The literature electronic search was conducted from 1951 to February 2017 to identify articles about primary cervical carcinosarcoma. After comprehensive evaluation of case series and case reports including additional two cases from our institution, the study included 81 cases (figure 1).

Results

The most clinical FIGO stage was IB with 53%. Median follow-up time was 15 months (range: 1.75-156). 2-year disease free (DFS) and overall (OS) survival of the entire cohort were 49% and 60%, respectively. Both 2-year DFS and OS were significantly higher in patients with stage-I compared to those with stage-II≤ disease (73% vs. 22%, p=0.000 and 82% vs. 33%, p=0.000 (figure 2), respectively). 2-year OS was 17% for patients received primary radiotherapy, whereas it was 68% for those underwent only surgery (p=0.003). Surgery followed by adjuvant radiotherapy with or without chemotherapy was significantly related with improved DFS and OS than primary radiotherapy (table 1). 2-year DFS was 63% in patients who underwent primary surgery, whereas it was 100% in patients treated with primary surgery followed by adjuvant radiotherapy with chemotherapy (p=0.030). Only stage was independent prognostic factor for risk of both recurrence and death (Hazard Ratio (HR): 9.8; p=0.004 and HR: 14; p=0.018) (table 2).

Conclusion

The stage in due course of presentation has a great importance and is only independent factor for prognosis. Surgery followed by adjuvant radiotherapy with or without chemotherapy seems to be related with better OS and DFS.
CERVICAL CANCER

ESGO7-0158

DO PATIENTS AND PHYSICIANS ACCEPT LESS RADICAL PROCEDURES OFFERING LOWER MORBIDITY IF THEY ARE ASSOCIATED WITH HIGHER ONCOLOGICAL RISK?

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²First Faculty of Medicine Charles University, Gynecologic Oncology Center Department of Obstetrics and Gynecology, Prague, Czech Republic
³Etlik Zübeyde Hanım Education and Research Hospital, Department of Gynecologic Oncology, Ankara, Turkey

Aims

This prospective survey study aimed to evaluate the opinions of women who underwent radical surgery for cervical cancer (CC) and physicians who treat CC about the acceptability of increased oncological risk after less radical procedures in the surgical treatment of CC.

Method

Patients (n=182) and physicians (n=101) were asked whether they would accept any additional oncological risks, which can be attributable to the omission of parametrectomy (radical hysterectomy/trachelectomy vs. simple hysterectomy/trachelectomy) and omission of PLND (systematic resection vs. sentinel lymph node (SLN)) sampling, if these less radical procedures offered diminished postoperative morbidity.

Results

Although more than half of the patients (52.2%) reported morbidity related to the previous treatment, the majority of them would not accept less radical surgical treatment if it was associated with any increased risk of recurrence (50–55 % No risk and 17–24% risk < 0.1%). Physicians tend to accept a significantly higher risk than patients in the Czech Republic but not in Turkey (Table 1). Risk acceptance was not significantly modified by the type of the procedure. Patients with higher education levels, advanced stage disease, adverse events related to previous cancer treatment, and patients that received adjuvant therapy were significantly more likely to accept an increased oncological risk. Physicians’ risk acceptance increased only with age (Table 2).
Table 1. Comparison of risk acceptance between patients and physicians

<table>
<thead>
<tr>
<th>TURKEY</th>
<th>Total (N = 184)</th>
<th>Patients (N = 137)</th>
<th>Physicians (N = 47)</th>
<th>Statistical evaluation: p-value&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUBJECTIVE ONCOLOGICAL RISK ACCEPTANCE in % as mean (95% confidence interval)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simple hysterectomy instead of radical hysterectomy</td>
<td>1.1 (0.7; 1.5)</td>
<td>1.3 (0.8; 1.7)</td>
<td>0.6 (0.1; 1.0)</td>
<td>0.033</td>
</tr>
<tr>
<td>Removal of sentinel lymph nodes only instead of pelvic lymphadenectomy</td>
<td>0.7 (0.4; 1.0)</td>
<td>0.7 (0.4; 1.1)</td>
<td>0.6 (0.3; 1.0)</td>
<td>0.658</td>
</tr>
<tr>
<td>Simple trachelectomy instead of radical trachelectomy</td>
<td>1.5 (1.0; 2.0)</td>
<td>1.8 (1.2; 2.4)</td>
<td>0.7 (0.3; 1.1)</td>
<td>0.005</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1.1 (0.9; 1.3)</td>
<td>1.3 (1.0; 1.5)</td>
<td>0.6 (0.4; 0.9)</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Czech Republic

<table>
<thead>
<tr>
<th>SUBJECTIVE ONCOLOGICAL RISK ACCEPTANCE in % as mean (95% confidence interval)</th>
<th>Total (N = 99)</th>
<th>Patients (N = 45)</th>
<th>Physicians (N = 54)</th>
<th>Statistical evaluation: p-value&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple hysterectomy instead of radical hysterectomy</td>
<td>1.0 (0.6; 1.4)</td>
<td>0.6 (0.1; 1.0)</td>
<td>1.4 (0.8; 1.9)</td>
<td>0.031</td>
</tr>
<tr>
<td>Removal of sentinel lymph nodes only instead of pelvic lymphadenectomy</td>
<td>1.2 (0.8; 1.6)</td>
<td>0.5 (0.1; 1.0)</td>
<td>1.7 (1.1; 2.4)</td>
<td>0.004</td>
</tr>
<tr>
<td>Simple trachelectomy instead of radical trachelectomy</td>
<td>1.3 (0.8; 1.8)</td>
<td>0.5 (0.2; 1.0)</td>
<td>2.0 (1.2; 2.7)</td>
<td>0.002</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1.2 (0.9; 1.4)</td>
<td>0.5 (0.3; 0.8)</td>
<td>1.7 (1.3; 2.1)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

The answers to the risk acceptance questions are treated as continuous variables

Table 2. Factors influencing risk acceptance

<table>
<thead>
<tr>
<th>ONCOLOGICAL RISK ACCEPTANCE</th>
<th>Statistical evaluation: OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predictor</td>
<td>Reference category</td>
</tr>
<tr>
<td>Age at diagnosis</td>
<td>Primary school</td>
</tr>
<tr>
<td>Age</td>
<td>University college</td>
</tr>
<tr>
<td>Education Level</td>
<td>Yes</td>
</tr>
<tr>
<td>Social status</td>
<td>No</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Yes</td>
</tr>
<tr>
<td>Hypertension</td>
<td>No</td>
</tr>
<tr>
<td>Heart disease</td>
<td>Yes</td>
</tr>
<tr>
<td>Vascular disease</td>
<td>No</td>
</tr>
<tr>
<td>Surgery Date</td>
<td>Yes</td>
</tr>
<tr>
<td>Surgery duration</td>
<td>No</td>
</tr>
<tr>
<td>Surgery type</td>
<td>Yes</td>
</tr>
<tr>
<td>Stage of the disease</td>
<td>IB</td>
</tr>
<tr>
<td>Adjuvant therapy</td>
<td>No</td>
</tr>
<tr>
<td>Quality of life after surgery</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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Conclusion

Patients, even if they suffer from morbidity related to previous treatment of CC, do not want to choose between oncological safety and better QoL. Physicians tend to accept the higher oncological risk associated with less radical surgical procedures, but attitudes differ regionally.
CERVICAL CANCER

ESGO7-1299

GAiN OF 3Q26 AS A PROGNOSTIC BIOMARKER FOR HIGH-GRADE CERVICAL INTRAEPITHELIAL NEOPLASIA

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2Maastricht University, GROW - School for Oncology and Developmental Biology, Maastricht, The Netherlands
3Stavanger University Hospital, Department of Pathology, Stavanger, Norway
4University of Stavanger, Department of Mathematics and Natural Science, Stavanger, Norway
5Maastricht University, Department of Molecular Cell Biology, Maastricht, The Netherlands

Aims

Approximately 20-40% of high-grade cervical intraepithelial neoplasia (CIN) lesions show spontaneous regression. Nonetheless, most high-grade lesions are treated by surgical excision, because the prognosis of an individual lesion is unpredictable. This leads to overtreatment and associated complications. Gain of the 3q26 gene locus, which contains the human telomerase RNA gene, is frequently found in CIN and cervical carcinoma and has prognostic properties in low-grade CIN. The aim of this study is to assess 3q26 gain as a prognostic biomarker in high-grade CIN lesions.

Method

Patients were extracted from a study database, consisting of patients with histologically confirmed high-grade CIN who were conservatively managed for a median period of 16 weeks, after which they underwent loop excision. Punch biopsies taken at baseline were analyzed by fluorescence in situ hybridization to determine the 3q26 gene copy number.

Results

Nineteen women were included in the study (table 1). Mean age and biopsy-cone interval did not differ between patients with and without disease regression. Gain of 3q26 was found in 16 out of 19 patients (table 2). All patients with disease persistence showed gain of 3q26, whereas all patients without 3q26 gain showed disease regression. The positive and negative predictive values of 3q26 gain for disease persistence are 63% and 100%, respectively.

Table 1. Patient characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Outcome, n=19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (in years (mean, interval))</td>
<td>31 (24-41)</td>
</tr>
<tr>
<td>Interval in days between initial colposcopy and surgical treatment (mean, interval)</td>
<td>77 (26-452)</td>
</tr>
<tr>
<td>Disease outcome after follow-up</td>
<td></td>
</tr>
<tr>
<td>- regression to ≤ CIN 1 (absolute, percentage)</td>
<td>9 (47%)</td>
</tr>
<tr>
<td>- persistence (absolute, percentage)</td>
<td>10 (53%)</td>
</tr>
<tr>
<td>High-risk HPV infection (absolute, percentage)</td>
<td>18 (95%)</td>
</tr>
</tbody>
</table>
Table 2. Gain of 3q26 in the study population

<table>
<thead>
<tr>
<th></th>
<th>Persistence of high-grade CIN</th>
<th>Regression of high-grade CIN</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gain of 3q26</td>
<td>10</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>No gain of 3q26</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>9</td>
<td>19</td>
</tr>
</tbody>
</table>

Conclusion

The absence of 3q26 gain may serve as a biomarker for the identification of high-grade CIN with a high probability of disease regression. Additional research in a larger patient population is necessary.
CERVICAL CANCER

ESGO7-1249

NON HODKING LYMPHOMA OF UTERINE CERVIX – A CASE REPORT.
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¹Hospital Santa Marcelina, Gynaecology, Sao Paulo, Brazil
²Hospital Santa Marcelina, Gynaecology, São Paulo, Brazil

Aims

Primary non Hodgkin lymphoma at young woman is report in this paper

Method

Case report of patient admitted at emergency room of Santa Marcelina Hospital on september 2016, diagnosed and treated at department of gynaecology oncology.

Results

Female genital tract lymphoma representing less then 1% of all extra nodal diseases. There is no consensus about treatment when the primary site is on the uterine cervix. Paps smears does not have specificity, so the definition of diagnosis preferably by incisional biopsy.

VMMS, 48 years old, submitted to a sub total hysterectomy by uterine mioma at 8 months ago, admitted at emergency room of Santa Marcelina Hospital with lombar pain and clinical condition suggestive of acute renal insufficiency; the tumor size at examination was 5 cm with positive bilateral infiltration of parametrium until pelvic wall and proximal infiltration of vaginal wall; CT scan revealed bilateral hydronephrosis, bulky and heterogenous cervical tumor. Incisional biopsy was performed, histopathology and immunochemistry revealed large cell b diffuse non Hodking’s lymphoma high grade(positive CD20, Ki-67, PAX-5) stage IIE, radiotherapy was performed 45Gy/25Fr at pelvis followed by chemotherapy.

Conclusion

The staging follow the extra nodal lymphoma protocols and depeps of the histological type, at present case the radiotherapy was the first option of treatment because the infiltration of parametrium was extensive, the rare incidence of this disease at cervix tend to difficult stabilish protocols of treatment.
CERVICAL CANCER

ESGO7-0513

ACCEPTABILITY AND THOUGHTS ABOUT MULTIPURPOSE HUMAN PAPILLOMAVIRUS VACCINES AND 2-DOSE HPV VACCINATION IN KOREAN MOTHERS OF ADOLESCENT GIRLS

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1The Catholic University of Korea, Obstetrics and Gynecology, Seoul, Republic of Korea
2The Catholic University of Korea, Obstetrics and Gynecology, Kyunggi Do, Republic of Korea

Aims

Cervical HPV infection is a common sexually transmitted infection. Most women are infected shortly after beginning their first relationship. In Korea, given the high priority of preventing HPV-associated cervical disease including cancers, HPV vaccines were integrated into national vaccination programs in 2016. Multipurpose vaccines (MPVs) could be formulated to prevent multiple sexually transmitted infections simultaneously. We aimed to assess the acceptability of hypothetical MPVs for STI/HIV prevention and 2-dose HPV vaccination, we conducted a mixed-methods study among adolescent vaccine providers and mothers of adolescent girls.

Method

We conducted in-depth interview with 30 physicians for the acceptability of MPVs for STI/HIV/HPV and 2-dose HPV vaccination. We conducted focus group discussion (FGD) with the 31 mothers of adolescent daughter. Focus group discussion (FGD) with 31 mothers of adolescent girls was done in 4 groups according to their daughter’s HPV vaccination status and social status.

Results

The research showed 71% of the mothers preferred single-purpose HPV vaccines over MPVs. Concerns about safety and efficacy was common barriers to accepting MPVs. MPV support was higher among mothers of vaccinated girls than unvaccinated girls (37.5% vs. 26.1%). Mothers with occupations were more vulnerable to information on vaccines. For the two-dose HPV vaccination, most mothers said “yes” because of convenience. Providers have positive attitude toward 2-dose vaccination and MPVs both.

Conclusion

In Korea, maternal acceptability of MPVs was relatively low. To increase the acceptability of MPV and two dose HPV vaccination, physicians provide parents with additional MPV vaccine safety and efficacy information.
CERVICAL CANCER

ESGO7-1116

THE CLINICAL UTILITY OF SENTINEL LYMPH NODE MAPPING IN THE CONSERVATIVE MANAGEMENT OF EARLY STAGE CERVICAL CANCER

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1University of Athens, 1st Obstetrics & Gynaecology Department- Division of Gyn/Oncology- Alexandra Hospital-, Athens, Greece
2University of Athens, Department of Hystopathology- Alexandra Hospital, Athens, Greece
3University of Athens, Department of Clinical Therapeutics- Alexandra Hospital, Athens, Greece

Aims

Lymph node (LN) metastasis is a critical attribute to prognose recurrence in cervical cancer (CaCx). Our aim consists of a single algorithm detecting the sentinel lymph nodes (SLNs) and combining SLNs status with individual metastatic factors as an enhancement in the conservative management of early stage CaCx.

Method:

Prospective study including patients with CaCx, stage IA1- IB2 (tumour size, TZ 0.5-3cm). Intracervical superficial injection of patent blue, after induction of anaesthesia, detection and removal of dyed LNs, sent for frozen section biopsy, bilateral pelvic lymphadenectomy/radical hysterectomy and correlation with final histopathology.

Results

Fifty five patients were included in our study. At least one SLN (range 0-6) was identified in 87.3% (48/55), whereas bilateral detection was succeeded in 78.2% (43/55). SLNs were located at the external (62.6%) or internal iliac region (11.2%), obturator fossa (16.1%), and ventral to the hypogastric vessels (10.1%), whereas 8.3% found in an unexpected area (parametrium) in certain cases. False negative SLN and micrometastasis was identified in only two cases (TS ≥2.2 cm). Frozen section biopsy was positive in 4 cases (4.3%) and the procedure was aborted. Sentinel lymph node sensitivity in detection of metastasis was 100 % for TS < 2.2 cm, LVSI negative and DOI ≤5 mm. Median follow-up was 18.2 months (range 1-32) and all patients remain without evidence of disease.

Conclusion

Our technique is established as adequate in clinical significance of SLN mapping in early stage cervical cancer and support a more conservative surgery with greater safety in cases with small tumours.
CERVICAL CANCER

ESGO7-0138

LYMPHOCELE FORMATION AND PREVALENCE AFTER RADICAL HYSTERECTOMY WITH PELVIC LYMPH NODE DISSECTION FOR CERVICAL CARCINOMA

S. Kovachev¹, A. Ganovska¹

¹Military Medical Academy, Gynecology, Sofia, Bulgaria

Aims

The objective of our study was to establish the frequency of pelvic lymphocele after radical hysterectomy with pelvic lymph node dissection for cervical carcinoma.

Method

Our study included 195 women (aged 32-75 years) with radical hysterectomy (Type C2) with systematic pelvic lymphatic dissection for histologically proven cervical carcinoma. Patients were followed up for the development of pelvic lymphocele at 20 and 40 postoperative days – clinically (for complaints) and with imaging tests: ultrasound and/or computerized axial tomography. Patients with established lymphocele over 4 centimeters in diameter or less, but with overt clinical complaints undergo a new surgical treatment for its removal.

Results

Of the 195 women included for postoperative examinations at 20 and 40 day after surgical treatment appeared only 180 (100%) women. Only their results are included in our research data. At 23 (12.8%) of all 180 (100%) women evolved, we find out lymphocele. Clinical complaints connecting with lymphocele have 11 (47.8%) women. Thirteen (56.5%) of the women included have lymphocele over 4 cm. In 18 (78.3%) of all women with lymphocele repeated surgery (endoscopic or classic abdominal) for removal of lymphocele was needed, for the possibility of follow-up therapy in conjunction with the underlying disease.

Conclusion

Lymphocelle is a common postoperative complication of radical pelvic surgery with systemic lymphatic dissection on the occasion of the female genital cancer diseases. For his prevention during surgical treatment should be thought or at the first postoperative examinations of women with or without certain clinical complaints.
OVARIAN FUNCTION AFTER RADICAL HYSTERECTOMY FOR CERVICAL CANCER WITH OVARIAN TRANSPOSITION

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Aims

The objective of our study is to investigate ovarian function after radical hysterectomy with ovarian preservation for cervical cancer.

Method

In our study we included 21 women aged 31-44 years with cervical carcinoma. All women undergo surgical treatment: radical hysterectomy (type C1) with pelvic (sometimes para aortic) lymph dissection and with ovarian preservation and transposition. At all of the women surgical treatment was follow by radiotherapy. Ninety days after we asked patients to come for gynecological exam with ultrasound (current and 10 days later) and hormonal status. Blood test for: estradiol, progesterone, luteinizing hormone, follicle stimulating hormone was taken. All of the patients answered questionnaire about sexual life and symptoms of menopause.

Results

From 21 (100%) women included, 9 (42.9%) have all signs (clinical, ultrasound, hormonal) of menopause. Three (14.2%) of patients have clinical symptoms (questionnaire) but not hormonal for menopause. The rest 9 (42.9%) of the patients have normal clinical, ultrasound and hormonal data. Blood hormonal test is the best indicator for ovarian steroids production lost and for occurred menopause. Sexual life problems have 11 (52.4%) of our patients.

Conclusion

Menopause and sexual life problems are very often among women after radical hysterectomy for cervical carcinoma even with ovarian preservation. This is most likely the result of post-operative radiotherapy.
CERVICAL CANCER

ESGO7-1377

REGIONAL HYPERTERMIA AND CHEMORADIATION IN ADVANCED CERVICAL CANCER PATIENTS WITH DIFFERENT TYPES OF PARAMETRIAL INVASION

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Aims

Objectives. Cervical cancer patients with deep parametrial invasion still have a very poor prognosis because of incomplete local response to chemoradiation (CHRT). Hyperthermia is known as the most effective sensitizer for radiation and chemotherapy, so its advantages were used to improve local control and treatment results in locally advanced cervical cancer patients (LACC) with different types of parametrial invasion.

Method

Methods. 35 pts, T2b−T4a LACC, parametrial invasion >1/2, were included, one side involved in 21 (60%), both − in 14 (40%) pts. Three main types of parametrial invasion were defined (US, MRI) – direct disease spread from cervix; metastatic lymph nodes and cancer lymphangitis – with different response to CHRT. Conformal EBRT (3D–CRT, IMRT) in 2Gy, 46–48Gy for pelvic or extended paraaortic fields, Cisplatin 40mg/m² or Carboplatinum AUC2 weekly and regional hyperthermia (Oncothermia) EHY-2000, 60-90’ 3 t/, 90-120Wt6 before irradiation, 10–13 per course.

Results

Results. 396 fractions of Oncothermia were performed in all included pts with no serious adverse events. Effects (RECIST 2.0): CR − in 8 (22,9%) pts, PR >70% – in 15 (42,8%), stable − 9 (25,7%) больных, progression ( paraaortic LN and liver)− 3(8,6%), no local progression. Observation mediana 22,6 mnth. DFS 88,5%.

Conclusion

Conclusion. Chemothermoradiation is effective ans safe way of treatment for advanced cervical cancer patients with deep parametrial invasion.
CERVICAL CANCER

ESGO7-1072

FURTHER DIAGNOSTIC AND THERAPEUTIC MANAGEMENT OF PATIENTS WITH ASC CYTOLOGICAL PAP FINDINGS

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Aims

The objective of this study was to determine diagnostic and therapeutic management in patients with ASC PAP findings.

Method

The samples from the Gynecology and Obstetrics Clinic, Clinical Center Nis that were analyzed in this study included 2820 PAP tests.

Results

In our samples, there were 3.93% ASC-US and 0.67% ASC-H findings. In 52 patients with ASCUS, colposcopic finding was normal, but in 53.15% patients cervical biopsy was performed since the colposcopic finding was abnormal, in 61% patients with performed biopsy the results were normal, meaning that in relation to the total number of ASC-US that were monitored, the benign findings was in 79.27%, 16.2% patients had CIN I – LSIL, 3.6% patients CIN II and only 0.9% patients had CIN III – HSIL. In patients with ASC-H finding of the PA test, benign pathohistological results were found in 42.1% cases, 31.5% patients had CIN I, 10.52% patients had CIN II, while 15.78% patients had CIN III – HSIL. So, there was a total of 26.3% HSIL findings. The results obtained showed statistically significantly higher percentage of HSIL in the group of patients with ASC-H findings in comparison to the group with ASC-US findings.

Conclusion

Patients with ASC require individual approach in monitoring and further treatment. A high percentage of benign histopathological results in patients with ASC-US necessities the employment of the expectation approach. Patients with ASC-H smear have a high percentage of SIL on biopsy, so these patients with pathological colposcopic findings require a more active approach.
CERVICAL CANCER

ESGO7-0165

EXPLORING IMMUNE REGULATORY NETWORKS CONTRIBUTING PRECANCER AND EARLY-STAGE CERVICAL CANCER PROGRESSION

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Aims

Regulatory relationships between diverse types of cells involved in tumor-induced immune reactions are being successfully studied at molecular level using various experimental approaches. In an organism, these simultaneously acting mechanisms form a complex immune regulation network that may differ from experimental systems and thus requires special investigation for each type and stage of cancer. In this sense, cervical cancer-associated alterations in cellular immunity are one of the least understood.

Method

60 women with cervical intraepithelial neoplasia grade 3 or microinvasive cervical carcinoma and 30 healthy women were involved. Multicolor flow cytometry was used to phenotype peripheral blood lymphocytes from controls and patients before any treatment. Mathematical tools were applied to the results to explore putative relationships between functionally different types of circulating lymphocytes.

Results

We analyzed the percentages of several rare but having potent regulatory properties cell populations, specifically CD4 and CD8 regulatory T cells (CD25pos/highCD127dim/negFoxP3pos), regulatory natural killers (CD3negCD16dim/negCD56bright), and CD3bright (including CD56pos) populations, and observed statistically significant expansion of immunosuppressive cell types in cancer patients. Additional evidence of regulatory disbalance came from decreased CD8/CD4CD25FoxP3 T-cell and CD56dim/CD56bright NK-cell ratios. As a direct effect of this disbalance, upregulation of apoptotic markers in circulating T- and NK-cell subsets was evaluated. Another feature of altered activation status of T cell subpopulations was found to be Stimulator of Interferon Genes expression.

Conclusion

Statistical analysis suggested systemic alterations of regulatory networks affecting different immune cell subsets may contribute the earliest stages of cervical cancer progression. The work was supported by the Russian Scientific Foundation (project No.17-15-01024).
ADJUVANT TREATMENT STRATEGY AFTER RADICAL SURGERY OF LOCALLY ADVANCED CERVICAL CANCER WITH NEoadjuvANT CHEMOTHERAPY

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Aims

The aim of this study is to evaluate a proper adjuvant therapeutic strategy in patients who have locally advanced cervical cancer (LACC) after neoadjuvant chemotherapy (NACT).

Method

Between June 2005 and October 2015, forty-nine patients who had locally advanced cervical cancer (LACC) IB2-IIB were eligible for radical surgery after neoadjuvant chemotherapy (NACT).

Results

The 35 patients who received adjuvant treatment, which included chemotherapy (7, 20%), radiotherapy alone (3, 8.6%), or concurrent chemoradiotherapy (25, 71.4%). The eleven of the fourteen patients were divided into the two groups. Group A, did not have any risk factors for adjuvant therapy and who does not meet the Sedlis criteria. The other three patients, group B, received adjuvant therapy who had have parametrial invasion microscopically or LN metastasis microscopically. Among group A, the nine patients did not receive an adjuvant therapy and the other two patients received adjuvant treatment though they had no risk factors on base of the final pathologic report, because of dependence on the initial high stage before NACT. The group B, all three patients received adjuvant therapy. Consequently, total five patients were in the adjuvant group after NAC followed by radical surgery. The comparison analysis showed no significant difference between the adjuvant treatment group and the no-adjuvant treatment group in the recurrence and survival data (p value=0.23).

Conclusion

In the patients who had radical surgery with NACT, our study suggests that a proper and clear practical guideline of adjuvant therapeutic strategy should be necessary in patients with remarkable changes after radical operation following neoadjuvant chemotherapy.
LAPAROSCOPIC RADICAL HISTERECTOMY: A SINGLE INSTITUTION EXPERIENCE

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Aims

Laparoscopic radical hysterectomy is a widely accepted operative treatment of early stage cervical cancer. Our aim was to analyze retrospectively our initial results and the feasibility of this technique.

Method

Between July 2016 and April 2017 we performed laparoscopic type-C radical hysterectomy and pelvic lymphadenectomy in ten patients with early stage (IA2-IIB) cervical cancer.

Results

The mean operation time was 165 min (range, 135-198). During surgery, the average decrease in hemoglobin and hematocrit levels was 20.3 g/L and 0.07, respectively. The average width of parametrial resection was 3.7 cm and the mean lymph node count was 16.3. There was no conversion to laparotomy. One intraoperative urinary bladder injury occurred and treated laparoscopically at the same time. No postoperative complications higher than grade 2 occurred according to the Clavien-Dindo classification. The mean hospital stay was 4.7 days.

Conclusion

According to our initial results, introduction of laparoscopic radical hysterectomy is a feasible approach to change practice in surgical treatment of early stage cervical cancer. It is associated with low blood loss and short hospitalization. In addition, it is a safe and effective technique for staging and treating cervical cancer. In comparison to open surgery, pathological evaluation suggests non-inferior prognosis, but further analysis is required to assess long term outcome measures.
CERVICAL CANCER

ESGO7-0379

DECISIONAL VALUE OF PRETHERAPEUTIC LAPAROSCOPIC EXTRAPERITONEAL ILIO-PARAAORTIC (EL-PALND) VERSUS PET-CT IN LOCALLY ADVANCED CERVICAL CARCINOMAS (LACC)

E. Leblanc, F. Narducci, D. Hudry, L. bresson, Y. Borghesi, S. Taieb, A.S. Lemaire, A. Lesoin, H. Gauthier

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Aims

Management of LACC (FGO stage IB2-IVA) is usually based on definitive chemoradiation therapy (CRT), tailored upon the results of pretherapeutic imaging (MRI, CTscan and/or PET-CTscan). As accuracy of imaging is low especially in case of low-volume metastases. EL-PALND has been suggested to better define the indication and upper limit of CRT fields. To clarify the indications of this procedure, we prospectively compared the results of systematic pretherapeutic ilio-infrarenal EL-PARPLND to PET-CT in LACC patients with no contra-indication for surgery, nor evidence of distant metastasis.

Method

From 2005 to 2015, all consecutive LACC patients, with normal morphological imaging (MRI and/or CTscan), were submitted to hybrid PET-CTscan, systematically followed by an ilio-infrarenal EL-PARPLND. All PET-CT results were reviewed, then compared to those of pathological node dissections. This study was approved by our local IRB.

Results

207 informed LACC patients entered the protocol. 162 had a totally extra-uterine negative PET CT, 30 had external iliac only additional hot spots, 12 had common iliac/paraaortic and 2 distant hot spots. With a mean of 21 PA nodes, pathological involvement was found in 10/162 (6.1%), 12/40 (40%), 9/13 (70%) and 2/2 (100%) patients respectively. All except 7 had less than 5mm metastases. Overall morbidity of EL-PALND (all ≤ Clavien 3a) interested 54 (30%) patients with 50% lymphocysts, but none delayed CRT more than 2 weeks.

Conclusion

Given the significant rate of occult nodal involvement at PET-CTscan, EL-PALND seems an interesting option to tailor CRT fields, especially in case of negative PET-CT beyond the level of external iliac vessels.
CERVICAL CANCER

RISK SCORING SYSTEM FOR THE PREOPERATIVE ESTIMATION OF PELVIC LYMPH NODE METASTASIS IN PATIENTS WITH FIGO STAGE IA-IIA CERVICAL CANCER

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2University of Ulsan College of Medicine- Asan Medical Center, Department of Obstetrics and Gynecology, Seoul, Republic of Korea

Aims

To develop a risk scoring system (RSS) for preoperative estimating pelvic lymph node (PLN) metastasis in patients with the International Federation of Gynecology and Obstetrics (FIGO) stage IA-IIA cervical cancer.

Method

A total of 255 patients with FIGO stage IA-IIA cervical cancer undergoing hysterectomy and PLN dissection from January 2013 to January 2016 were included retrospectively reviewed. Model-development cohort (n=162) and validation cohort (n=93) were composed according to the date of operation; pre- and post-2015, respectively. Univariate and multivariate analyses of preoperative clinicopathological factors were performed to identify predictors for PLN metastasis, and a RSS was developed and validated.

Results

Multivariate analysis with backward elimination method identified PLN metastasis assessed by 18F-fluorodeoxyglucose positron emission tomography/computed tomography (18F-FDG PET/CT, odds ratio [OR] 8.423; 95% confidence interval [CI] 3.295-21.513; P<0.001) as an independent predictor. And tumor size (OR 1.327; 95% CI 0.992-1.774; P=0.057) and cervical invasion depth (OR 6.360; 95% CI 0.809-49.989; P=0.079) appeared to be marginally significant. The concordance indices of the RSS including these three predictors were 0.850 (95% CI 0.788-0.912) in the model-development cohort and 0.749 (95% CI 0.648-0.851) in the validation cohort, respectively. RSS-predicted probabilities of PLN metastasis revealed good agreement with observed probabilities in calibration plots of both datasets.

Conclusion

We developed the RSS for preoperative estimation of PLN metastasis in patients with FIGO stage IA-IIA cervical cancer. After external validation, it could provide valuable information for predicting the risk of PLN metastasis to gynecologic oncologists before surgery.
CERVICAL CANCER

USE OF A COGNITIVE COMPUTING SYSTEM FOR TREATMENT OF CERVICAL CANCER

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²Kyoung-Hee University Hospital, OBGY, Seoul, Republic of Korea

Aims

IBM Watson for Oncology (WFO) is a Memorial Sloan Kettering Cancer Center-trained cognitive computing system that uses natural language processing (NLP) to provide oncologists with ranked, evidence-based treatment options for cancer. WFO treatment options are presented in three categories: "Recommended", "For Consideration" and "Not Recommended". This study examined the concordance of cervical cancer adjuvant treatment options between WFO and our institute treatment from Gachon University Gil Medical Center (GMC), Incheon, South Korea.

Method

Gynecologic oncologists at GMC retrospectively enrolled patients with FIGO stage I to II cervical cancer who underwent surgical treatment between 2014 and 2016. Cases were processed in blinded fashion using WFO, and the output was compared to our institute recommendations. WFO treatment options were considered concordant when the GMC recommendation was included in the "Recommended" or "For Consideration" categories provided by WFO.

Results

Overall, treatment recommendations were concordant in 82 (71.9%) of the 114 evaluated cervical cancer cases. Of 50 patients treated in the adjuvant setting, 30 (60%) of treatment recommendations were concordant. 17 patient received adjuvant chemotherapy and it was unknown treatment option in WFO system. Patients with metastatic and recurrent (central/locoregional) disease were not supported by WFO system yet.

Conclusion

Treatment options suggested by WFO were concordant with the GMC treatment in the majority of cervical cancer patients treated in the adjuvant setting. Further analysis about recurrent and metastatic setting is needed. Geography-specific customization in WFO is needed and it may be helpful for physicians and patients to benefit from WFO worldwide.

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CERVICAL CANCER

ESGO7-1374

PREDICTIVE VALUE OF P16/KI-6DUAL-STAINED CYTOLOGY FOR THE PROGRESSION OF CERVICAL DYSPLASIA

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Aims

The objective of this study was to investigate the predictive value of p16/Ki-67 dual-stained cytology for the progression of disease.

Method

Cytology p16/Ki-67 dual-staining test was performed on 250 liquid-based residual samples from a cohort of women with ASC-US/LSIL and co-testing human papillomavirus (HPV) positive. Study end points were atypical squamous cells-cannot exclude high-grade lesion (ASC-H) or high-grade squamous intraepithelial lesion (HSIL) detection in 1 and 2 year’s follow-up.

Results

Positivity of p16/Ki-67 dual stained cytology was well correlated to progression of disease compared with positivity of HPV 16/18. During 1 year follow-up, 23 of 250 women experienced progression of disease into ASC-H or HSIL. For positivity of p16/Ki-67 dual stained cytology, Sensitivity (60.9%) for the detection of ASC-H or HSIL and specificity (81.5%) for normal or low grade cytology was higher than those of HPV 16/18 tests (13.0% and 89.0%, respectively) (p<0.001). During 2 years follow-up, 11 of 190 women experienced progression of disease into ASC-H or HSIL. For positivity of p16/Ki-67 dual stained cytology, Sensitivity (45.5%) for the detection of ASC-H or HSIL or specificity (82.1%) for normal or low grade cytology was also higher than those of HPV 16/18 tests (18.2% and 89.9%, respectively) (p=0.025).

Conclusion

p16/Ki-67 dual stained cytology could provide both high sensitivity and specificity for the prediction of ASC-H or HSIL in Pap cytology in the future. Positive p16/Ki-67 dual-stained cytology in low grade cytology was highly associated with the progression of disease in 1 or 2 years follow-up.
CERVICAL CANCER

ESGO7-0882

FERTILITY-SPARING SURGERY FOR YOUNG PATIENTS WITH RARE TUMORS INVOLVING THE UTERINE CERVIX

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Aims

The surgical radicality and oncological safety of abdominal radical trachelectomy for patients with cervical cancer has been widely acknowledged. However, whether ART could be offered to young patients who have rare tumors involving the uterine cervix is largely unknown. Here we presented our data, discussing proper selective criteria for fertility-sparing surgery in those patients.

Method

We conducted a retrospective review all patients underwent fertility-sparing surgery for rare tumors involving the uterine cervix at our institution from 08/2006 to 01/2017.

Results

Thirteen patients with rare tumors were included in this study. All patients presented with favorable outcomes except for one distant metastasis. One lady with botryoid sarcoma had tumor metastasized to her left kidney and vertebra 5 years after her primary treatment. However, there was no evidence of local recurrence. Patient characteristics were listed in Table 1 and details of all 13 patients were described in Table 2.

Table 1. Patients Characteristics

<table>
<thead>
<tr>
<th>Median Age, years</th>
<th>36.5 (12-60)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follow-up months</td>
<td>60 (12-120)</td>
</tr>
<tr>
<td>Histology</td>
<td>15</td>
</tr>
<tr>
<td>Botryoid sarcoma</td>
<td>7 (50.0%)</td>
</tr>
<tr>
<td>Adenocarcinoma</td>
<td>5 (38.1%)</td>
</tr>
<tr>
<td>Clear cell carcinoma</td>
<td>2 (15.4%)</td>
</tr>
</tbody>
</table>

Table 2. Details of All 13 Patients Underwent Fertility-sparing Surgery

<table>
<thead>
<tr>
<th>Patient No.</th>
<th>Age</th>
<th>Histology</th>
<th>Treatment</th>
<th>Distant Metastases</th>
<th>Survival Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>22</td>
<td>Adenocarcinoma</td>
<td>Chemotherapy</td>
<td>No</td>
<td>Alive</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>Adenocarcinoma</td>
<td>Chemotherapy</td>
<td>Yes</td>
<td>Dead</td>
</tr>
<tr>
<td>3</td>
<td>69</td>
<td>Adenocarcinoma</td>
<td>Chemotherapy</td>
<td>No</td>
<td>Alive</td>
</tr>
<tr>
<td>4</td>
<td>75</td>
<td>Adenocarcinoma</td>
<td>Chemotherapy</td>
<td>Yes</td>
<td>Dead</td>
</tr>
<tr>
<td>5</td>
<td>85</td>
<td>Adenocarcinoma</td>
<td>Chemotherapy</td>
<td>Yes</td>
<td>Dead</td>
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</tbody>
</table>

Table 2: Details of All 13 Patients Underwent Fertility-sparing Surgery

Table 3. Details of All 13 Patients Underwent Fertility-sparing Surgery

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<td>Adenocarcinoma</td>
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</tr>
</tbody>
</table>

Conclusion

Although the very patient who died in our study had tumor metastasis to her kidney and died, we found in properly selected cases of rare cervical malignancies, conservative surgeries without compromising in survival were feasible. Abdominal radical trachelectomy appeared to secure local disease control well and may be considered an alternative to hysterectomy in some young patients with rare tumors involving the uterine cervix. For patients who require adjuvant chemotherapy after fertility-sparing surgery, more attention should be paid to maintain ovarian function.
PATHOLOGICAL ULTRASTAGING OF SENTINEL AND NON-SENTINEL LYMPH NODES CAUSES STAGE MIGRATION IN EARLY STAGE CERVICAL CANCER

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3University of Gdansk- Faculty of Management, Statistics, Sopot, Poland
4Gdansk University of Technology- Faculty of Chemistry, Chemical Technology, Gdansk, Poland

Aims

The aims of study were to assess the impact of pathological ultrastaging (PU) processing on postoperative staging (TNM system) and to assess influence of PU on prognosis of patients with early stage cervical cancer according to International Federation of Gynecology and Obstetrics (FIGO) classification (IA2-IB1).

Method

In the study group (n1=27 patients) at least one sentinel lymph node (SLN)/patient was detected with blue dye. All extracted LNs in this group were subjected to PU (4 µm slices/150 µm intervals) with hematoxylin-eosin staining and immunohistochemistry (AE1-AE3 antibodies). Control group (n2=27 patients) had no SLN concept used nor PU. All patients underwent radical hysterectomy and systemic lymphadenectomy. Effect of PU in „n1” group was expressed as (pu)TNM and compared to FIGO classification. Disease-free (DFS) and overall survival (OS) were calculated for PU LN-event (isolated tumor cells, ITC, micrometastases, MICs, or macrometastases, MACs), PU LN-non-event and „n2” groups in median time of 4.2 years.

Results

Five-hundred-sixteen LNs were extracted (66 SLNs, 36% bilaterally). MIC or ITC were detected in 34 of 482 LNs (7.1%). False negative rate was 11.2%. PU revealed 5 cases of inconsistency between FIGO and (pu)TNM. Both N and M features were changed in two separate cases (from pN0 to puN1 - detection of MIC in pelvic nSLN, and pMx to puM1 - MIC in para-aortic nSLN). No differences in DFS and OS were found for any of the groups.

Conclusion

Underestimation of stage (staging bias) by FIGO classification in early stage cervical cancer, disclosed in PU, has no predictive nor prognostic significance.
CERVICAL CANCER

ESGO7-0070

CERVICAL CARCINOMA IN THE LAST 6 YEARS IN CHUH
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Aims

Determine the incidence of cervical cancer from January 2010 to January 2016 in our hospital, differentiating cases of pathology anatomy of invasive, microinvasive, and in situ carcinoma.

Method

Retrospective study of pathological anatomy in women diagnosed carcinoma of the cervix in the last 6 years.

Results

We diagnosed a total of 126 cases of cervical carcinoma at different stages of development, and different histological types. The annual incidence is comparable to that of other hospitals of the same level of care.

Of the 126 cases of cervix cancer, is observed in the majority of cases (115 cases = 91%) corresponds to the subtype histology of epidermoid carcinoma; 3 corresponds to endometrioid carcinoma (= 3.78%), 2 cases corresponds to serous. The rest of de cases belong to an other minor histological subtypes.

Conclusion

It has been shown that epidermoid subtype is the most common and is related to the invasion of epithelium of VPH.

The process of cervical cancer is periodically evaluated by a multidisciplinary working group comprising the heads of the same in the various Units. Given the natural history of cervical cancer is necessary to wait for developments in the coming years.
CERVICAL CANCER

ESGO7-0087

POSTOPERATIVE CLINICOPATHOLOGICAL FACTORS AFFECTING CERVICAL ADENOCARCINOMA: STAGE I-IIB
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Aims

Currently, cervical adenocarcinoma receives the same, but not suitable, standard treatments as squamous cell carcinoma. The present study was conducted to discriminate the prognostic role of postoperative clinicopathological factors in patients with stage I–II B cervical adenocarcinoma.

Method

All consecutive patients consisted of 312 patients with stage I to IIB cervical adenocarcinoma who underwent radical hysterectomy, including pelvic lymphadenectomy, at our institutions between Oct. 2006 and Sept. 2014. Overall survival and relapse-free survival was analyzed by the Kaplan–Meier method. Sites of recurrence were classified as local and distant locations.

Results

The 5-year OS and RFS rates were 88.2% and 83.8%, respectively. And the 5-year OS rates for patients with FIGO stage IA, IB, IIA, and IIB were 100.0%, 90.7%, 82.8%, and 55.6%, respectively, in adenocarcinoma. Cox model identified No. of positive pelvic nodes and Age at surgery as independent prognostic factors for survival, and No. of positive pelvic nodes and post-operation tumor diameter (4cm) as independent prognostic factors for relapse. 35 women suffered a cancer recurrence. The top three recurrence sites were pelvis, vaginal stump and lung.

Conclusion

A more aggressive therapeutic strategy, which was different from current adopted for cervical cancer, is urgently required for cervical adenocarcinoma. As a new prognostic factor, post-operation tumor diameter should be paid special attention in adenocarcinoma treatment.
THE EFFICACY AND TOXICITY OF THREE DIFFERENT CONCURRENT CHEMORADIOThERAPY IN LOCALLY ADVANCED CERVICAL CANCER: A PRELIMINARY REPORT.

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Aims

To observe the clinical effects and toxicity of three concurrent chemotherapy regimens in the radiotherapy of advanced cervical cancer.

Method

Between April 2014 and December 2015, 105 patients with FIGO stage IIB-IIIB cervical cancer were treated with concurrent chemoradiotherapy in Zhejiang Cancer Hospital, and all cases were randomly divided into three groups. Group A (35 cases), received cisplatin weekly for 4-5 cycles. Group B (35 cases), received fluorouracil and cisplatin combined chemotherapy every three weeks for 2 cycles. Group C (35 cases), received paclitaxel and cisplatin combined chemotherapy every 3 weeks for 2 cycles. Then record acute adverse reaction and observe the short-term efficacy of all patients.

Results

The complete remission rate of the three groups were 88.6%, 82.9%, 82.9%, the partial remission rate were 11.4%, 17.1%, 11.4% at one month after radiotherapy. The complete remission rate was 97.1%, 97.1%, 94.3% at three months after radiotherapy, there were no significant difference (P > 0.05). The main acute adverse reactions were bone marrow suppression and gastrointestinal reactions. Grade 3-4 leucopenia and neutropenia incidence were more common in paclitaxel and cisplatin group. Grade 3-4 nausea-omitting, diarrhea and intestinal obstruction were more common in fluorouracil and cisplatin group (P < 0.05).

Conclusion

The short-term efficacy of the three concurrent chemotherapy for the treatment of advanced cervical cancer were similar. The paclitaxel and cisplatin group arises more severe bone marrow suppression. The fluorouracil and cisplatin group arises more severe gastrointestinal reactions.
CERVICAL CANCER

ESGO7-0537

COMPARISON BETWEEN ROBOT-ASSISTED AND LAPAROSCOPIC PARA-AORTIC LYMPHADENECTOMY IN 217 PATIENTS WITH LOCALLY ADVANCED CERVICAL CANCER

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Aims

To compare robot-assisted (RPAO) with laparoscopic (LPAO) para-aortic lymphadenectomy in patients with locally advanced cervical cancer (LACC).

Method

In this monocentric retrospective study, we included 217 patients with LACC (FIGO-stage IB2-IVA or IB1 with suspicious pelvic LN), who underwent a para-aortic lymphadenectomy up to the inferior mesenteric artery (LPAO,N=162; RPAO,N=55) between 1994-2016 (RPAO starting from December 2012).

Results

Median age for LPAO and RPAO respectively (53 years vs 49 years), BMI (24,7 vs 24,4) were similar. FIGO-stage for RPAO was IB1, IB2, IIA, IIB and IV15%, 6%, 17%, 53%, 9% and 0, and for LPAO5%, 12%, 23%, 44%, 14% and 2%, respectively. In RPAO and LPAO 85% and 83% were squamous carcinomas, respectively. RPAO had a higher ASA-score (ASA2: 62% vs 56% and ASA3: 20% vs 2%, p<0.001) and more prior major abdominal surgery (18% vs 6%, p:0.016), less estimated blood loss (median, 25,0 mL vs 62,5 mL, p<0.001), more removed PAO LNs (11 vs 6, p<0.001) and shorter postoperative stay (1,8 vs 2,5 nights, p:0.002), and a tendency for more patients with metastatic PAO LNs (13% vs 5%, p:0,065), compared with LPAO respectively. There was no difference in complications. Overall survival (OS), progression free survival (PFS) and time-to-progression were similar.

Conclusion

RPAO resulted in less blood loss, shorter postoperative hospitalization, higher amount of sampled PAO LNs and tendency for a higher number of positive PAO LNs compared to LPAO.

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CERVICAL CANCER

ESGO7-0023

IMPACT OF VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) AND HYPOXIA – INDUCIBLE FACTOR-1ALPHA (HIF-1) EXPRESSION ON RESPONSE TO RADIO-CHEMOTHERAPY IN PATIENTS WITH LOCALLY ADVANCED CERVICAL CARCINOMA.

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Aims

Combination of radiotherapy plus platinum-based chemotherapy (RT-CT) is considered the standard treatment in locally advanced cervical carcinoma (LACC).

Aims: To identify clinical and molecular variables with predictive value of response to RT-CT in LACC.

Method

Expression of VEGF and HIF-1 was assessed by an immunohistochemistry (IHC) assay in 115 patients (p). Correlation of both parameters with response was measured using the chi-squared test. To evaluate the impact of the rest of variables on the probability of complete response (CR) to RT-CT uni- and multivariate analysis were performed. The following variables were included: Age, Performance Status, Histology, Hemoglobin levels (basal, nadir, post-treatment), CA 125 (basal, post-treatment), p16, CD31 and p53.

Results

By stage, 34p IB2-IIA, 59p IIB and 22p III-IVA. All were treated with RT-CT between January/2003-December/2012. IHC revealed absence of expression of VEGF in 12p, slightly positive (+) in 34p, moderate (++) in 30p and strongly positive (+++) in 39p. The expression of HIF-1 was negative in 63p and positive (weak or moderate) in 52p.

Absence or weak expression of VEGF were significantly correlated with a CR to RT-CT and strong expression with non CR (p<0.001). The absence of expression of HIF-1 was significantly correlated with a CR and weak/moderate expression to non CR (p=0.01). VEGF and HIF-1 maintained their statistical significance in the multivariate analysis along with basal hemoglobin and CA 125 post-treatment.

Conclusion

IHC-assessed low expression of VEGF and absence of expression of HIF-1 were independent predictors of CR in patients with LACC treated with RT-CT. IHC determination of VEGF and HIF-1 could be useful in clinical practice.
THE USE OF INTENSITY MODULATED RADIOTHERAPY AS A MEANS OF REDUCING DOSE TO BONE MARROW FOR PATIENTS WITH CANCER CERVIX TREATED AT NCI, CAIRO, EGYPT

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4Radiation Physics Department, National Cancer Institute, Cairo University, Egypt

Purpose: In this study, our aim is to make the BM as organ at risk in the treatment planning process to reduce the irradiated bone marrow volume in cases treated for cancer cervix.

Patients and methods: At the NCI, Cairo, Egypt, C-T simulation was done for thirteen patients with cervix cancer with contrast and full bladder. The clinical target volume was contoured on axial CT slices consisting of the upper one-half of the vagina, parametria, uterus, cervix, presacral region, and regional lymph node regions (common, internal, and external iliac lymph nodes). 1cm margin was added around the clinical target volume to form the planning target volume. The organ at risk (OAR) included the bladder and rectum. Also, the external contour of the pelvic bones was delineated to define the Bone marrow (BM).

Four plans were done for every patient with AP/PA, 3DCRT, IMRT, BMS-IMRT.

Results: BMS-IMRT reduced the BM volume receiving dose 20, 30, 40 and 45 Gy compared with 3DCRT and IMRT plans. A significant reduction in V20 BMS-IMRT compared with 3DCRT (P< 0.03). The PBM volume receiving 5, 10 and 20Gy with AP/PA was lower than BMS-IMRT (p < 0.01, p <0.001 and p <0.04 respectively). BMS-IMRT provided a significant reduction in the rectum and bladder volumes received 40 and 45 Gy compared with AP/PA and 3DCRT planning techniques.

Conclusion: BMS-IMRT reduced the BM volume compared to other techniques as 3DCRT and AP/PA without compromise in target volume coverage. More-over it reduces also the volume of the rectum and bladder irradiated.
CERVICAL CANCER

ESGO7-1141

STEWART-TREVES SYNDROME (ANGIOSARCOMA ON LYPHOEDEMA): A RARE COMPLICATION OF LYPHOEDEMA


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Aims

Stewart-Treves syndrome (SST) or former lymphangiosarcoma is a rare complication of chronic lymphoedema mainly related to the breast cancer (90% of cases). It is extremely uncommon in the lower extremities. The aim of this study is to report a case of angiosarcoma in the lower extremity after cervical cancer.

Method

We report a case of angiosarcoma diagnosed and treated at Salah Azaiez institute in 2017.

Results

Here, we present the case of a 66-year-old female patient with bulky squamous-cell cervical carcinomas (stade II A of Figo). She underwent chemotherapy, radiotherapy and brachytherapy, followed by radical hysterectomy with bilateral pelvic lymphadenectomy in 2005. She had chronic lymphedema of the lower extremities. Twelve years after she developed multiple confluent, hemorrhagic and necrotic elevated purple-black papules in the right lower extremity. The biopsy was performed. The pathology results of the punch biopsies were consistent with angiosarcoma. The CT body scan didn’t show any metastatic lesion. The patient underwent acetabulum desarticulation.

Conclusion

This is a rare complication that usually occurs in the arms of women with breast cancer who underwent mastectomy with lymph node dissection. We report a rare case of angiosarcoma of lower extremity. The treatment is based on a wide excision associated with radiation therapy. However the risk of local recurrence and especially of metastases (lungs and bones) is important. The prognosis remains poor with a 5-year survival rate of 10%.
CERVICAL CANCER

ESGO7-1162

EFFECTIVENESS OF NATIONAL HUMAN PAPILLOMAVIRUS VACCINATION PROGRAM FOR JAPANESE YOUNG WOMEN

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3Yokohama city University, Obstetrics and Gynecology, Yokohama, Japan

Aims

In Japan, human papillomavirus (HPV) vaccinations became public aid from 2010 and subsequently became routine for girls aged 12–16 years from April, 2013. However, after extensive news of adverse vaccine events and suspension of the governmental recommendation in June 2013, inoculation rate of HPV vaccine dramatically decreased. The present study was aimed to investigate the effectiveness of national human papillomavirus vaccination program for Japanese young women.

Method

We recruited 20-22 years old females who attended the public cervical cancer screening program from April 2014 to March 2017 in Niigata, Japan. HPV testing was performed using HCII® (Qiagen) and TM HPV kit® (MEBGEN) and questionnaire about HPV vaccination was conducted. A Chi-square test was used in this statistical analysis.

Results

HPV testing was performed to a total of 2196 registrants and 1972 women replied to questionnaire. A total of 1297 (65.8%) participants self-reported they were vaccinated, and 675 (34.2%) were unvaccinated. High risk HPV infection rate was 11.6% in vaccinated group and 15.9% in unvaccinated group, respectively. The prevalence of vaccine types 16 and 18 was significantly lower in vaccinated group (0.2%) than in unvaccinated group (1.8%; p = .0004). Similarly, the prevalence of HPV 31,33 and 45 which are cross-protected by HPV bivalent and quadrivalent vaccination was significantly lower in vaccinated group (0.3%) than in unvaccinated group (1.5%; p = .008).

Conclusion

Our study demonstrates evidence of high effectiveness of national HPV vaccination program in Japanese young women. National vaccination encouragement should resume as soon as possible.
THE VALUE OF THE PET/TC AND MRI IN THE LYMPH NODE STUDY IN THE LOCALLY ADVANCED CERVICAL CANCER.

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Aims

Lymph node (LN) status is one of the main prognostic factors in cervical cancer (CC). Surgical evaluation of LNs in patients with locally advanced cervical cancer (LACC) is the gold standard to analyze LN status. Pretreatment evaluation of the LN through imaging techniques might be a good alternative to surgery. However, the adequacy of avoiding lymphadenectomy in patients with LACC by using imaging is controversial. The aim of this study is to compare the accuracy of magnetic resonance imaging (MRI) and positron emission computed tomography (PET/TC) to evaluate LN status in patients with LACC.

Method

Between 2011 and 2015, 14 patients diagnosed with LACC at Hospital Clinic of Barcelona underwent PET/TC, MRI and paraortic lymphadenectomy, 12 women underwent also pelvic lymphadenectomy. Sensitivity and specificity of PET/TC and MRI were analyzed.

Results

PET/TC showed a sensitivity and specificity of 55.6% and 60%, respectively. Sensitivity and specificity of MRI was 33.3% and 80%, respectively (table 1). In the pelvic area, the MRI showed higher sensitivity and specificity than PET/TC (71.4% and 80% vs. 42.9% and 60% respectively). In the paraaortic area, the sensitivity and specificity of MRI was 50% and 87.5%, respectively vs. 66.7% and 75%, respectively of the PET/TC.

<table>
<thead>
<tr>
<th>LN histological status</th>
<th>PET/TC</th>
<th>MRI</th>
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</thead>
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<tr>
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<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Positive</td>
<td>2</td>
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</tr>
<tr>
<td>Negative</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Positive</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 1.

Conclusion

The accuracy of PET/TC and MRI to evaluate LN’s status in patients with LACC do not allow us to avoid the surgical evaluation of the lymph node. Larger studies are warranted.
CERVICAL CANCER

ESGO7-0372

OUTCOMES FOLLOWING BY RADICAL HYSTERECTOMY TYPE IN THE TREATMENT OF CERVICAL CANCER

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Aims

To study the long-term outcomes of the radical hysterectomy (RH) in patients with cervical cancer (CC)

Method

Retrospective study included 40 patients underwent RH: 5 cases B1 type, 7 C1 type, 27 C2 type (nerve sparing) and 1 case D1 type (pelvic exenteration); combined with 31 pelvic lymphadenectomy (PL) and 6 PL and paraaortic lymphadenectomy. The histological type was the squamous carcinoma (47.5%) and adenocarcinoma (42.5%). The frequent stages of presentation were stage IB1 (60%). Three-year overall survival (OS) and a disease-free survival (DFS) was performed using the Kaplan-Meier

Results

Statistical analysis between laparoscopic group (27 cases, 67.5%) and laparotomy group (12 cases) was: Mean hospital stay 4.5 vs 5.9 days (p 0.02), blood loss 910.6 vs 1216.1 cc (p 0.16) and mean resected pelvic nodes 27 vs 16.6 nodes (p 0.005) respectively. Overall complication rate was 17.5%; 2 bladder and one ureteral injury during C2 RH. Postoperative complications: 3 vesical dysfunction were observed in C1 RH and ureteral fibrosis in C2 RH group. Median follow-up in the study group was 48.4 months. The frequency of local or loco-regional recurrences of CC were diagnosed in 7 patients (17.5%) and DFS was 12.7 months: 5 patients in the group RHC2, 3 distant metastases and 2 local or loco-regional recurrences. The OS in different groups by RH type was B1 100%, C1 100%, C2 92%; D1 0%. Statistical analysis of OS in groups C1 RH and C2 RH showed no significant differences (log rank p 0.44)

Conclusion

Laparoscopic RH C1 type is safe
CERVICAL CANCER

ESGO7-1343

CERVICAL CANCER STAGE IB1 – OPPORTUNITY FOR SAFE AND LESS RADICAL SURGERY

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Aims

We evaluated patients that are candidates for less radical surgery with tumor smaller than 2 cm, but who were pathohistologically diagnosed with metastases in pelvic lymph nodes. We evaluated prognostic factors: lymphovascular invasion, histological grade of tumor and stromal invasion. The goal of this scientific work is determining most important prognostic factor which leads to occurrence of metastases in pelvic lymph nodes.

Method

This work included 147 patients who had pathohistological confirmation of plancellular carcinoma of cervix uteri stage I b1. All of patients had radical hysterectomy with pelvic lymphadenectomy. None of patients had preoperative conisation.

Results

29 patients (19.7%) were histologically diagnosed with metastases in pelvic lymph nodes. The average number of the removed lymph nodes was 15. 9 patients (9/29) had positive lymphovascular invasion. 6 (6/29) patients had histologic tumor grade 3. 7 patients had stromal invasion less than 1/3 and 12 patients had stromal invasion over 1/3. Data analysis shown that greatest number of patients that had metastases in the pelvic lymph nodes had stromal invasion over 1/3 with negative lymphovascular invasion.

Conclusion

To make a decision on less radicality, or conservative treatment, in addition to imaging procedure, to preoperatively evaluate prognostic factors that lead to the occurrence of metastases in the pelvic lymph nodes. Given that data from biopsy sample of the cervix alone cannot give data precise enough, the most important information is given by conisation, ex tempore during the surgery, and surgical / pathological scoring system within preoperative evaluations.
THE EFFECT OF CLINICAL GUIDELINES IMPLEMENTATION ON FIVE-YEARS SURVIVAL OF CERVICAL CANCER PATIENTS IN BELARUS
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Aims

In 1999 NCI recommended changes in treatment protocol for stages IIB-IVA cervical cancer from radiotherapy to concurrent chemoradiotherapy. In Belarus, these guidelines were implemented in 2007. We conducted statewide population-based study to analyze the impact of clinical guidelines on 5-years survival rates of patients with cervical cancer.

Method

14220 patients diagnosed with cervical cancer in 2000–2015 were identified from Belarusian Cancer Registry. Overall 5-years survival was compared in patients diagnosed in 2001-2007 and 2008-2015 (before and after guidelines implementation).

Results

5-years overall survival rate (2000-2015) was 0.583 (95% CI [0.575, 0.592]), with statistically significant difference in urban and rural patients (0.614 (95% CI [0.603, 0.624]) vs 0.511 (95% CI [0.504, 0.535]), p < 0.0001. Survival rates before and after implementation of guidelines did not prove to be significantly different (0.577 (95% CI [0.565, 0.589]) vs 0.595 (95% CI [0.582, 0.608]), p = 0.194. When analyzed by cancer stage survival rate after guidelines implementation did not change for stage I, was 5% lower for stage II (0.576 (95% CI [0.556, 0.597]) vs 0.521 (95% CI [0.499, 0.545]), p = 0.007, and was 10% higher for stage III (0.280 (95% CI [0.256, 0.306]) vs 0.395 (95% CI [0.365, 0.428]), p < 0.001.

Conclusion

There was no difference in 5-years survival rates in patients treated for cervical cancer before and after implementation of NCI clinical guidelines in Belarus in 2007. These results must be reevaluated in 2020 when all patients included in this study can be assessed for 5-years survival.
CERVICAL CANCER

ESGO7-0395

DISTINCTIVE FEATURES OF UNRESECTABLE UTERINE CERVIX CANCER IN BELARUS

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Aims

Distinctive features of unresectable uterine cervix cancer (UCC) in patients from Minsk City over the period of 2012-2016 were evaluated on the data of the National Cancer Registry.

Method

Annual incidence rates, stage distribution, tumor histotypes, age distribution were assessed in 324 UCC patients; antitumor therapies, the number of relapses and metastases were also studied.

Results

Stage IIB cancer incidence varied from 3.8 to 1.9/0000, stage III – from 3.2 to 2.3/0000, stage IVA – from 0.4 to 0.7/0000, accounting for 7.4-4.2/0000 in 2012-2016. Squamous-cell carcinoma was diagnosed in 79.6% of the cases, adenocarcinoma in 12.6%, rare histotypes in 7.8%.

UCC was detected in 94 (29.0%) young women. Squamous-cell carcinoma was in 86.7% of them, adenocarcinoma in 10.0%. Stage IIB was diagnosed in 43 (45.7%) patients of this group, stage III in 49 (52.2%), stage IVA in 2 (2.1%).

The patients were treated with combined split-course (38.3%) and continuous course (26.2%) radiotherapy and external-beam radiation (35.5%).

Recurrence was less common than metastatic disease: 7.7% vs 36.4%. The number of the latter was associated with UCC stage: the metastatic rate for stage IIB was 23.3%, for stage III 43.1%, for stage IVA 62.5%. Relapses were more common with stage IIB UCC (9.0%).

Conclusion

Young women account for 29.0% of all UCC patients with stages III and IVA occurring in 54.3% of the cases. Recurrence after UCC treatment is diagnosed less common than metastatic disease. The latter develops in 23.3% of stage IIB patients, in 43.1% with stage III, and in 62.3% with stage IV.
CERVICAL CANCER

ESGO7-1173

DIFFERENT OPTIONS OF FERTILITY-SPARING TREATMENT FOR EARLY STAGE CERVICAL CANCER: CASE SERIES
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²NN Alexandrov National Cancer Centre, Medical Oncology Department, Minsk, Belarus

Aims

Evaluating the shot-term results of fertility-preserving options for early cervical cancer patients in childbearing age.

Method

A total of 46 patients with early cervical cancer were included. The patients were stratified into three groups with regards to the organ-sparing therapy option. Eight women with stage IA1LVSI+~IA2 (group 1) underwent ultraconservative surgery: amputation of uterine cervix with lymphadenectomy. Group 2 (31 patients with stage IA2-IB1, tumor size up to 2.0 cm) were subjected to radical abdominal trachelectomy. Seven women of group 3 (four with stage IB1 and tumor size more than 2 cm and three with stage IIA1) received multimodality therapy with neoadjuvant chemotherapy followed by radical abdominal trachelectomy.

Results

The follow-up time was 7 to 62 months. To prevent inflammatory and commissural changes in the small pelvis in the postoperative period, enzymatic drugs containing streptokinase-streptodornase were used. Pregnancy occurred in three women of the 1st group, two of them gave birth of time with no complication, one had a miscarriage at 15 weeks.

Conclusion

Our data suggest that less radical surgery than radical trachelectomy in patients with early low-risk cervical cancer improve the chances of reproductive function implementation; in case of early high-risk cervical cancer, multimodality treatment offers opportunities for radical surgical intervention of the organ-sparing option. However, the application of the mentioned methods of organ-sparing therapy is possible only after a thorough patient selection assessing all the risks in the selling of a highly-specialized cancer institution arranging multidisciplinary panel including an expert morphologist, a trained MRI specialist and qualified gynecologic oncologist.
CERVICAL CANCER

ESGO7-0317

INCIDENCE OF LYMPH NODE METASTASES IN WOMEN WITH LOW-RISK EARLY CERVICAL CANCER WITHOUT LYMPH-VASCULAR INVASION

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Aims

To determine the incidence of lymph node (LN) metastasis in women with low-risk cervical cancer stage IA2, and IB1 (<2 cm) without lymph-vascular space invasion (LVSI) stratified by histology, depth of stromal invasion and tumor grade.

Method

A multicenter retrospective study was performed in patients who underwent radical or simple hysterectomy, conization, or trachelectomy plus pelvic lymphadenectomy for cervical cancer between January 2000 and June 2016.

Results

A total of 271 patients were included in the study. Mean (SD) age and BMI was 47.3 (12.9) years and 25.4 (5.1) kg/m²; respectively. Twenty-two patients had stage IA2 (8.1%), 247 (91.1%) had stage IB1, and 2 (0.7%) had stage IIA. The median tumor size was 14 (range, 5-20) mm. Tumor grades were 1 (n=63; 23.2%), 2 (n=120; 44.3%), 3 (n=63; 23.2%), and missed (25; 9.2). Mean (SD) depth stromal invasion was 8.1 (4.4) mm. Histology subtypes included squamous (n=171, 63.1%), adenocarcinoma (n=92, 33.9%), and adenosquamous (n=8, 3.0%). Overall incidence of LN metastasis was 2.9%. The incidence of LN involvement in G1, G2 and G3 was 0% (0/63), 5% (2/120) and 3.1% (2/63); respectively. Multivariate analysis did not identify any independent factor predicting LN metastasis.

Conclusion

No patient with G1 (well differentiated) cervical cancer less than 2 cm and without lymph vascular space invasion had lymph node metastasis. In such low-risk patients, there may not be a need for lymph node evaluation. Consideration for sentinel lymph node alone should be a standard in the setting of patients with grade 2 and 3 disease.
CERVICAL CANCER

ESGO7-1042

PRE-THERAPEUTIC NUTRITIONAL STATUS FOLLOW-UP FOR PREDICTING SEVERE ADVERSE EVENTS IN PATIENTS WITH CERVICAL CANCER TREATED BY CHEMO-RADIONTHERAPY

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2Barcelona, Spain

Aims

Cervical carcinoma remains a significant health problem for women worldwide. Locally advanced cervical cancer (LACC) (stage IB2 to IVA) is a common presentation. Chemo-radiation with a platinum-based agent is the recommended treatment for LACC. Palliation with platinum agent remains the standard of care for inoperable patients who have metastatic or recurrent disease. Malnutrition is common in patients with cervical cancer and it may be related to severe adverse toxicity as a result of radiotherapy. The aim was to investigate nutritional screening factors for severe adverse events.

Method

A retrospective analysis over patients newly diagnosed of cervical cancer from 2015 to 2016 in Hospital del Mar Barcelona was recruited. Patients with locally advanced cervical cancer who underwent chemo-radiation were included to predict severe adverse events. The pre-treatment nutritional parameters evaluated were hemoglobin (Hb), serum albumin (Alb), total protein (Prot), total lymphocyte counts (TLC) and Prognostic Nutritional Index (PNI).

Results

Of 38 patients diagnosed of cervical cancer, 25 were treated by chemo-radiation for LACC and 24 patients were included in the pre-therapeutic nutritional analysis. Approximately 20% of the patients were manourished before treatment. A total of 6 patients (24%) presented severe adverse events according to EORTC definition. The pre-treatment nutritional parameters were not found to be significant predicotrs of chemo-radiation severe adverse events.

Conclusion

Although nutritional status could be considered a useful predictor for cervical cancer survival; our results suggest that nutritional status not predict severe adverse events in patients underwent chemo-radiation. However more studies are needed to confirm that preliminar results.
CERVICAL CANCER

ESGO7-0717

THE ADDITIONAL ROLE OF DIFFUSION WEIGHTED MAGNETIC RESONANCE IMAGING FOR THE ASSESSMENT OF PARAMETRIAL INVASION OF CERVICAL CARCINOMA, A PROSPECTIVE STUDY

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Aims

The treatment of cervical cancer is dependent on FIGO stage, with conventional staging, 15-25% of parametrial invasion is missed. MRI is increasingly used to optimize staging for cervical cancer. This study aimed to evaluate the diagnostic performance of diffusion weighted MRI in addition to conventional T2 weighted sequences and fusion images for the assessment of parametral invasion.

Method

Prospective cohort study; conventional T2W MRI, the addition of high B-value diffusion weighted MRI sequences and fusion images (T2W with diffusion weighted MRI) for assessing parametrial invasion. Two blinded radiologists independently scored the likelihood of parametrial invasion with a 6-point confidence scale. The reference standard consisted of surgical-pathologic results after radical hysterectomy with pelvine lymphadenectomy. Diagnostic performance was evaluated by ROC curve analyses. P-values <0.05 were considered statistical significant. Ethical board approval was obtained.

Results

The cohort consisted of 65 patients, 8 patients showed parametrial invasion after surgery. Both observers (1-2) showed a statistical increase in diagnostic performance for the assessment of parametrial invasion, especially decreasing false positive findings. The corresponding areas under the ROC curve were .80-.67 for T2W MRI compared to .94-.94 for fusion imaging (p<0.05). Positive predictive value increased significantly 29-23% versus 50-50%. No significant difference was found between T2W imaging and T2W imaging with high B-value sequences without fusion images.

Conclusion

This is the first prospective study showing conventional T2 weighted MRI combined with diffusion weighted MRI to result in an increase in diagnostic performance for the assessment of parametrial invasion in suspected early-stage cervical carcinoma.
CERVICAL CANCER

ESGO7-0719

DIFFUSION WEIGHTED MAGNETIC RESONANCE IMAGING OF CERVICAL CARCINOMA: APPARENT DIFFUSION COEFFICIENT MEASUREMENT TECHNIQUES RELATED TO PARAMETRIAL INVOLVEMENT AND LYMPH NODE METASTASES

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Aims

Staging of cervical cancer is dependent on FIGO stage, advanced imaging as diffusion weighted MRI is increasingly used to optimize staging for cervical cancer. Apparent Diffusion Coefficient (ADC) is a potential interesting quantitative parameter for assessing tumor aggressiveness. This study aimed to compare different ADC measurement techniques for cervical cancer and to assess mean ADC as a predictor for parametrial involvement and lymph node metastases.

Method

This was an ethical board approved prospective cohort study. Two blinded readers independently scored ADC\textsubscript{mean} within the range of interest (ROI). The ROI was defined as total tumor ADC, single slice freehand ROI or a single round like ROI at the largest tumor diameter. The reference standard consisted of surgical-pathologic results after radical hysterectomy with pelvic lymphadenectomy. Diagnostic performance was evaluated by ROC curve and regression analysis. P-values <0.05 were considered statistical significant.

Results

The cohort consisted of 65 patients, 3 patients were excluded due to unavailability of ADC map. Interrater agreement (preliminary analyses) was excellent for assessing ADC\textsubscript{mean}. The predictive value did not significantly differ between the three used measurement techniques. The area under the curve for ADC\textsubscript{mean} for assessing parametrial invasion and lymph node metastases was good-excellent (AUC 0.76-0.84) In our preliminary uni- and multivariate analyses ADC\textsubscript{mean} was superb and independent compared to other predictive criteria (HR: 10.6 (1.2-92)).

Conclusion

The potential of ADC\textsubscript{mean} as an independent parameter for predicting parametrial invasion and lymph node metastases is suggested by our results. The definitive analyses will be available at the ESGO 2017 Meeting.
CERVICAL CANCER

ESGO7-0231

LOW VALUE OF PET/CT IN PREDICTING TUMOR RESPONSE IN LOCALLY ADVANCED CERVICAL CANCER UNDERGOING NEOADJUVANT CHEMOTHERAPY

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Aims

To assess the ability of PET/CT in predicting tumor response to neoadjuvant chemotherapy (NACT) in patients affected by locally advanced cervical cancer (LACC)

Method

This is a prospective study involving LACC patients undergoing NACT plus radical surgery between 2013 and 2016. Data of SUV max detected by PET/CT, at pre- and post-NACT examinations were compared with pathological findings. Concordance was used to assess the ability of PET/CT to predict tumor response.

Results

Overall, 37 patients were included. There were very low concordances between pre- and post-NACT SUV max on cervical tumor with response to chemotherapy (concordance <0.2). Similarly, concordance between pre- and post-NACT SUV max on pelvic lymph nodes was low (concordance < 0.2). Considering the ability of PET/CT in assessing lymphatic disease, we observed that post-NACT PET/CT was characterized by a relative low positive predictive value (0.66) but a high negative predictive value (0.92). One (1/67 negative pelvic sides; 1.5%) false positive result was observed. Five false negative (5/7 positive pelvic sides; 71.4%) results were observed. True positive and true negative accounted for (2/7 positive pelvic side; 28.5%) and (66/67 negative pelvic sides; 98.5%)

Conclusion

SUV Max is not adequate in predicting tumor response of LACC patients undergoing NACT. A negative PET/CT is likely to correlate with negative nodes; however, the positive predictive value of PET/CT is not adequate. Further tools are needed to better predict response to treatment in LACC
HPV16 VARIANTS AND IGF1R OVEREXPRESSION INDUCES RESISTANCE TO RADIOTHERAPY IN UTERINE CERVICAL CANCER

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Aims

Several causes of the variable radiotherapy (RT) efficacy have been studied without convincing results. HPV16 infection has been hypothesized to be a predictor of poor response to RT; Moreno-Acosta et al., 2012, found that the over-expression of IGF1R is a predictive marker for patients (HPV16 (+)) undergoing radiotherapy. The aim was to prospectively report the detection of HPV16 variants, gene expression IGF1R and assess the relationship with treatment response.

Method

Detection of HPV16 variants of 19 patients by PCR-SSCP and direct sequencing and analysis of IGF1R gene expression by real-time PCR. Of these patients, 15 underwent exclusive radiotherapy and four underwent radiochemotherapy.

Results

Three months after treatment completion, out of the 15 patients receiving exclusive RT, 8 experienced complete responses: 3 with the European T350 variant (E-T350 and IGF1R low expression, 2 with the European G350 variant (E-G350) and IGF1R negative expression), 2 with an undetermined European variant (E-Nd) and IGF1R negative expression), and 1 with an Asian-American variant (AAa) and IGF1R negative expression. The other 7 experienced no complete response: Three patients were diagnosed a partial response (2 E-T350, 1 E- G350, and IGF1R overexpression), 3 had a stable tumor (2 E-G350, 1 E-Nd and IGF1R overexpression) and 1 experienced tumor progression (AAa and IGF1R overexpression).

Conclusion

The presence of E-G350 and non-european (eg. AA) variants and overexpression of IGF1R in the no complete response group could be related with radioresistance. Larger prospective trials are needed to validate the presence of HPV-16 variants and IGF1R expression as a biomarkers of radioresistance.
CERVICAL CANCER

ESGO7-0287

WEST OF SCOTLAND OUTCOMES AND TOXICITY FOR CERVICAL CANCER, COMPARING CONFORMAL RADIOTHERAPY WITH VOLUMETRIC-MODULATED ARC THERAPY (VMAT)

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Aims

Between 2011 and 2013 the standard radiotherapy given for definitive treatment of cervical cancer in the Beatson West of Scotland Cancer Centre changed from conformal fields at a dose of 45Gy in 25 fractions to VMAT 50Gy in 25 fractions. Our aim was to establish whether there is a difference in cancer related outcomes and severe toxicity between the two regimes.

Method

Information was collected on the treatment of patients January 2010- March 2011 for the group receiving 45Gy in 25 fractions and from June 2013-Dec 2014 for the 50Gy in 25 fraction group.

Demographic, treatment, toxicity and outcome data was obtained from Aria, PACS and Clinical Portal.

Results

73 patients were in the group receiving 45Gy and 95 patients were in the group receiving 50Gy.

At two years for patients receiving 45Gy survival data was available for 71 patients, 72% were alive at this stage. Out of 71 patients 15% suffered a grade 3/4 late toxicity of radiotherapy (Gastrointestinal, Urinary or Bone).

Of patients receiving 50Gy, survival data was available for 90 patients, 71% were alive at 2 years. 87 patients had follow up information and of these 18% suffered from grade 3/4 late toxicity of radiotherapy. Included in this 8% of patients actually suffered two toxicities.

Conclusion

Two year survival and proportion of patients suffering severe toxicity was similar between the two treatments. There appears to be an increase in patients suffering two grade 3/4 toxicities with 50Gy which will be analysed further.
CERVICAL CANCER

ESGO7-0310

THE EFFECT OF PARA AORTIC LYMPH NODE DISSECTION IN STAGING AND COMPLETE CYTOREDUCTIVE SURGERY OF OVARIAN CANCER

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Aims

The aim of this study was to evaluate the effect of Para aortic lymph node dissection in ovarian cancer patients.

Method

This descriptive cross-sectional study was performed on 100 ovarian cancer patients who were admitted in the department of gynecology oncology of Ghaem Hospital, Mashhad University of Medical Sciences from November 2013 to November 2014. All patients underwent surgical staging surgery and optimal debulking surgery as much as possible. In addition, concurrent systematic pelvic and para-aortic lymphadenectomy up to the level of inferior mesenteric artery was performed.

Results

A total of 100 patients were studied. The mean age of patients was 47 years (SD=13). In 73 patients optimal cytoreductive surgery was performed with para aortic lymphadenectomy. Fifty-three cases (72.6%) underwent primary cytoreductive surgery and 20 cases (27.3%) had interval debulking surgery. Positive paraaortic lymph node was found in 6 cases (11.3) of first group and 2 cases (10%) of second group. Twenty-seven patients were apparently in stage I and 46 patients were in stages II, III and IV of disease. We found positive paraaortic lymph node in (11%) of patients. positive paraaortic lymph node without positive pelvic lymph node was observed in two patients.

Conclusion

Lymph node dissection will produce a significant benefit in accurate and complete surgical staging; it reduces disease residual and increases progression-free survival.
CERVICAL CANCER

ESGO7-0190

ROLE OF INTERNAL ILIAC LYMPH NODE DISSECTION IN RADICAL HYSTERECTOMY FOR CERVICAL CANCER: A RETROSPECTIVE STUDY

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Aims

To investigate the role of internal iliac lymph node (IIN) dissection, which is occasionally neglected in radical hysterectomy, in uterine cervical cancer patients.

Method

We examined the clinical and pathological records of cervical cancer patients (FIGO stage IB1-IIB) with lymph node metastases, who underwent radical hysterectomy between October 2007 and December 2014 in our institute. The number and site of lymph node metastases as well as history and site of recurrence were investigated.

Results

Of the total 53 patients with radical hysterectomy, 20 showed lymph node metastases. Twelve patients with only one positive node showed no IIN metastases, whereas five out of eight patients with two or more positive nodes showed IIN metastases. Eighteen patients, including five with positive IIN, received platinum-based chemotherapy, and two were treated with radiotherapy as adjuvant therapy. Five patients, including three with positive IIN, experienced disease recurrence. Among these three patients, two with mucinous adenocarcinoma relapsed with dissemination into the peritoneum and pelvic cavity, and one with small cell carcinoma relapsed with pulmonary metastasis.

Conclusion

In conclusion, considering the high prevalence of IIN metastases in patients with multiple lymph node metastases, IIN dissection should be performed in radical hysterectomy. IIN metastasis may be one of the important factors for recurrence in cervical cancer. Further prospective studies are warranted.
PHASE II STUDY OF CARBOPLATIN PLUS DOSE DENSE PACLITAXEL BEFORE AND AFTER RADICAL HYSTERECTOMY FOR LOCALLY ADVANCED CERVICAL CANCER (SANKAI GYNECOLOGIC STUDY GROUP 016 STUDY).

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²Tottori University Hospital, Obstetrics and Gynecology, Yonago-city, Japan
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Aims

The primary objective of this study was to assess efficacy and safety of carboplatin plus dose dense paclitaxel (ddTC) before and after radical hysterectomy (RH) for locally advanced cervical cancer.

Method

Patients with FIGO stage IB2, IIA2, or IIB cervical cancer received 3 cycles of carboplatin at an area under the curve of 6 on day 1 and paclitaxel at 80mg/m² on day 1, 8, and 15 every 21 days followed by RH. Patients with high-risk factors including lymph vascular invasion, parametrial invasion, lymph node metastasis, or positive margin received additional 3 cycles of ddTC.

Results

Between September 2014 and July 2016, 50 women including 13 with FIGO stage Ib2, 5 with stage IIA2, and 32 with stage IIB were enrolled in this study. There were 37 squamous cell carcinoma, 10 adenocarcinoma, 2 adenosquamous carcinoma, and 1 large cell neuroendocrine carcinoma. Forty-three women (86%) completed planned 3 cycles of chemotherapy before RH. The overall response rate was 92% (18 CR, 28 PR, 3 SD, 1 PD). Forty-nine patients (98%) completed planned RH. Eleven patients (10 with SCC, 1 with large cell neuroendocrine carcinoma) achieved pathological CR. Grade 3/4 hematological toxicities included neutropenia (58%), thrombocytopenia (2%) and anemia (24%). One patient experienced neutropenic fever. Grade 3/4 non-hematological toxicities were observed in 4 patients (1, grade 3 nausea; 1, grade 3 carboplatin allergy; 1, grade 3 paclitaxel allergy; 1 grade 3 elevated liver enzyme).

Conclusion

DdTC before and after RH has good efficacy and acceptable toxicity in women with locally advanced cervical cancer.
Aims

The average life span of Japanese women is 86.99 years. It is necessary to provide appropriate medical care for the late-stage elderly. The aim of this study is identification of comorbidities and complications of the late-stage elderly patients with cervical cancer at our hospital.

Method

Medical records of patients treated from 2004 - 2015 at our hospital were reviewed. Nineteen patients aged 75 years or older undergoing primary treatments for cervical cancer were analyzed. We examined the comorbidities, treatment methods and complications.

Results

Age was 75–85 years (median, 79 years) and performance status (PS) was poor (median: PS1). No patients underwent surgery therapy because of comorbidities. Radiotherapy/concurrent chemoradiotherapy (RT/CCRT) was performed on 18 patients (94%) and chemotherapy alone was performed on 1 patient (2.7%). All patients except 1 patient with FIGO stage IVB were chosen RT/CCRT. The number of patients whose treatment changed into less invasive therapies was 14 (73%). Among the patients who received RT/CCRT, 2 patients had complication of renal dysfunction (11.1%). Radiation-induced fractures were found in 2 patients (11.1%) and cognitive dysfunction was found in 2 patients (11.1%). PS declined in 3 patients after treatment (15.8%).

Conclusion

This research indicates that the late-stage elderly patients tend to have more comorbidities and complications that may affect their ADL. Thus, minimal invasive treatment should be considered especially in the late elder patients.
HPV-NEGATIVE CARCINOMA OF THE UTERINE CERVIX: CLINICAL IMPLICATIONS

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Aims

Almost all studies focus on cervical cancer (CC) found that a small proportion is negative for human papillomavirus (HPV). It has been suggested that HPV-negative CC may represent a biologically distinct subset of tumours carrying a poorer prognosis. However, the significance of HPV-negativity in CC remains unclear. We aimed to provide insight into the differential clinical-pathological characteristics of the unusual HPV-negative CCs.

Method

A cohort of 215 women with CC diagnosed in the Hospital Clinic (Barcelona) from 1999 to 2014 underwent HPV/DNA detection and genotyping using a highly sensitive polymerase chain reaction (PCR): SPF10PCR/DEIA/LiPA25 system and p16INK4a immunostaining. Clinical, histological and immunological characteristics of the cases included were recorded.

Results

21 out of 215 tumors (9.8%) were negative for HPV detection. Nine of them (9/21; 42.9%) showed a negative p16INK4a immunostaining result. These double negative tumors were considered as confirmed HPV-negative CC and all of them were diagnosed at advanced FIGO stage. Within the confirmed HPV-negative CC, 5 were squamouscarcinoma, 2 were adenocarcinoma and 2 were neuroendocrine. Patients with confirmed HPV-negativity had significantly worse disease free survival than women with HPV-positive tumours [47.46 months (95%CI: 8.7-86.22 months) vs. 130 months (95%CI: 116.66-143.33 months); p=0.01] and overall survival (OS) [72.1 months (95%CI 25.44-118.80 months) vs. 151.4 months (95%CI 139.70-163.05 months); p=0.056].

Conclusion

DNA-HPV negative result is an uncommon finding in women with CC, and in almost half of these cases p16INK4a immunostaining shows a positive result. Confirmed HPV-negative CC seems to be associated with advance FIGO stages and worse prognosis.
CERVICAL CANCER

ESGO7-0292

HPV POSITIVE CARCINOMA OF THE UTERINE CERVIX. CLINICAL IMPLICATIONS AS A FUNCTION OF GENOTYPE
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Aims

It is hypothesized that human papillomavirus (HPV) genotype may have a role in prognosis of patients with uterine cervical cancer (CC). Results of previous studies on this topic are not conclusive. The aim of this study is to analyze whether there are clinical or prognostic differences in women diagnosed of CC depending on the HPV genotype.

Method

Women diagnosed of CC in the Hospital Clinic (Barcelona) from 1999 to 2014 underwent HPV/DNA detection and genotyping using a highly sensitive polymerase chain reaction (PCR): SPF10/DEIA/LiPA 25 system. Within the 215 women eligible, 194 had an HPV-positive CC and were finally included in the study. Clinicopathological features, disease-free survival (DFS) and overall survival (OS) were analyzed using SPSS version 23.

Results

Mean age at diagnosis was 50.52 years. Squamous cell carcinoma was the most frequent histological diagnosis (156/194;80.4%). Advanced FIGO stage was found in 110 (56.7%) cases. HPV-16 was the most frequent genotype (142/194;73.2%) followed by HPV-18 (25/194;12.9%). Multiple infection was observed in 30 women. From them, 12 showed co-infection with HPV-16/18. No differences were observed in terms of DFS and OS according to HPV genotype.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>OS</th>
<th>DFS</th>
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<tbody>
<tr>
<td></td>
<td>Months</td>
<td>95% CI</td>
</tr>
<tr>
<td>HPV-16</td>
<td>150.84</td>
<td>(138.58-163.11)</td>
</tr>
<tr>
<td>HPV-18</td>
<td>88.74</td>
<td>(60.27-117.22)</td>
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<tr>
<td>HPV-16/18</td>
<td>58.78</td>
<td>(44.83-72.73)</td>
</tr>
<tr>
<td>HPV-HR (no 16 no 18)</td>
<td>130.67</td>
<td>(101.11-160-25)</td>
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<tr>
<td>p</td>
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</tr>
</tbody>
</table>

HPV: Human papillomavirus. HR: High risk. OS: Overall Survival. DFS: Disease free survival. CI: Confidence Interval.

Conclusion

HPV 16 was the most frequent genotype in our series. HPV genotype does not seem to have any impact on prognosis in women with CC.
INVESTIGATION THE FACTORS OF RADIO-RESISTANCE FOR CERVICAL CANCER

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Aims

The purpose of this study is to investigating the factors of failure of local control of radiotherapy for cervical cancer

Method

122 cases who received radiotherapy and examined the effect of treatment during 2011-16. Concurrent chemoradiotherapy (CCRT) was done for patients under 80 years old. Weekly cisplatin (40mg/m2) was given before August 2014, and weekly paclitaxel (50mg/m2) and cisplatin (30mg/m2) was given for the patients with non-SCC after September 2014.

Results

Clinical stages are as follows, 1B 14, 2A 5, 2B 47, 3A 2, 3B 28, 4A 5, 4B 21. Histological subtypes are as follows, SCC 97, adeno and adenosquamous carcinoma (non-SCC) 19, others 6. Local recurrence rate are as follows 1B 1/14(7%), 2A 0/5(0%), 2B SCC 3/38 (8%), 2B non-SCC 4/6(50%), 3B SCC 3/21 (14%), 3B non-SCC 6/9 (67%). Local recurrence was significantly frequent in non-SCC than SCC of same stage (p<0.01). For the relation with tumor diameter, local recurrence was 5/78(6%) in SCC (<7cm), 6/18 (33%) in SCC (≥7cm), 0/1 in non-SCC (<4cm), 11/19 (58%) in non-SCC (≥4cm). For the relation with treatment period, local recurrence was occurred 11/32 in patients who took 50days or more for treatment, but 14/92 in patients with completed within 49 days (p<0.05). For the patients received weekly TP, tumor residue was seen in mucinous types of adenocarcinoma.

Conclusion

Improvement of treatment was necessary for large tumor patients (SCC with over 7cm and non-SCC with over 4cm). Management of adverse event is needed to complete the treatment within 49 days.
CERVICAL CANCER

ESGO7-1256

CERVICAL CANCER A CASE OF CAUTION: LYMPHOCELE FORMATION, COMPLICATED APPENDIX TRANSPOSITION BETWEEN EXTERNAL ILIAC VESSELS, AFTER LAPAROSCOPIC RADICAL HYSTERECTOMY

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Aims

Pelvic lymphadenectomy in the treatment of cervical cancer has an effect of postoperative formation of lymphocele. We report a case of radical hysterectomy, complicated with right symptomatic lymphocele, involving appendix with its interposition between external iliac vessels.

Method

A 36 year-old woman with carcinoma of cervix (IB1 G2) underwent laparoscopic radical hysterectomy (type B). Postoperative period was complicated by a symptomatic right iliac lymphocele, confirmed by a US scan up to 8 cm in diameter. Laparoscopic exploration of the lesion was done on day 17 after primary surgery. It revealed massive pelvic adhesions, involving intestines and bladder. Adhesiolysis led to the opening of right pelvic lymphocele cavity and identification of appendix partially located between the right common iliac vessels. Appendix was released and returned into the abdominal cavity.

Results

Our finding increases awareness, that the extensive tissue dissection of parametrial spaces and along iliac vessels develops a longstanding aperture between skeletonizing trunks.

Conclusion

In theory, its availability may regard as a risk factor of intestinal strangulation or seriously complicated appendectomy perspective. In fact, it is hard to avoid. So, it is necessary to check for specific symptoms relating to it in postoperative period. We need in additional data and long-term follow-up to establish the correct management of this condition, especially in young patients without history of appendectomy.
CERVICAL CANCER

ESGO7-0305

CERVICAL CANCER: AN URGENT NEED TO SCALE UP SCREENING IN THE DEVELOPING WORLD

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Aims

The aim of the study was to look at the types of gynaecological malignancies, incidence of cervical cancer, and the histologic types of cervical cancer at the Lagos University Teaching Hospital, Lagos Nigeria.

Method

The records of the women who presented with gynaecological malignancies between January 2005 and December 2012 were retrieved. A structured form was used to extract information on socio-demographic characteristics, types of gynaecological malignancy and histologic types of cervical cancer.

Results

A total of 994 gynaecological cancer cases were seen at the Lagos University Teaching Hospital during the period. Cervical cancer was the most common 741 (74.6%) followed by ovarian cancer 127 (12.8%) and endometrial cancer 80 (8.1%). The mean age of the patients was 54.9 ± 13.1 years (range 25-80 years). 453(61%) were in the age group 30 and 59 years. Most common histologic type is squamous cell carcinoma 703 (94.8%) followed by adenocarcinoma 33 (4.5%) and adenosquamous 5(0.7%).

Conclusion

In the developed countries, the incidence of the adenocarcinoma of the cervix histotype has been increasing while the squamous cell type has been decreasing. This has been attributed to effective cervical cancer screening programmes.

The study has shown that cervical cancer affects women in their active productive years in Nigeria. The proportion of squamous cell was still very high- this is a reflection of lack of screening. This result underscores the need for urgent scale up of screening in the developing countries.
CERVICAL CANCER

ESGO7-0756

PET/CT AND SENTINEL LYMPH NODE BIOPSY COMBINED FOR THE SURGICAL STAGING OF CERVICAL CANCER
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²Bern University Hospital and University of Bern- Bern- Switzerland, Department of Nuclear Medicine, Bern, Switzerland

Aims

Aim of the study was to evaluate the use of PET/CT and/or sentinel lymph node (SLN) mapping alone or in combination in cervical cancer patients.

Method

Data on stage IA1-IIA cervical cancer patients undergoing PET/CT and SLN mapping were retrospectively collected. Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of PET/CT and SLN mapping, alone or in combination, in identifying cervical cancer patients with lymph node metastases were calculated.

Results

Sixty patients met the inclusion criteria. PET/CT showed a sensitivity of 68%, a specificity of 84%, a PPV of 61% and a NPV of 88% in detecting lymph nodal metastases. SLN mapping showed a sensitivity of 93%, a specificity of 100%, a PPV of 100% and a NPV of 97%. The combination of PET/CT and SLN mapping showed a sensitivity of 100%, a specificity of 86%, a PPV of 72% and a NPV of 100%. For patients with tumors of > 2cm in diameter, the PET/CT showed a sensitivity of 68%, a specificity of 72%, a PPV of 61% and a NPV of 86%. SLN mapping showed a sensitivity of 93%, a specificity of 100%, a PPV of 100% and a NPV of 95%. The combination of PET/CT and SLN mapping showed a sensitivity of 100%, a specificity of 76%, a PPV of 72% and a NPV of 100%.

Conclusion

PET/CT represents a “safety net” that helps the surgeon in identifying metastatic lymph nodes, especially in patients with larger tumors.
CERVICAL CANCER

ESGO7-1248

CLINICAL SIGNIFICANCE OF ATYPICAL GLANDULAR CELLS IN CERVICAL PAP SMEARS: AN ANALYSIS OF 329 CASES AT A SINGLE INSTITUTION

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Aims

To determine the rate of clinically significant histopathologic lesions by analyzing patients identified as atypical glandular cells (AGC) in Papanicolaou (pap) test

Method

Data were collected from histopathologic results of women identified as AGC in the pap test from 1999 to 2008. There were 503 cases reported as AGC, 329 women with AGC who underwent histopathologic evaluation including colposcopy directed biopsy, loop electrical excision procedure, endocervical curettage and endometrial biopsy were analyzed to correlate with AGC on pap test.

Results

Among 329 women with AGC who underwent histologic follow up, clinically significant histologic results including pre-cancerous lesions and cancer lesions were diagnosed in 58 women with AGC (17.6%). Of the 58 patients, 23 (7%) were diagnosed with pre-cancerous lesions including cervical intraepithelial neoplasia (CIN) 2-3 and endometrial hyperplasia (EH), and 35 (10.6%) were diagnosed with cancer including cervical / endometrial carcinoma. Cervical carcinoma in situ (CIS)/invasive carcinoma and endometrial carcinoma were identified in 5.5%, 2.7%, and 2.1% of cases, respectively.

Conclusion

AGC results on pap test indicated clinically significant lesions in approximately 15% of our cases. These results support that women with AGC should require the need for histologic confirmation of the uterine cervix and endometrium including colposcopy directed biopsy, endocervical curettage and endometrial sampling.
CERVICAL CANCER

ESGO7-0769

COMPARISON OF MRI, PET-CT, AND FROZEN BIOPSY IN THE EVALUATION OF LYMPH NODE STATUS BEFORE FERTILITY-SPARING RADICAL TRACHELECTOMY IN EARLY STAGE CERVICAL CANCER

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Aims

To compare the accuracy of magnetic resonance imaging (MRI), positron emission tomography/computed tomography (PET/CT) and frozen biopsy before fertility-sparing radical trachelectomy in early stage cervical cancer.

Method

This was a retrospective study including 73 young women with early stage cervical cancer who tried fertility-sparing laparoscopic or robotic radical trachelectomy. All patients underwent preoperative MRI and PET-CT. Comprehensive lymph node dissection was performed during surgery, and all retrieved lymph nodes were sent to frozen biopsy before proceeding radical trachelectomy. The diagnostic accuracy of MRI, PET-CT, and frozen biopsy was compared using McNemar test and logistic regression using generalized estimating equation. The final pathologic report on lymph nodes was the gold standard for diagnosis.

Results

A total number of retrieved lymph nodes was 1448, and mean some retrieved lymph nodes was 20 (range 2-61). Sixteen lymph node areas were positive in 11 patients (15.1%). There was no significant difference in sensitivity (27.27% versus 54.55%, P=0.18), specificity (80.36% versus 76.79%, P=0.41), accuracy (71.64% versus 73.13%, p=0.76) of MRI versus PET-CT. There was significant difference in sensitivity (100% vs. 27.27%, P=0.005), specificity (100% vs. 80.36%, P=0.001), accuracy (100% vs. 71.64%, P<0.001) of frozen biopsy versus MRI. There was significant difference in sensitivity (100% vs. 54.55%, P=0.025), specificity (100% vs. 76.79%, P<0.001), accuracy (100% vs. 73.13%, P<0.001) of frozen biopsy versus PET-CT.

Conclusion

Frozen biopsy of all retrieved lymph nodes during surgery is still the best way to evaluate lymph node status before fertility-sparing radical trachelectomy.
CERVICAL CANCER

ESGO7-0516

THE STUDY OF ATYPICAL SQUAMOUS CELLS OF UNDETERMINED SIGNIFICANCE IN DETECTING PREINVASIVE CERVICAL LESIONS IN POSTMENOPAUSAL KOREAN WOMEN

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Aims

To evaluate the clinical significance of atypical squamous cells of undetermined significance (ASCUS) in PAP test in postmenopausal women and compare with reproductive age women.

Method

A total of 367 patients were included to the study between October 2014 and September 2015. Data for 164 post-menopausal (group 1) and 203 pre-menopausal (group 2) women with ASCUS cytology were evaluated retrospectively. Immediate colposcopy and endocervical curettage was performed for both groups and conization for all women with a result suggestive of CIN2-3. Histopathological results and demographic features of patients were compared between the two groups.

Results

Mean age of the patients was 54.6±6.5 years in group 1 and 38±6.6 years in group 2. Totals of 38 (23.2%) post-menopausal and 64 (31.5%) pre-menopausal women were assessed for HPV-DNA. High risk HPV was detected in 7 (4.3%) and 21 (10.3%), respectively (p=0.029). Final histopathological results recorded were normal cervix, low grade cervical intra-epithelial neoplasia (CIN 1), and high grade cervical intra-epithelial neoplasia (CIN2-3). In group 1 results were 84.8%, 12.2% and 1.8%, respectively, and in group 2 were 71.9%, 23.2% and 4.9%. There were no cases of micro invasive or invasive cervical carcinoma in either group. Two cases were detected as endometrial carcinoma in the menopausal group (1.2%).

Conclusion

In current study we found that preinvasive lesions were statistically significantly higher in pre-menopausal women than post-menopausal women with ASCUS. Therefore, we think that in case of ASCUS in a post-menopausal woman there is no need for radical management.
CERVICAL CANCER

ESGO7-0162

INDIVIDUALIZATION OF CHEMOTHERAPY BY 3-D HISTOCULTURE CHEMOSENSITIVITY ASSAY IN ADVANCED SQUAMOUS CELL CERVICAL CANCER PATIENTS

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Aims

The purpose of this study is to investigate the effective chemotherapeutic agents with 3-dimensional histoculture chemosensitivity assay for cervical cancer patients.

Method

A retrospective study of 30 patients with squamous cell carcinoma of the uterine cervix between July 2003 and June 2007 was performed. Tumor specimens were taken by biopsy. The following drugs were tested with primary 3-dimensional histoculture culture of cervical cancer tissues; Vinblastin, VP16, 5-FU, Bleomycin, Cisplatin, Carboplatin, Mitomycin C, Gemcitabin, Docetaxel, Paclitaxel, CTX, Topotecan, Methotrexate, Doxorubicin, Ifosfamide and Mitomycin C.

Results

None of the patients had received any previous chemotherapy or radiation therapy before tissue sampling. 7 out of 15 patients (46.7%) showed sensitivity for Vinblastin, 4 out of 24 for VP16 (16.7%), 6 out of 26 for 5FU (23.1%), 12 out of 23 for Bleomycin (52.2%), 6 out of 15 for Cisplatin (40%), 11 out of 19 for Carboplatin (84.2%), 8 out of 27 for Gemcitabin (29.6%), 6 out of 17 for Docetaxel (35.3%), 6 out of 21 for Paclitaxel (28.6%), 6 out of 21 for CTX (28.6%), 13 out of 15 for Topotecan (86.7%), 4 out of 21 for Methotrexate (19.0%), 14 out of 26 for Doxorubicin (53.8%), 1 out of 8 for Ifosfamide (12.5%) and 2 out of 5 for Mitomycin C (40%). Carboplatin (49.5±17.8%) and topotecan (44.9±17.1%) showed significant higher mean inhibition rate (P=0.000 and 0.005, respectively).

Conclusion

Carboplatin and topotecan showed significant higher mean inhibition rates in in-vitro assay. VP16, methotrexate, and ifosfamide seem to be ineffective for cervical cancer.
CERVICAL CANCER

ESGO7-0122

THE EFFECTS OF GROUP COUNSELING ON KNOWLEDGE AND PERFORMANCE ABOUT CERVICAL CANCER SCREENING AMONG RURAL WOMEN IN IRAN

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Aims

Cervical cancer has high incidence and mortality rate but the screening program can detect it in early stages. Due to the high prevalence of this cancer counseling sessions to raise awareness and improve screening programs for cervical cancer is essential. This study aimed to determine the effect of group counseling on knowledge and practice regarding cervical cancer screening in rural women.

Method

In this quasi experimental study 80 married women under coverage of rural health centers in Iran. Women were selected randomly and allocated in two experimental and control groups (each group n = 40). Data collection tool was a questionnaire including demographic information, knowledge and women’s performance. First, both groups completed a questionnaire then, Intervention group participated in counseling held by three weekly sessions, using of GATHER steps. It involves consulting about cervical cancer, its symptoms and prevention of cervical cancer. Follow-up study assessed the effects of group counseling on the Pap-Smear performance of rural women for cervical cancer screening after two months.

Results

Before the intervention, the two groups showed no significant difference in terms of awareness (P=.292). After intervention, the difference of knowledge score between the two groups was significant (P < 0.001). Two months after intervention 17 women (42.5%) in the intervention group and 4 (10%) women in the control group (10%) underwent Pap smear test (P < 0.001).

Conclusion

Implementation of counseling programs can increase awareness and performance about cervical cancer in rural women.
CYCLES OF CISPLATIN AND ETOPOSIDE AFFECT TREATMENT OUTCOMES IN PATIENTS WITH EARLY-STAGE SMALL CELL NEUROENDOCRINE CARCINOMAS OF THE CERVIX

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Aims

To explore the outcomes and prognostic factors in patients with FIGO stages I-II small cell neuroendocrine carcinoma of the cervix (SCNEC), and to determine the effects of adjuvant treatment on survival after radical surgery.

Method

A single-institution retrospective analysis was carried out in 92 patients receiving radical surgery for SCNEC. All clinico-pathological variables and treatment strategies were reviewed. Kaplan-Meier and Cox regression methods were used for survival analyses.

Results

After a median follow-up of 38 months (23.6-52.4), 43 (46.7%) patients experienced disease recurrence, of which, distant metastases was documented in 35 patients. The 5-year recurrence-free survival (RFS) was 45.2% and the median RFS was 39 months. In multivariate analysis, lymph node metastasis and parametrial extension were confirmed to be independent prognostic factors for disease recurrence. Adjuvant treatment containing etoposide plus platinum (EP) and its analogs for at least 5 cycles (n=39) was associated with improved 5-year RFS compared to other treatments (n=46) (Kaplan-Meier: 67.6% vs 20.9%, p<0.001; Cox regression HR: 3.68, 95% CI, 1.81-7.50, p<0.001) . Additional radiotherapy or concurrent chemoradiation failed to validate further improved RFS in patients with EP 5+. It was consistent in subset of patients with high-risk factors (positive lymph node or positive parametrium).

Conclusion

Half of the stages I-II SCNEC patients experienced disease failure within 3 years and distant metastases is an outstanding issue. EP combination therapy for at least 5 cycles is beneficial for long-term recurrence-free survival after radical surgery. Additional radiation therapy seems unnecessary even in patients with high risk factors.

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CERVICAL CANCER

ESGO7-1067

OUTCOMES OF ROBOTIC RADICAL HYSTERECTOMY FOR CERVICAL CANCER IN COMPARISON TO OPEN AND LAPAROSCOPIC CASES; A POPULATION BASED STUDY IN THE UNITED STATES

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Aims

For early stage cervical cancer treated with radical hysterectomy, the robotic platform may improve visualization, ergonomics and finite dissections within the parametria. We report nationwide outcomes of robotic radical hysterectomy as compared to laparoscopic and open procedures.

Method

Using the National Inpatient Sample between 2008-2013, we performed a retrospective cohort study of all women with cervical cancer undergoing radical hysterectomy. We compared baseline characteristics, length of stay, intraoperative, postoperative and mortality outcomes between robotic, laparoscopic and open procedures. We used t-test for continuous variables, chi-square for categorical and confidence intervals using SAS.

Results

Among 33,213 women with cervical cancer, 2999 underwent radical hysterectomy; 18.2% robotic, 6.8% laparoscopic and 74.9% open. Over time, there was a significant decline in open procedures with an increase in robotic surgeries and stable trend in laparoscopic cases. There were no differences in baseline characteristics (age, BMI, race, smoking status and comorbidities) between robotic and open cases. There was no difference in intra-operative complications. There were less cumulative post-operative complications (6.95% vs 16.4%, p<0.01), in particular less wound infections (0.37% vs 1.91%, p=0.019) and ileus (2.74 vs 9.21, p<0.01). The length of stay was significantly reduced in the robotic group (mean 1.95 days vs 4.33 open, p<0.01). There were no deaths in either group. The cost was $53,928.47 for robotic, compared to $45,620.89 for open (AI 7,983.52, p<0.01).

Conclusion

Robotic radical hysterectomy is increasingly being adopted by experienced gynecologic oncologists and leads to diminished length of stay and less post-operative morbidity at the expense of increased cost.
THE VALUE OF PRETREATMENT SERUM PSEUDOCHOLINESTERASE LEVEL AS NOVEL PROGNOSTIC BIOMARKER IN PATIENTS WITH LOCALLY ADVANCED CERVICAL CANCER

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Aims

Deficiency in pseudocholinesterase (PChE), a condition commonly noticed in liver damage, inflammation, and malnutrition, has previously been associated with impaired prognosis in different malignancies, such as oral and upper tract urothelial cancer. The aim of the present study was to investigate the value of pretreatment serum PChE levels as prognostic biomarker in patients with locally advanced cervical cancer (LACC).

Method

Data of a consecutive series of patients with LACC treated with primary (chemo-)radiotherapy between 1998 and 2015 were retrospectively analyzed. Pre-treatment serum PChE levels were correlated with clinico-pathological parameters and response to treatment. Uni- and multivariate survival analyses were performed to assess the association between decreased serum PChE levels and progression-free (PFS), cancer-specific (CSS), and overall survival (OS).

Results

A total of 365 patients could be included into the present analysis. The median (IQR) pretreatment serum PChE level was 6180 (4990 – 7710) IU/l. Median pretreatment serum PChE levels were significantly decreased in patients with lower body mass index, advanced FIGO tumor stage, and disease progression under (chemo-) radiotherapy ($p<0.001$, $p=0.004$, $p=0.004$, respectively). In uni- and multivariate analyses decreased pretreatment serum PChE levels were independently associated with shorter PFS (HR 1.7 [1.2 -2.5]; $p= 0.006$), CSS (HR 2.0 [1.3 – 3.2], $p = 0.002$), and OS (HR 1.8 [1.3 -2.7]; $p= 0.001$).

Conclusion

Decreased pretreatment serum PChE level is associated with advanced tumor stage and impaired response to treatment, and serves as independent prognostic biomarker for shorter PFS, CSS and OS in patients with LACC.
CERVICAL CANCER

ESGO7-0174

QUALITATIVE ASSESSMENT VS. STANDARDIZED UPTAKE VALUE MEASUREMENT OF FDG-UPTAKE IN ADVANCED CERVICAL CANCER PATIENTS FOR PREDICTION OF RECURRENT DISEASE AND OVERALL SURVIVAL

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Aims

To determine whether qualitative evaluation of FDG uptake measured by standardized uptake value (SUV) was as good as quantitative assessment of tumor metabolic activity for prediction of treatment response, disease recurrence and overall survival.

Method

A retrospective cohort study including cervical cancer patients treated with chemoradiation between 05/2007-01/2016, who underwent a pretreatment PET/CT scan. PET/CT scans were re-evaluated by a nuclear medicine specialist for tumor size, lymph-node involvement, distant metastasis and metabolic activity features including SUVmax and a qualitative FDG-uptake score. An adjusted ratio compared to liver FDG-uptake was calculated for SUVmax.

Results

Fifty patients with cervical cancer staged 1B2 to IV with a pretreatment PET/CT scan, were detected. Qualitative FDG-uptake score was high in 40 scans and low in 10, and showed positive correlation with SUVmax of the cervical tumor. Qualitative assessment was not significantly associated with primary treatment response or PFS. Conversely, a higher SUVmax was associated with a lower response rate to primary treatment (p=.046) and a lower 2-year survival (p=.031). In addition, higher SUVmax was significantly associated with lower OS (p=.0285). In ROC analysis, a cutoff SUVmax of 16.3 had a sensitivity of 84% and specificity of 60% for prediction of 2-year post-treatment survival with a NPV of 83.3%.

Conclusion

In this preliminary study, whilst quantitative measurement of SUVmax was significantly associated with response to treatment and survival, using a qualitative score for tumor metabolic activity failed to demonstrate similar results. These findings suggest that quantitative measurement of SUVmax is superior to qualitative assessment in advanced cervical disease.
CERVICAL CANCER

ESGO7-0236

QUALITATIVE ASSESSMENT VS. SUV MEASUREMENT OF FDG-UPTAKE IN SURGICALLY TREATED CERVICAL CANCER PATIENTS FOR PREDICTION OF PROGNOSTIC FACTORS

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Aims

To determine whether the clinical implication of using a qualitative evaluation of FDG uptake is as good as quantitative assessment of tumor metabolic activity for the prediction of prognostic features.

Method

A retrospective study including cervical cancer patients, who were treated, between 03/2007 and 01/2015, with primary surgery and underwent a pretreatment PET/CT scan at the Rabin Medical Center. Patients' files were reviewed for clinic-pathologic data. All PET/CT scan were re-evaluated by a nuclear medicine specialist for tumor size, lymph-nodes involvement and metabolic activity features including maximal standardized uptake value (SUV), SUVmean and a qualitative FDG-uptake score.

Results

Twenty six patients with cervical cancer staged 1B1 to 2A, who had a pre-surgery PET/CT scan, were detected. Qualitative FDG-uptake score was classified as high in 16 of scans and Low in 10, and showed positive correlation with SUVmax of the cervical tumor. High Qualitative FDG-Uptake was not associated with prognostic features including histology, LVSI, deep tumor penetration, parametrial involvement, surgical margins involvement and positive Lymph-Nodes. However, no significant correlation was found between SUVmax to prognostic features either.

Conclusion

In this preliminary study, the clinical implication of using qualitative score for tumor metabolic activity did not differ from using quantitative score and both were not associated with prognostic features.
CERVICAL CANCER

ESGO7-0133

TOPOGRAPHIC DIFFERENCES OF THE AUTONOMIC NERVES IN THE POSTERIOR LEAF OF VESIOCUTERINE LIGAMENT

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Aims

The posterior leaf of the vesicouterine ligament (PLVUL) contains autonomic nerve fibers which innervate the bladder. Fujii was described surgical anatomy of PLVUL and emphasized importance of preserving the bladder branch of the inferior hypogastric plexus (IHP) for saving bladder function after radical hysterectomy (RH). In our population, we noticed that the bladder branch of IHP could be divided in two or three branches which also pass through PLVUL. There is one main branch located dorsomedially from the inferior vesical vein (IVV) and one or two small additional branches positioned lateral of the IVV.

Method

In this study, we evaluate the operative findings at 98 cervical cancer patients surgically treated in Institute of Oncology and Radiology of Serbia, from January 2013 till December 2015 using Fujii-Okabayashi technique of nerve-sparing RH. The surgery was performing without magnifying glass and implies complete bilateral dissection and selective resection of PLVUL. In all patents the main bladder branch of IHP was successfully preserved bilaterally.

Results

In the lateral part of PLVUL, before separation of the IVV we noticed at least one small additional nerve branch at 61 patents (62.2%), what was also confirmed on the other side at 52 patents (53.1%). In 15 patents (15.3%) we recognized two additional nerve branches what could be seen bilaterally in 6 of them (6.1%).

Conclusion

Anatomical variation according the number of nerve branches in PLVUL may exist in significant number of patients. Resection of small nerve branches and sparing the main one is the safe method of preserving bladder function.
CERVICAL CANCER

ESGO7-0042

IS SIMPLE TRACHELECTOMY WITH PELVIC LYMPHADENECTOMY A VIABLE TREATMENT OPTION IN PREGNANT PATIENTS WITH STAGE IB1 (>=2CM) CERVICAL CANCER: BRIDGING THE GAP TO FETAL VIABILITY

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Aims

Cervical cancer (CC) is the most common gynecologic cancer occurring in pregnancy. Standard recommendation for patients with early-stage disease is radical hysterectomy or radiotherapy, ultimately resulting in loss of pregnancy. The aim of this study is to describe our experience with simple trachelectomy and pelvic lymphadenectomy in patients with stage IB1 (>=2cm) CC who wished to maintain their pregnancy

Method

We included patients with stage IB1 (>=2cm) CC who underwent simple trachelectomy and minimally invasive pelvic lymphadenectomy during pregnancy from January, 2004 to June 2016. Data analysis included demographics, perioperative, obstetrics and oncologic outcomes

Results

Five patients were included. Median age was 30 years (range; 26-38). Median gestational age at diagnosis was 12 weeks (range; 7-18) and at treatment 16.5 weeks (range; 12-19). Histologic subtypes included: adenocarcinoma (3 patients) and squamous cell carcinoma (2 patients). Median tumor size was 27 mm (range; 20-40) and DOI 10 mm (range; 1.5-12). Patients underwent minimally invasive pelvic lymphadenectomy and vaginal simple trachelectomy. Median operative time was 234 minutes (range; 155-360), EBL 100 ml (range; 50-550) and LOS 2 days (range; 1-3). There were no intra or postoperative complications. Median number of lymph nodes removed was 14 (range; 5-15). One patient had positive nodes. Median GA at delivery was 38 weeks (range; 28-40.6). After delivery only one patient had no definitive treatment. After a median follow up of 75 months (range; 8-146), all patients are alive without disease

Conclusion

Simple trachelectomy with pelvic lymphadenectomy may be a safe option for treatment in pregnant patients with early-stage CC
ADJUVANT RADIOTHERAPY TREATMENT IN EARLY CERVICAL CANCER TREATED WITH RADICAL HYS TRECTOMY AND PELVIC LYMPHADENECTOMY

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Aims

Evaluate disease-free survival (DFS) and recurrence rates in women with early cervical cancer who undergone radical hysterectomy and pelvic lymphadenectomy, treated or not with adjuvant radiotherapy.

Method

Between 1988 and 2014, 516 women with clinical stage IB cervical cancer underwent oncological treatment in two large Brazilian cancer centers.

Results

The mean age was 43 years and the most common histological type was squamous cell carcinoma (71.7%). There were 73 relapses (14.6%) and 49 deaths (9.4%). Lymph node metastases were associated with a higher rate of recurrence even in the group of patients who received radiotherapy (P <0.001), parametrial and surgical margins involvement were not, (P = 0.141 and P = 0.173). Tumor diameter> 20mm, depth of invasion> 10mm and lymph vascular space invasion (LVSI) had lower rates of relapse in radiotherapy group (P = 0.481, P =0.422, P = 0.221). Among women who didn’t recived radiotherapy, LVSI alone, tumor size> 20mm alone, association between LVSI and depth of invasion> 10mm and association of three factors were associated with higher rates of relapse (P = 0.021, P = 0.043, P = 0.002, P = 0.001).

Conclusion

Positive lymph node is related to high recurrence rate and lower DFS even in women undergoing adequate radiotherapy treatment. Chemoradiotherapy as adjuvant therapy should be strongly considered in this group of patients. Intermediate risk factors, especially depth of invasion and LVSI were associated with 1.7-time higher risk of relapse and lower DFS. Patients with intermediate risk factors treated with adjuvant radiotherapy have similar recurrence rate as non-risk patients.
CERVICAL CANCER

ESGO7-1381

CLINIC PATHOLOGIC FACTORS ASSOCIATED WITH LOW-RISK EARLY-STAGE CERVICAL CANCER

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Aims

Evaluate oncological outcomes in a cohort of women with clinical stage IB cervical cancer with favorable pathological factors who undergone radical hysterectomy and pelvic lymphadenectomy, submitted or not to radiotherapy.

Method

Between 1980 and 2014, 516 women with clinical stage IB cervical cancer underwent radical hysterectomy and adjuvant radiotherapy in two large Brazilian cancer centers. Demographic data, pathological findings of surgical specimens and follow-up information were analyzed.

Results

Were identified 52 women with tumor diameter < 20 mm, absence of LVSI and depth of invasion < 10 mm. Ten patients were <35 years (19.2%) and 42 > 35 years (80.8%). The most common histological type was squamous cell carcinoma 38 (73%), 13 (25%) adenocarcinoma and one patient had adenosquamous carcinoma (2%). The mean of dissected lymph nodes was 20. Parametral involvement and lymph node metastases was not present in any patient and 3 patients had surgical margins involvement. Twelve patients received adjuvant radiotherapy treatment and two relapsed. No patient died at an average follow-up of 80 months.

Conclusion

The standard treatment for women with early-stage cervical cancer (IA2-IB1) remains radical hysterectomy with pelvic lymphadenectomy. In select patients interested in future fertility, the option of radical trachelectomy with pelvic lymphadenectomy is also considered a viable option. The possibility of less radical such as conization with pelvic lymphadenectomy may be appropriate not only for patients desiring to preserve fertility but also for patients with low-risk early-stage cervical cancer.
CERVICAL CANCER

ESGO7-1385

EVALUATION OF CONIZATION HIGH ASSOCIATED WITH FREE MARGINS FOR MICROINVASIVE CERVICAL CARCINOMA TREATMENT

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Aims

The definitive diagnosis of micro invasion must be obtained by histopathological analysis of cervical conization specimens, either cold knife conization (CKC) or loop electrosurgical excision procedure (LEEP). The aim of this study is to evaluate the clinical and pathological factors related to free margins in women with cervical microinvasive carcinoma submitted a conization.

Method

603 patients diagnosed and treated for squamous cervix microinvasive carcinoma, FIGO stage IA1 and IA2 (MIC), from 1975 to 2013 were included. CKC was performed in 333 patients (55.2%) and 270 (44.8%) LEEP.

Results

The analysis of surgical resection margins showed 489 (81.1%) free ectocervical margins and 331 (54.8%) endocervical margins. Univariate analysis showed that conization height, age ≥40yr (OR=2.55, p<0.001), LEEP (OR=1.75, p<0.001) and micro invasion depth > 3mm (OR=3.74, p=0.006) were associated with conization margins involvement. Multivariate analysis showed: conization height, age ≥40yr (OR=3.47, p<0.001), LEEP (OR=1.99, p<0.001) and micro invasion depth > 3mm (OR=3.99, p=0.007), were independent risk factors for conization margins involvement. Higher proportion of positive conization margins was observed in women who underwent LEEP, when compared to CKC (p<0.001). Specimens from CKC were larger than in LEEP (p<0.001) for all patients.

Conclusion

Free conization margins was statistically associated with conization depth bigger than 18.9 mm in women < 40yr and 20.6mm in women ≥ 40 yr, (p<0.001). ROC curve for the prediction of free conization margins by conization height, was 0.664 (p<0.001). Conization height with best performance was 19.5mm.
CERVICAL CANCER

ESGO7-0295

ENDOCERVICAL FIBROBLASTIC MALIGNANT PERIPHERAL NERVE SHEATH TUMOUR: REPORT OF A CASE.
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Aims

Cervical sarcomas are rare neoplasms, accounting for less than 1% of all cervical malignancies and characterized by an aggressive course despite complete excision. We report a case of a Malignant Peripheral Nerve Sheath Tumor (MPNST) arising as an endocervical polyp.

Method

a G4P2 45-yr-old Caucasian woman with a previous negative pap smear 2 years before diagnosis underwent a clinical examination for AUB that revealed a cervical tumor measuring 40 x 45 mm and a secondary detached polypoid mass free in the vagina, clinically staged FIGO IB1. We performed a hysterectomy with type B radicality and systematic pelvic bilateral lymphadenectomy and BSO, with free surgical margins.

Results

Microscopic examination of the surgical specimen revealed a mildly atypical spindled-cells proliferation, growing underneath the cervical mucosa. Neoplastic cells had scant, eosinophilic cytoplasm, elongated nuclei with inconspicuous nucleoli. Neoplastic cells displayed a “fibrosarcoma-like” parallel or “herringbone” pattern of high cellular fascicles. Mitotic activity was high, with up to 40 mitoses per 10 HPF. Immunohistochemically, the tumor had a focal immunoreactivity for S100. Interestingly, neoplastic cells showed a focal, strong positivity for CD34. Immunoreactivity for CD10, ER, SOX10, desmin, ALK, EMA, Bcl2, CD99 was negative. FISH analysis for t(X;18) turned out negative. The patient underwent follow up and she is currently NED after 14 months.

Conclusion

MPNSTs are highly aggressive sarcomas rarely involving uterine cervix, with an unfavourable clinical course. Main differential diagnosis to consider are spindle cell melanoma, leiomyosarcoma, endometrial stromal sarcoma, synovial sarcoma and other spindle cell neoplasms.
CERVICAL CANCER

ESGO7-0468

IS NODAL RECURRENCE INCREASED AFTER SENTINEL LYMPH NODE BIOPSY IN PATIENTS WITH EARLY-STAGE CERVICAL CANCER?

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Aims

To describe recurrences in women with early-stage cervical cancer with negative nodes who were primarily treated by radical surgery and pelvic bilateral lymphadenectomy (LDN) or only sentinel lymph node biopsy (SLNB).

Method

A total of 134 patients with FIGO stage IA1-IB1/IIA1 cervical cancer were treated in our hospital. Of them, 121 had negatives nodes (73 LDN and 45 SLNB). From February 2001 until May 2011 patients underwent SLNB followed by complete pelvic LDN as part of their primary treatment. Between 06/2011 and 10/2016, patients underwent only SLNB. The SLNB was achieved by laparoscopic approach after intracervical injection with radiocolloid and blue dye. Patients in whom sentinel lymph nodes were detected unilaterally or non-detected underwent a complete lymphadenectomy of the failed mapped side. SLN were evaluated by pathologic ultrastaging. Follow-up data were prospectively recorded. SPSS 20.0 was used for statistical analysis.

Results

No differences regarding age at diagnosis, size of the tumor (≤ 2cm vs. > 2cm), FIGO stage, histology type and type of surgery were seen between both groups. In both groups the pattern of recurrence and metastases was similar. Ten patients recurred, 3 patients in the SLNB group and 7 in the LDN group. After SLNB there were 1 nodal recurrence, 1 loco-regional recurrence and 1 distant metastasis. After LDN, 3 nodal recurrences, 3 loco-regional recurrences and 1 metastasis were diagnosed. These differences were not statistically significant.

Conclusion

The rate of nodal recurrence was not increased after SLNB in early-stage cervical cancer.
CERVICAL CANCER

ESGO7-0415

CERVICAL CANCER RELAPSE RATES IN PATIENTS WITH PARA-AORTIC NEGITIVE PET SCANS: A FIVE-YEAR ANALYSIS IN AN IRISH GYNAEONCLOGY CENTRE

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Aims

To review the rates of cervical cancer relapse in our patients with no gross metastatic spread to the para-aortic nodes (PA nodes) at initial diagnosis as defined on positron emission tomography (PET).

Method

Data contained in our gynaeoncology cancer registry was combined with hospital records. All cervical cancers over a period August 2011-July 2016 were selected for analysis. Data was collected on patients staged ≥1B2 to 4A. Patients were excluded if no PET scan was performed and diagnosis of metastasis was based on PET report.

Results

Of 105 patients, 97 had a reported PET scan. Seventy-eight percent of cases were squamous pathology. At diagnosis, 71% (n=69/97) of patients were PA node-negative. Relapse rates were higher in PA node negative patients than PA node positive 20% (n=14/69) vrs 14% (n=4/28). Of PA node-negative patients, 41% (n=28/69) had pelvic nodes positive on PET scan at diagnosis, of these 39% (n=11/28) received para-aortic radiation, 25% of patients (n=7/28) relapsed, the majority 71% (n=5/7) failing systemically. Of those negative for pelvic and PA-node disease 17% (n=7/41) relapsed, 86% (n=6/7) systemically, none received extended field radiation.

Conclusion

Although PET imaging is the standard for assessment of gross metastatic disease, overall 20% of PA node-negative patients experienced a subsequent relapse. Outcome was worse in relapsed patients who had no pelvic or PA disease at diagnosis. This review shows the importance of micro-metastasis in cervical cancer not yet identifiable by PET imaging.
CERVICAL CANCER

ESGO7-0019

PRIMARY CERVICAL MELANOMA WITH VULVAR AND BRAIN METASTASIS: A CASE REPORT

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Aims

Present a rare case of Primary cervical melanoma, discuss diagnostic approaches, management and to raise impact on awareness.

Method

This is a case report. A 61 y/o, female, nulligravid, presented with post-menopausal bleeding. Initially, a fractional curettage, with biopsy showed a malignant mixed mullerian tumor (MMMT) with heterologous component. Interval history showed persistence of symptoms and on examination, the cervix was converted to a 6 x 6 cm necrotic and friable, bluish black mass that extended to the middle third of the vagina with a 2 x 3 cm solid mass, which was 0.5 cm from the hymenal ring, right lateral vaginal area. Assessment was MMMT, Cervical carcinoma Stage IIIB.

Results

Cervical punch biopsy and vaginal mass biopsy showed Round cell malignancy with clear cell features and Squamous hyperplasia with chronic inflammation and hyperkeratosis, respectively. Proceeded with immunohistochemical stainings. Primary Cervical Melanoma Stage IIIB was made due positive Vimentin, S100 and Melan-A. Hence, Dacarbazine chemotherapy was advised. Cranial CT scan with contrast showed a complex low density cystic mass with irregular soft tissue attenuation. She underwent whole brain radiotherapy with a total of 3000 cGy which she tolerated well.
Conclusion

Primary cervical melanoma is a poorly understood disease and diagnosis often presents a challenge where results of histopathology may be confused with other etiologies; hence an expert pathologist is needed. Immunohistochemical stainings: S100, vimentin, Melanin A, MART1 and HMB45, are the key to the diagnosis to this rare entity. Therefore, prompt recognition is important to immediately establish a diagnosis and appropriate management planned.
CERVICAL CANCER

ESGO7-0660

IS THE ONCOLOGIC OUTCOMES OF CERVICAL CANCER PATIENTS WHO UNDERWENT SIMPLE HYSTERECTOMY WORSE THAN THOSE OF PATIENTS WHO DIAGNOSED AND SURGERY PROPERLY?

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Aims

To evaluate clinical characteristics, causes, and survival outcomes of cervical cancer patients who underwent simple hysterectomy.

Method

Medical records of patients who underwent surgical treatment for presumed leiomyomas, from January 2006 to December 2014, were retrospectively reviewed. Clinical characteristics, subsequent treatment, and outcomes were analyzed by descriptive statistics. This study includes follow-up data through December 31, 2016.

Results

A total of 565 medical records of cervical cancer patients who underwent primary surgery. Of which 52 patients (9.2%) were inadvertent hysterectomy. Comparable with FIGO stage IA2, IB1, IB2 and IVB in 3, 44, 3, and 2 patients, respectively. Histopathology was classified as squamous cell carcinoma in 29 patients, adenocarcinoma in 21 patients, endometrioid carcinoma in 1 patient, and neuroendocrine types in 1 patient. Median age was 48.0 years (IQR 42.0-56.0 years). Causes of inadvertent hysterectomy were represent in Table 1. 9/52 patients were refused further treatment. Forty-three patients were prescribed the following treatment: radiation in 39 patients, surgery in 1 patient, and chemotherapy in 1 patient, and 2 patients were appropriate for long term surveillance. The median time before definite treatment was 1.6 months (IQR 0.5-9.2 months). 42/43 patients had complete response and one patient was disease progression. Two patients had recurrent disease and none patients died of their disease. The median overall survival (OS) was 58.5 months (IQR 7.2-114.4 months).

Conclusion

9.2% of cervical cancer patients were inadvertent hysterectomy. Treatment outcome was favorable with almost 4.6% of recurrence rate, and median OS was nearly 5 years.
CERVICAL CANCER
ESGO7-0546

EVALUATION OF THE EFFECT OF HUMAN PAPILLOMA VIRUS (HPV) POSITIVITY ON PATIENT ANXIETY
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Aims

It is known the relationship between Human papilloma virus (HPV ) and cervical cancer. HPV screening is used for screening of cervical cancer and preinvasive lesions. The aim of this study was to evaluate the effect of HPV positivity on patient anxiety

Method

This study was carried out at the Selcuk University Medical Faculty, Gynecology and Obstetrics Department. 300 patients were included in this study. Patients divided into the two groups, 150 patients were HPV positive group and 150 patients were HPV negative group as a control group. The patients were filled with an immediate and continuous anxiety scale questionnaire (STAİ FORM-1 and STAİ FORM-2). The results were assessed statistically.

Results

The mean age of HPV positive group was 42.2 years and the HPV negative group was 45.3 years. 68 patients were HPV 16-18, 82 patients HPV others in the HPV positive group. The HPV positive group had higher anxiety level than the HPV negative group. There was statistically significant difference in the comparison of the immediate anxiety scale questionnaire (51.27± 5.4 and 45.31± 4.2, p< 0.05).

Conclusion

The immediate and continuous anxiety scale levels of patients with HPV screening positive were detected high compared to HPV negative patients. Patients should be informed before and after screening to reduce anxiety.
CERVICAL CANCER

ESGO7-0558

COMPARISON OF THE EFFECT OF HUMAN PAPILLOMA VIRUS (HPV) SCREENING ON PATIENT ANXIETY WITH CONVENTIONAL METHODS

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Aims

After identification of the relationship between Human papilloma virus (HPV) and cervical cancer, screening and treatment methods for sexually transmitted disease have been identified. HPV screening is used for screening of cervical cancer and preinvasive lesions. The purpose of this study was to compare the effectiveness of this screening method on patient anxiety with the conventional methods.

Method

This study was carried out at the Selcuk University Medical Faculty and Mersin Research and Training Hospital. The HPV group consisted of 255 patients who were referred to the outpatient clinic for HPV screening test and the Smear group included 250 patients who were referred to the outpatient clinic as a result of Smear scan. A total of 505 patients were included in this study. Before treatment, the patients were filled with an immediate and continuous anxiety scale questionnaire. The results were evaluated statistically.

Results

The mean age of HPV group was 45.3 years and the smear group was 47 years. 75 patients were HPV 16-18, 180 patients others in the HPV group. 115 patients were ASCUS, 35 patients ASC-H, 75 patients were LGSIL, 25 patients were HGSIL in the smear group. The HPV group had significantly higher anxiety level (57.9±6.1 and 36.1±4.2, p< 0.001). There was no statistically significant difference in anxiety level among the HPV subgroups.

Conclusion

The anxiety levels of the patients with HPV results were higher than smear group. There was no difference in the subgroup comparisons made by the type of HPV-detected patients.
CERVICAL CANCER

ESGO7-0241

IMPORTANCE OF UTERINE CERVICAL CERCLAGE TO MAINTAIN A SUCCESSFUL PREGNANCY FOR PATIENTS WHO UNDERGO VAGINAL RADICAL TRACHELECTOMY.

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Aims

We have performed 36 vaginal radical trachelectomies (RTs) for patients with early invasive uterine cervical cancer and experienced 10 deliveries. Pregnancy after RT has far higher risks of prematurity and complications such as preterm premature rupture of the membrane (pPROM) and chorioamnionitis. We report the significance of transabdominal cerclage in the follow-up of pregnancy after vaginal RT.

Method

Our operative procedure is based on that of Dargent et al. We amputated the cervix approximately 10 mm below the isthmus. For the removal of the parametrium, we cut at the level of type II hysterectomy. A nylon suture is also placed around the residual cervix. Pregnancy courses after vaginal RT were studied in 9 patients (10 pregnancies) with respect to cervical length and several infectious signs.

Results

Obstetric prognosis after RT was improved with our follow-up modality. Four patients who were followed up with this modality were able to continue their pregnancies until late in the third trimester. However, it was not effective for four patients who showed cervical incompetence due to slack cerclage. They suffered from pPROM without any infectious signs and uterine contraction. Though we performed transabdominal uterine cervical cerclage for one patient in her 19th week of pregnancy, it was unsuccessful.

Conclusion

Cervical cerclage placed at the time of RT played an important role in preventing dilatation of the uterine cervix and the subsequent occurrence of pPROM. Transabdominal cervical cerclage should be performed earlier in pregnancy or before pregnancy in patients who have experienced problems with cervical cerclage.
CERVICAL CANCER

ESGO7-1283

TRANS PERITONEAL PARA-AORTIC LYMPHADENECTOMY IN LOCALLY ADVANCED CERVICAL CANCER

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Aims

The aim of this study was to evaluate feasibility and morbidity of transperitoneal para-aortic lymphadenectomy in locally advanced cervical cancer (LACC).

Method

A retrospective review, between March 2011 to September 2016, included all patients who underwent transperitoneal para-aortic lymphadenectomy for LACC in a University hospital (n=21). Transperitoneal pelvic lymphadenectomy were performed along for 19 patients. According to FIGO classification, there were 15 stage IIB, 3 stage IIA, 2 stage IB2 and 1 stage III B.

All patients benefited of PET Scan before surgery which were negative.

Results

The mean number of lymph nodes was 14.23 (6.22). The mean number of latero-aortic lymph nodes was 8.09 (6.09). The mean duration of surgery was 237.37 minutes (75.34). No transfusions were reported. No per-operatory or post-operatory complications were reported either (particularly lymphoceles).

Conclusion

Trans peritoneal para-aortic lymphadenectomy is safe and an efficient procedure for ganglionic staging.
SENTINEL NODE MAPPING WITH FLUORESCENCE INDOCYANINE GREEN IS PROMISING IN 94 PATIENTS WITH CERVICAL OR ENDOMETRIAL CARCINOMA

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Aims

Retrospective study on sentinel lymph node (SLN) mapping with fluorescence indocyanine green (ICG) in early stage cervical (CC) and endometrial cancer (EC), using robot-assisted minimal invasive endoscopy.

Method

We included all patients who underwent SLN mapping by ICG and fluorescence imaging from 12/2014, to 03/2017. Ninety-four patients were analysed, 50 with EC (47pts FIGO-stage I and 3pts FIGO-stage II) and 44 with CC. Eighteen patients with EC and all patients but two with CC underwent a complete pelvic lymphadenectomy. In all cases, we injected 1mL of diluted ICG(2mg) into the 4 quadrants of the cervical stroma. In CC the injection was submucosal, in EC it was given 1cm deep in the cervical stroma. All SLNs were ultra-staged on final pathology.

Results

Twenty CC patients(45%) underwent neoadjuvant chemotherapy (NACT) (19 IB2-IIB and 1 Ib1). Excluding NACT CC patients (2 IA2(5%) and 22 lb1(50%)), 92% had bilateral mapping and 8% unilateral. NACT CC resulted in a worse SLN detection (bilateral:60%, unilateral:20%). Eight EC patients had a too deep (intraperitoneal) IGC-injection (N=6) or had fibrosis due to previous surgery(N=3). Excluding them, bilateral mapping was observed in 33(81%), unilateral in 4(10%) and no sentinel in 3 cases(7%). 12 positive sentinels were found (CC:9, EC:3). Only one patient, with a clinical stage II carcinosarcoma of the endometrium, had a false negative SN node. No recurrences in the pelvic lymph nodes were observed.

Conclusion

Fluorescence imaging with ICG using the robotic approach shows promising results in cervical and endometrial cancer. NACT seems to decrease the reliability of the technique.
Aims

This study investigated potential preoperative predictors of pelvic lymph node (PLN) and para-aortic lymph node (PaLN) involvement in cervical cancer (CC).

Method

The study retrospectively analyzed 238 patients diagnosed with early (stage IA1–IIA) CC who underwent retroperitoneal LN dissection between January 1992 and February 2015. Several risk factors that are believed to influence PLN and PaLN involvement in CC were analyzed: age > 50 years, lymphovascular space invasion (LVSI), tumor size ≥ 2 cm, hemoglobin < 12 g/dL, and non-squamous cell histologic type.

Results

LVSI (OR=11.3, 95% CI=5.2–24.3) and tumor size (OR=3.2, 95% CI=1.4–7.2) were independent predictors of PLN involvement. None of the factors predicted PaLN involvement in a regression analysis. However, all nine patients who had PaLN involvement also had PLN involvement.

Conclusion

LVSI and tumor size independently increase the risk of PLN involvement.
CERVICAL CANCER

ESGO7-1105

MANAGEMENT OF VERTEBRAL METASTASIS IN PATIENTS WITH UTERINE CERVICAL CANCER
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Aims

We sought to identify risk factors and management options for uterine cervical cancer (UCC) patients with a vertebral metastasis (VM) treated over the course of 23 years.

Method

Among 844 UCC patients, 18 were diagnosed with a VM. Thirty-six control patients with UCC but without recurrence were matched to these 18 in terms of stage and histological tumor type using a dependent random sampling method. A logistic regression analysis was employed to identify factors prognostic of VM; the results are presented as odds ratios with 95% confidence intervals (CIs).

Results

The mean survival time after VM treatment commenced was 12.1 ± 2.7 months (95% CI=5.3–12.6 months) in patients who received chemotherapy (CT) and 15.0 ± 2.3 (95% CI=9.7–14.2) months in those treated via chemoradiotherapy (CRT) (P=0.566). In patients who underwent CT, the 1- and 2-year survival rates after recurrence were 19.2% and 0%, respectively. However, these figures were 50% and 8.3% in those treated via CRT. Both lymphovascular space invasion (LVSI) and mean corpuscular volume were risk factors for VM. Cox’s regression analysis showed that these prognostic factors had no effect on survival duration after recurrence.

Conclusion

We found that patients with LVSI were at high risk for isolated VM and that the survival times after CT and CRT were similar.
CERVICAL CANCER

ESGO7-0367

DIAGNOSTIC VALUE OF PAP SMEAR AND COLPOSCOPY IN NON-BENIGN CERVICAL LESIONS

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Aims

Although cervical cancer is a very common and lethal condition, owing to longstanding premalignant lesions, preventing morbidity and mortality by screening measures is feasible. Pap smear, colposcopy and biopsy are main modalities in this regard, but there is still no consensus on the diagnostic utility of the first two methods. The aim of this study was to examine the diagnostic utility of Pap smear and colposcopy to cytology in evaluating non-benign cervical lesions.

Method

A cross sectional study was carried out between 2015 and 2016 in an out-patient setting at the Alzahra Teaching Hospital of the Tabriz University of Medical Sciences. In 315 participants with abnormal Pap test colposcopy and biopsy from the abnormal areas were carried out. Cervical biopsy was considered as a gold standard and the diagnostic value of Pap smear and colposcopy was individually compared by calculating sensitivity, specificity and likelihood ratio.

Results

The mean age of patients was 38.49±10.31 years. Non-benign cervical lesions were present in 31 cases (9.8%). Accordingly, the sensitivity, specificity, positive predictive value, negative predictive value and accuracy of Pap smear in revealing non-benign cervical lesions was 77.4%, 69.7%, 21.8%, 95.6% and 70.7%, and for colposcopy, was 90.3%, 90.9%, 51.9%, 98.9% and 90.8%, respectively.

Conclusion

According to our results, the colposcopy is a sensitive and specific method in differentiating benign from non-benign cervical lesions. The accuracy of Pap smear is intermediate, and the utility is limited and this method should not be considered as a principal factor in therapeutic decision making.
CERVICAL CANCER

ESGO7-0847

INDO CYANINE GREEN (ICG)-INDUCED ANAPHYLACTIC-SHOCK FOLLOWING INTRACERVICAL INJECTION FOR SENTINEL LYMPH NODE (SLN) MAPPING: A CASE REPORT

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Aims

ICG is a novel dye used for sentinel node mapping in gynaecologic malignancies. The aim of this study is to report a case of a anaphylactic-shock following an ICG intracervical injection for cervical cancer in a patient without any prior known iodine allergy.

Method

We performed case description followed by a systematic litterature review.

Results

A 52-year-old woman with a stage IA2 squamous cell carcinoma of the cervix was scheduled for a simple hysterectomy with bilateral salpingo-oophorectomy and SLN. She had been exposed to intravenous iodine contrast for radiologic studies few weeks prior to surgery without any adverse reaction. Under general anesthesia, five minutes following the 3 mL intracervicial ICG injection, the patient presented a sudden and severe hypotension associated with a diffuse urticarial rash and desaturation. The shock was reversed with vasopressors, intravenous corticosteroids administration and antihistamine. Surgery was cancelled and the patient was sent to ICU for monitoring. The patient underwent extensive allergy testing for the usual allergens involved in the peri-operative setting. The only positive result on the Prick test was found for ICG. Recommandation was made not to use ICG again even if not considered iodine allergic. No anaphylactic reaction following intracervial ICG injection was found in the litterature.

Conclusion

ICG is considered a safe and efficient dye for SLN mapping. ICG-allergic reactions following IV administration have been reported. To our knowledge, this is the first case of ICG-induced anaphylactic-shock following intracervical injection in the absence of any prior known iodine allergy.
CERVICAL CANCER

ESGO7-1349

COMMON AORTIC AND OBTURATOR LYMPH NODE METASTASES MAY PREDICT PARAORTIC NODE INVOLVEMENT IN CERVICAL CARCINOMA

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Aims

To evaluate the risk factors associated with paraaortic lymph node metastasis in cervical carcinoma patients.

Method

A total of 205 consecutive cervical carcinoma patients with a histopathologic diagnosis of squamous cell or adenocarcinoma were analysed retrospectively at Zekai Tahir Burak Women’s Health Education and Research Hospital. Type 3 hysterectomy and bilateral pelvic paraaortic lymphadenectomy was the standard surgical procedure. Pathologic characteristics that were revealed with final pathology reports were analysed within univariate and multivariate analysis.

Results

Median age of the patients was 52.5 and most of the patients were having a squamous cell carcinoma (n=161, 78.5%). Median tumor diameter, pelvic and paraaortic lymph node counts were 3.5cm, 39 and 14 respectively. Paraortic lymph node metastasis was detected in 15 (7.3%) patients. In univariate analysis paraaortic lymph node metastasis was significantly related with parametrial involvement, lymphovascular space invasion and pericervical, obturator, external iliac, presacral and common aortic lymph node involvement (p<0.05). However multivariate logistic regression analysis showed that common iliac (p=0.003 OR:1.61, 95% CI:2.59-10) and obturator (p=0.021 OR:1.51, 95% CI:1.49-14) lymph node metastases were the only significant parameters of paraaortic lymph node involvement.

Conclusion

Common iliac and obturator lymph nodes may be used for the prediction of paraaortic lymph node metastasis during surgery for cervical carcinoma.
CLINICAL SIGNIFICANCE OF HMGB1 EXPRESSION AND ITS ASSOCIATED MOLECULES IN CERVICAL CANCER

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Aims

Cervical cancer (CaCx) is the fourth most common malignancy in women worldwide. Aberrant expression of high mobility group box 1 (HMGB1) is associated with tumor development, progression and poor prognosis. We have investigated the association between HMGB1 and its associated molecules (RAGE, p53 & p62) in CaCx. We have also evaluated the clinical significance of serum HMGB1 in CaCx diagnosis.

Method

Total of 50 subjects, where 20 patients of CaCx, 20 healthy women (controls) and 10 controls having gynecological disorder other than malignancy were recruited. Circulatory levels of HMGB1 were measured by ELISA. mRNA and protein levels of HMGB1 and its associated molecules were quantitated using Q-PCR and western blotting, respectively. HeLa cells were used as positive control for HMGB1. Data was statistically analyzed.

Results

Circulatory levels of HMGB1 were significantly higher in patients as compared to healthy controls. mRNA and protein expression of HMGB1 were significantly higher in patients than that in normal controls. The levels of RAGE, p53 and p62 were also significantly elevated than their expression in controls at mRNA as well as at protein levels.

Conclusion

HMGB1 and its associated molecules were found to be overexpressed in CaCx. Serum HMGB1 level could be a useful and specific marker for evaluating the disease and diagnosis. HMGB1/RAGE pathway might play a significant role in the pathogenesis of CaCx. Validation in larger patient cohort might exploit HMGB1 as a novel therapeutic target and diagnostic marker for CaCx in future.
CERVICAL CANCER

ESGO7-1300

QUALITY OF LIFE AFTER ULTRA RADICAL CHEMO-SENSITIZED RADIATION TREATMENT OF LATE STAGE CANCER OF UTERINE CERVIX

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Aims

Study of Long term survival outcomes of ultraradical treatment with NACT Chemo sensitized Tele-Brachytherapy, Adjuvant chemotherapy for beyond FIGO stage cancer cervix is presented.

Method

The higher cure rates and survival have been achieved however at the cost of long term side effects, because of its relation to the replacement of treatment zone by cheap fibrous tissue of the hollow that is created by massive tumour bulk that has been exterminated. Since all the cases studied after treatment was late stage bulky disease there could not be randomisation for less aggressively treated patients.

Results

The main issues faced by these patients were

1- Post-therapy obesity
2- Persistent GIT problems
3- Reduced urinary bladder capacity.
4- Weakness
5- Pelvic, arteriovenous, perineural fibrosis
6- Bone demineralisation
7- Hydrouretronephrosis , recto-sigmoid narrowing.
8- Vaginal Narrowing / shortening
9- Dyspareunia non-performing sexual life
10- Persistent low or borderline haemoglobin
11- Persistent pedal oedema
12- Occasional episodes of hematurea or bleeding per rectum.

Conclusion

In Indian scenario, the women were not indisposed and were continuously attending their house chores and responsibilities. A cautious follow up that was necessitated in these cases or the vice-versa that patients had been on frequent follow up to keep vigil and remedy on their symptoms and complaints. It was also observed that these patients had shown remarkable improvement in self rehabilitation and quality of life when they were kept on adjuvant Tibetan Medicine as advised from Institutions of HH Dalai Lama.
CERVICAL CANCER

ESGO7-0589

LAPAROSCOPIC VAGINAL ASSISTED RADICAL TRACHELECTOMY WITH PELVIC LYMPHADENECTOMY IN YOUNG WOMEN WITH INVASIVE UTERINE CERVIX CANCER

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Aims

Nowadays radical trachelectomy (RT) as a fertility-sparing option for patients with invasive cervical cancer is applied in clinical practice in many medical centers worldwide. Vaginal and abdominal approaches are the most common. Vaginal surgery is not widely spread in oncogynecology in Russia and application of vaginal RT in clinical practice requires long training with limited radicality. Abdominal RT demonstrates acceptable oncologic results but poor fertility outcomes. As an alternative for these approaches laparoscopic vaginal assisted radical trachelectomy (LVART) has been implemented in our Institute.

Method

From 2014 29 LVARTs for IA2-IB1 cervical cancer have been performed. Pelvic lymphadenectomy, developing spaces, unroofing the ureters and parametrial resection were done laparoscopically. Colpotomy, resection of uterine cervix and uterovaginal anastomosis were performed through the vaginal route.

Results

Mean operative time was 214 min, with minimal blood loss and fast recovery. We didn’t observe any significant complications in this group of patients. In 4 (13.8%) patients fertility sparing procedure was abandoned due to positive lymph nodes or resection margins and radical hysterectomy was performed. At median follow up of 13 month 1 recurrence in residual cervix was observed. All other women have no evidence of disease, demonstrates normal menstrual pattern, 2 women had pregnancies and 1 live birth.

Conclusion

Laparoscopic technique provides adequate parametrial resection, vaginal assistance makes it easier to identify the correct level of cervix resection and to perform uterovaginal anastomosis. We expect that after longer period of follow-up combination of minimally invasive and vaginal surgery with their advantages will show acceptable oncologic and fertility outcomes.
CERVICAL CANCER

ESGO7-0035

IMPACT OF ADJUVANT HYSTERECTOMY ON PROGNOSIS IN PATIENTS WITH LOCALLY ADVANCED CERVICAL CANCER TREATED WITH DEFINITIVE CONCURRENT CHEMORADIOThERAPY: A META-ANALYSIS

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Aims

We investigated the effect of adjuvant hysterectomy (AH) on prognosis in locally advanced cervical cancer (LACC) patients treated with concurrent chemoradiotherapy, through meta-analysis.

Method

EMBASE and MEDLINE databases and the Cochrane Library were searched for published studies comparing LACC patients who received AH after chemoradiotherapy with those who did not, through April 2016. Endpoints were mortality and recurrence rates. For pooled estimates of the effect of AH on mortality/recurrence, random- or fixed-effects meta-analytical models were used.

Results

Two randomized trials and six observational studies (AH following chemoradiotherapy, 630 patients; chemoradiotherapy, 585 patients) met our search criteria. Fixed-effects model-based meta-analysis indicated no significant difference in mortality between the groups [odds ratio (OR) = 1.01, 95% confidence interval (CI): 0.58-1.78, P = 0.97] with low cross-study heterogeneity (P = 0.73 and I² = 0). This pattern was observed in subgroup analysis for study design, radiation type, response after chemoradiotherapy, and hysterectomy type. The pooled OR for AH and recurrence was 0.59 (95% CI: 0.44-0.79, P < 0.05) with low cross-study heterogeneity (P = 0.289 and I² = 17.8), favoring the AH group. However, this pattern was not observed in the subgroup analysis for the randomized trials. There was no evidence of publication bias.

Conclusion

In this meta-analysis, AH following chemoradiotherapy did not improve survival in patients with LACC, although it seemed to reduce the risk of recurrence. Concerning the significant morbidity of AH after chemoradiotherapy, routine use of AH should be avoided.
PTEN DOWN REGULATION INDUCE APOPTOSIS AND CELL CYCLE ARREST BY AN ACTIVATION OF P53 IN UTERINE CERVICAL CANCER CELL.

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Aims

PTEN and p53 are known as tumor suppressor proteins that are frequently mutated or down regulated in various human cancers. Down regulation of PTEN, however, may induce anti proliferative effect via p53 activation.

The authors investigate the proliferation and apoptosis of cancer cells after down regulation of PTEN in cervical cancer cell.

Method

Cervical cancer cells, HeLa and CaSki, were cultured with 10% FBS in culture medium. Before starting each experiment, the cells were cultured for 48 hours as fasting state for cell cycle synchronization. The siRNA for PTEN and control were constructed and tranfected with Lipofectamine. The experiments were FACS for investigating cell cycles, Western blot for proteins analysis, and MTT assay for cell proliferation.

Results

Apoptosis cell portion was significantly increased (p<0.001) and S1 phase cell portion was significantly decreased in PTEN down regulated cells (p<0.001) on FACS analysis. Expression of p53, p27, p21, p-ERK, and cleaved Caspase 3 were increased and expression of cyclin A2 and cyclin D1 decreased in PTEN down regulated cells on western blots. Cell viability was significantly lower in PTEN down regulated cells than control (p=0.002) on MTT assay.

Conclusion

Down regulation of PTEN induce apoptosis and block G1/S shifting of cell cycle in cervical cancer cell and could be a new strategy for cervical cancer treatment.
CERVICAL CANCER

ESGO7-1220

RARELY CASE REPORT OF MINIMAL DEVIATION ADENOCARCINOMA
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Aims

This case report present one of this patient with chief complaint of watery vaginal discharge.

Method

case report

Results

case report

Conclusion

One of the diagnostic challenging in gynecology is Minimal Deviation Adenocarcinoma (MDA) of the uterine cervix which is adenoma malignum. A rare variation of cervical adenocarcinoma with incidence rate between 1% and 3% with unrelated pathology to HPV (human papillomavirus). The origin of MDA is not clear but association between MDA and gastric metaplasia.

Minimal Deviation Adenocarcinoma is well-differentiated cell types and a subcategory of gastric-type mucinous carcinoma. As the tumor is presenting benign features, MRI and ultrasound mostly play less role in diagnosis.
CERVICAL CANCER

ESGO7-0685

A CASE REPORT OF PYODERMA GANGRENSUM AFTER GENITAL SURGERY

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Aims

In this report, a case of PG after the vaginal surgery with history of ulcerative colitis is introduced.

Method

A 37-years old woman was admitted with history of 2 weeks subsequent genital surgery, with chief complaint of fever, painful tenderness ulcerative lesion and inflammatory papule represented on surgical site and surface of right thigh. She suffered of fever despite received one cycle of oral and of wide spectrum intravenous antibiotic. Blood cultures were negative and we observed negative wound culture. Treatment was administered as second intravenous antibiotic. In addition, topical wound debridement was performed. Despite the absence of improved treatment of the lesion, biopsy of the lesion was performed. The patient's medical history included associated ulcerative colitis from 18 years ago and she was under irregular orally receiving of Asacol. Histopathology features of biopsy specimen indicated prominent neutrophils mixed inflammation and lymphocytic vasculitis. Based on the histopathology and clinical findings, the diagnosis of Pyoderma gangrenosum was established. Intravenous corticosteroid was administered that led to response of skin of right thigh and surgical site inflammation. Now, after 3-months follow-up, the patient is still in good condition.

Results

none

Conclusion

Based on major variable clinical manifestations and no diagnostic serologic test of PG, diagnosis of this disease is difficult. Increased awareness about PG and exclusion of other etiologies such as inflammatory and immunologic disease will aid in prompt ion of pyoderma gangrenosum diagnosis and proper management of the disease.
CERVICAL CANCER

ESGO7-0592

PROGNOSTIC EVALUATION OF NERVE-SPARING RADIAL HYSTERECTOMY IN TREATING LOCALLY ADVANCED CERVICAL CANCER

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Aims

The study aimed to evaluate clinical security and prognosis of nerve-sparing radical hysterectomy (NSRH) for locally advanced cervical cancer (LACC).

Method

A retrospective cohort analysis was conducted in National Cancer Center of China. Patients with LACC (stage in Ib2 or Ia2) were recruited from Jan.1, 2008 to Dec.31, 2014. Of all the patients, 69 cases underwent NSRH, while other 320 cases underwent conventional radical hysterectomy (RH). Clinical-pathological characteristics and operative parameters as well as bladder function were compared. After median 67 months' follow-up, PFS and OS were evaluated.

Results

Basic information on two groups were matched. Multivariate analysis showed that lymph-vascular space invasion (LVSI) (P<0.001) and SCC level at diagnosis (P<0.01) were independent prognostic factors of PFS. Moreover, LVSI (P<0.001), SCC level (P<0.05) and efficacy evaluation of neoadjuvant therapy (P<0.05) were independent prognostic factors of OS. Compared to RH, patients who underwent NSRH presented less blood loss (366ml vs. 457ml, P<0.05), shorter urethral catheterization time (11.0 days vs. 15.5 days, P<0.01) and lower proportion of bladder dysfunction (6.1% vs. 16.3%, P<0.05). For patients in need of adjuvant radiotherapy, there was no superiority to the recovery of bladder function 1 year after NSRH (P=0.311).

Conclusion

NSRH is safe and feasible for patients with LACC. More importantly, compared with RH, NSRH not only demonstrated similar prognosis, but also improve operation quality as well as bladder function for patients with LACC. However, there is limited benefit at the recovery of bladder function for patients who underwent NSRH followed by pelvic radiotherapy.
SURGICAL STAGING IN TREATMENT OF LOCALLY-ADVANCED CERVICAL CANCER

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Aims

The aim of the study is to determine the facilities of laparoscopic surgical staging in treatment of patients with locally-advanced cervical cancer. The study assesses and compares clinical and surgical staging of patients with locally-advanced cervical cancer.

Method

55 women with hystopathologically confirmed clinical stage IB-IIB invasive cervical cancer underwent pretreatment laparoscopic staging, including detection of intraperitoneal spread of tumor and pelvic lymphadenectomy in the period 2012-2016 years in the N.N.Petrov Research Institute of oncology. The patients had no contraindications to the surgical procedure and had no evidence for distant metastases.

Results

The median age of patients was 45.9 (26-81) years old and BMI was 27.9 (16.9-46.8) kg/m². Most lessions were squamous (n=53; 94.9%); clinical stage was: IB2 - 9 (16.4%); IIA - 2 (3.6%); IIB - 44 (80%). Median operative time was 140.7 min with average of 13.7 lymph nodes removed. Median blood loss were 65.0 ml. There were no major intraoperative complications. The stage changes occurred in 27 (49.1%) cases: from IB2 to IIB in 6 (10.9%) and in 21 (38.2 %) cases from IIB to IIIB. For preoperative lymph node staging with MRI, sensitivity was 52%, and specificity — 50%. Of the 55 patients 43 received pelvic radiation; 3 — extended field radiation and 9 received radical hysterectomy.

Conclusion

Diagnostic laparoscopic staging of patients with locally-advanced cervical cancer offers valuable information for individualized treatment planning with minimal morbidity.
DOSE-DENSE NEOADJUVANT CHEMOTHERAPY IN COMBINED TREATMENT OF IN LOCALLY ADVANCED CERVICAL CANCER: EXPERIENCE AND PROSPECTS

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Aims

Assessment of efficacy and toxicity of dose-dense intravenous neoadjuvant cisplatin - doxorubicin chemotherapy (NACT) followed by radical surgery in patients affected by locally advanced cervical cancer.

Method

The efficacy and toxicity of 3 cycles of NACT cisplatin (75 mg / m2) and doxorubicin (35 mg / m2) on the first day of a 2-week cycle with the support of colony-stimulating factors were studied in 27 patients (mean age 48 years) treated in N.N.Petrov Research Institute of Oncology. An important criterion for inclusion was the absence of infiltration of the anterior parameters according to the gynecological examination and MRI data.

Results

An objective response to treatment was registered in 72.7% of cases. The progression of the disease was observed in one case (3.7%): increase of the cervical tumor (MRI), appearance of single ileal lymph node (CT of abdominal organs). The operability rate was 95.4%. The pathological response was 40.9%. Complete clinical regression of the tumor was confirmed by complete pathologic response (ypCR) in 9.1%.

Conclusion

The dose-dense intravenous neoadjuvant cisplatin-doxorubicin chemotherapy did not lead to a significant increase of the incidence of toxicity and surgical complications. The analysis of the direct results showed that NACT is a highly effective method in the treatment of locally advanced cervical cancer.
MINIMALLY INVASIVE SURGERY IN TREATMENT OF CERVICAL CANCER PATIENTS

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Aims

The purpose of this study was to assess the morbidity and disease free outcomes in patients with early-stage cervical cancer after treatment: nerve-sparing laparoscopic radical hysterectomy

Method

Data of 80 cervical cancer patients (stages IA1, IA2, IB1, IIA1, IIB) after laparoscopic nerve-sparing radical hysterectomy (LSNSRH) treated in “N.N.Petrov Research Institute of oncology” in the period of 2012-2016 years were analyzed.

Results

The average age of patients was 44.2 years (27-67). The average duration of the first 40 operations was 240 ± 0.75 min (200 to 250), as the surgery methodology improved - duration of operation decreased by 30 minutes and was 210±15 minutes. Self-urination in the majority (78/80) of the patients was achieved on the next day after the removal of the urinary catheter (4th day after surgery), improvement of bowel activity - on the 3rd day. In 16 of 80 patients (20.0%) asymptomatic pelvic lymphocele were found (size from 3 to 5 cm). In three cases postoperative complications were observed: ureterovaginal fistulas (8, 23, 25 days after surgery). Number of relapses during the follow-up period of 6-36 months was 4 (4/80 - 5.0%); in 3 patients with adenocarcinoma of the cervix (pT1b1N0M0 stage (2 patients), pT2aN0M0 (1 patient)) 6, 7 and 17 months after combined treatment. Local pelvic recurrence occurred in two patients, lung metastases – in one case (pT2aN0M0 stage).

Conclusion

Laparoscopic nerve-sparing radical hysterectomy in the cervical cancer patients is safe and efficient operation with low morbidity, fast postoperative recovery, early rehabilitation of patients.
CERVICAL CANCER

ESGO7-1367

INTERVENTION Hysterectomy in the management of Invasive carcinoma of the cervix

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Aims

The study presents the results of the observation of 52 women with stage IIA-IIB, IIIB invasive carcinoma of the cervix primary allocate radical radiation therapy in whom intervention hysterectomy (both simple and radical was performer at some point of the treatment process)

Method

Indication for surgical intervention were afford:

- current hemorrhage from the tumor
- intolerance of the radiation
- lack of the anatomical condition for intra cavitary radiation
- persistent tumor after completion of the radiation therapy

Results

Radical Wertheim’s hysterectomy was carried out in 24 patients and simple hysterectomy in 28 patients. All patients were sequential treated with postoperative brachytherapy. 37 patients completed pelvic external bean radiation. The follow up was at 3 year (3.7 year). The influence of the following prognostic factors for survival were calculated: nodal status, cervical measure, completion of radiation therapy. 46 % of patients were alive at 35 % at 5 years. The survival negatively influences by: positive for metastatic pelvic and persistent tumor cervix after completion of the radiation \( (p<0.05) \)

Conclusion

Our experience of cervical intervention in the locally advance cervix carcinoma has proved clinical value only in individual cases- when the plan of radiotherapy could not been completed. There is no proof that this treatment strategy improves long term survival in patients with pelvic node involved with persistent tumor after radiotherapy

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CERVICAL CANCER

ESGO7-0177

THE ROLE OF HPV TESTING WITH HPV16/18 GENOTYPING IN FOLLOW-UP OF CERVICAL CANCERS STAGES IA2-IIA2
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Aims

The aim of our study was to evaluate the role of HPV testing with HPV 16/18 genotyping for detection of local recurrence in patients who underwent surgical treatment for cervical cancers in stages IA2-IIA2.

Method

Patients underwent primary surgical treatment including radical or simple hysterectomy or fertility sparing procedure (trachelectomy or conization) and pelvic lymphadenectomy with sentinel lymph node biopsy. Adjuvant chemoradiotherapy was administered in patients with positive nodes. All women were followed in 3 months interval for the first 2 years and then semiannually. HPV tests (Cobas, Roche) were collected between 6-12 month of follow-up.

Results

Altogether 108 patients were included (IA2 - 20, IB1 - 80, IB2 - 7, IIA1 - 1), from them 51 underwent radical hysterectomy, 14 simple hysterectomy and 43 fertility sparing surgery (FSS). Four patients had subsequent adjuvant chemoradiotherapy. In 11 patients HPV test was positive. Disease recurred in vagina or cervix in 10 patients with 9 recurrences in patients after FSS. Six of them were HPV 16/18 positive. The rest 4 recurrences were detected within 6 months after the treatment before HPV testing.

Conclusion

Local recurrences were detected predominantly in patients after FSS. Nearly half of recurrences were detected before HPV test collecting. No case of recurrence were detected within HPV negative women.
CERVICAL CANCER

ESGO7-1311

IMPACT OF EXTENDED FIELD IRRADIATION ON ACUTE HEMATOLOGICAL TOXICITY IN PATIENTS WITH LOCALLY ADVANCED CERVICAL CANCER UNDERGOING RADIOCHEMOTHERAPY USING VOLUMETRIC MODULATED ARC THERAPY

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Aims

To evaluate the impact of para-aortic (PA) irradiation on acute hematological toxicity (HT), overall treatment time (OTT) and number of chemotherapy cycles in patients with locally advanced cervical cancer (LACC) undergoing concurrent radiochemotherapy using volumetric modulated arc therapy (VMAT).

Method

We analyzed 54 consecutive patients (Jan 2015 – March 2017) undergoing primary radiochemotherapy with weekly Cisplatin 40mg/m². Based on nodal involvement, irradiation fields included pelvic nodal irradiation in 29 patients and pelvic + PA nodal irradiation in 25 patients. Impact of PA irradiation was evaluated on HT, OTT and missed chemotherapy cycles. HT was assessed using the common terminology criteria for adverse events v.4.0. Dosimetric parameters (V10Gy, V20Gy, V30Gy, V40Gy, mean dose) were calculated for pelvic and lumbar bone marrow, which were contoured for each patient.

Results

Grade 3 leucopenia was observed in 20% vs 21% (with vs without PA irradiation), grade 2 in 36% vs 34%, and grade 1 in 32% vs 34%. Grade 3 anemia was not observed, grade 2 in 56% vs 37%, and grade 1 in 40% vs 41%. Bone marrow doses were acceptable, irrespective of field borders. For all but 1 patient, OTT of 50 days was respected. 75% got 4 to 5 chemotherapy cycles. There was no significant difference in HT (p=0.76), OTT (p=0.76), or chemotherapy cycles (p=0.45) among irradiation fields using linear mixed models.

Conclusion

PA irradiation using VMAT for LACC results in acceptable bone marrow doses, does not lead to increased HT, respects OTT and enables high compliance to concurrent chemotherapy.
CERVICAL CANCER

ESGO7-0540

SENTINEL LYMPH NODE DETECTION IN A SOUTH AFRICAN CERVICAL CANCER POPULATION

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Aims

To determine the detection rate, bilateral detection rate, sensitivity, specificity, positive and negative predictive values of sentinel lymph nodes in cervical cancer, with sub-group analysis to identify characteristics impacting on detection rates.

Method

Seventy-eight women were recruited. Methylene blue, ⁹⁹Technesium nanocolloid and indocyanine green were used to detect SLNs. Standard full pelvic lymphadenectomy was performed on all and ultrastaging on SLN negative women.

Results

Data of 72 women were available for analysis with 65% HIV positive. The mean age was 47.2 years; HIV-negative women 52.8 years compared to 44.2 years for HIV-positive women (p<0.0001). The mean BMI was 27.5 kg/m² (SD 5.41). The mean tumour diameter was 24 mm. Forty-eight patients (66.67%) were stage IB1 and 11 (15.3%) were IB2. Eighteen patients (25%) had pelvic lymph node metastases. The mean pelvic lymph node count was 25.16.

The SLN detection rate was 65.3% and the bilateral detection rate was 30.5%. The SLN detection rate in HIV positive was 68% and 60% in HIV negative women (p = 0.49). The sensitivity, specificity, positive and negative predictive values were 85.7%, 100%, 100% and 98.33% respectively.

Detection rates in women with tumour size < 2cm, early stage, node negative and BMI < 25 kg/m² were 77.1%, 74.5%, 72.2% and 77.7% respectively.

Conclusion

This is the first SLN study in African cervical cancer women of which large proportion had HIV infection. The SLN detection rate is much lower in this group compared to the published literature. Sensitivity, specificity, PPV, and NPV are comparable to the published literature.
CERVICAL CANCER

ESGO7-0570

ASSOCIATION BETWEEN PREOPERATIVE NEUTROPHIL TO LYMPHOCYTE RATIO AND PELVIC LYMPH NODE METASTASIS IN EARLY STAGE CERVICAL CANCER

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Aims

To assess the association of pre-operative neutrophil to lymphocyte ratio and pelvic lymph node metastasis in early stage cervical cancer

Method

Early stage cervical cancer patients undergoing radical hysterectomy with pelvic lymphadenectomy between January 1, 2008 and December 31, 2015 were identified. Clinical and pathological data of the patients and tumors were collected.

Results

A total of 121 patients with FIGO stage IA-IIA underwent radical hysterectomy and pelvic node dissection with or without para-aortic lymphadenectomy were included in the study. Mean age was 45 years (SD 10.32). After surgery, 47 patients (38.8%) had adjuvant treatment. After median follow-up of 38 months (range 6 to 114 months), 8 had recurrences (6.6%) and 3 were dead (2.5%). The five-year OS rate 93.8% and the PFS rate was 91.8%. Median of NLR was 2.03 (range, 0.74-30.0). High NLR (≥ 2.03) was significantly associated with higher FIGO stage (stage II) and pelvic lymph node metastases. Only FIGO stage and adjuvant treatment, but not high NLR, were significantly associated with survivals.

Conclusion

High NLR was associated with LN metastasis in cervical cancer patients initially treated with radical surgery. The high NLR failed to predict both PFS and OS in this group of patients.
NATIONWIDE CERVICAL CANCER SCREENING IN KOREA: DATA FROM THE NATIONAL HEALTH INSURANCE SERVICE CANCER SCREENING PROGRAM AND NATIONAL CANCER SCREENING PROGRAM, 2009–2014

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Aims

We sought to determine rates of participation and of abnormal results in the Korean nationwide cervical cancer screening.

Method

Using the database of the National Health Insurance Service, participation rates and abnormal result rates in the cervical cancer screening test were determined during the study period (2009–2014).

Results

The participation rate increased from 41.10% in 2009 to 51.52% in 2014 (APC = 4.126%; 95% CI = 2.253–6.034). During the study period, women aged ≥70 years showed the lowest rate (ranging from 21.7 to 31.9%) and those aged 30–39 years showed the second-lowest (ranging from 27.7 to 44.9%). The participation rates of National Health Insurance beneficiaries (ranging from 48.6 to 52.5%) were higher than those of Medical Aid Program (MAP) recipients (ranging from 29.6 to 33.2%). Abnormal result rates were 0.65% in 2009 and 0.52% in 2014, with a decreasing tendency in all age groups except the youngest group (30–39 years). In every year, abnormal result rates tended to decline from the group aged 30–39 years to the group aged 60–69 years, but rose again in those >70 years old. The ratio of ASC-US to SIL increased from 2.71 in 2009 to 4.91 in 2014.

Conclusion

Differences were found in participation rates and abnormal result rates by age and over time. Further efforts are needed to encourage participation in cervical cancer screening, especially for MAP recipients and elderly women and women aged 30–39 years. Additionally, quality control measures for cervical cancer screening programs should be enforced consistently.
ATTITUDES REGARDING HPV VACCINATIONS OF CHILDREN AMONG MOTHERS WITH ADOLESCENT DAUGHTERS IN KOREA

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Aims

The aim of this study, carried out before the beginning of human papillomavirus (HPV) vaccinations as a National Immunization Program (NIP) in Korea in 2016, is to assess the ranges of perceptions and personal experience and their influences on attitudes regarding HPV vaccinations of children, among mothers of adolescent (9–14 years of age) daughters in Korea.

Method

From November 2015 to February 2016, we distributed a written questionnaire to mothers who had daughters aged 9–14 years. The questionnaire consisted of several questions, related to knowledge of HPV, personal experiences of HPV vaccination, and attitudes toward HPV vaccinations of their adolescent daughters. Of the 260 questionnaires distributed, 140 participants returned answered ones.

Results

although only 51% of participants were aware that cervical cancer is highly related with HPV infection, 70% said they were willing to vaccinate their daughters, showing that awareness does not coincide with intention to vaccinate. Among the participants showing negative attitudes, 50% were concerned about the vaccination side effects. The more the participants' preknowledge about HPV infection, and about the relationship of HPV to cervical cancer, the more positive their attitudes (P = 0.002, P < 0.001)

Conclusion

Our study showed that, as the level of education rose, the proportion of mothers with negative attitudes toward vaccinating their adolescent daughters rose as well. Thus, the provision of correct education by health care providers and accurate information through active advertising may play an important role in increasing the vaccination rate among adolescent girls in Korea.
CERVICAL CANCER

ESGO7-0348

NATURAL HISTORY OF CERVICAL INTRAEPITHELIAL NEOPLASIA GRADE 2 UNDER ACTIVE SURVEILLANCE – A SYSTEMATIC REVIEW AND META-ANALYSIS

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Aims

Although cervical intraepithelial neoplasia grade 2 (CIN 2) is often considered the histological cut-off to proceed to conisation, a substantial proportion of CIN 2 lesions regress spontaneously, particularly in young women. We aimed to estimate the rates of regression, persistence, progression and compliance with follow-up in women with CIN 2 managed with active surveillance.

Method

Medline, Embase and CINAHL were searched from 1.1.1973 to 20.8.2016 for studies reporting on outcomes of histologically-confirmed CIN 2 in non-pregnant women, managed with active surveillance for at least three months. Data extraction and risk of bias assessments were performed independently and in duplicate. Pooled proportions for each outcome were calculated with random-effects model and inter-study heterogeneity was assessed using I² statistics.

Results

We identified 36 studies (seven control arms of randomised controlled trials, 16 prospective and 13 retrospective cohort studies) that reported on the outcomes of 3093 women. At 24 months, the regression rate was 50% (95% confidence interval (CI) 43%-67%; I² 77%), the persistence rate 32% (95%CI 23%-42%; I² 82%), while the progression rate 18% (95%CI 11%-27%; I² 90%). In a subgroup analysis of 4 studies that included 1039 women under the age of 30, the rates were 60% (95%CI 57%-63%; I² 0%), 23% (95%CI 20%-26%; I² 97%) and 11% (95%CI 5%-19%; I² 67%), respectively.

Conclusion

The majority of CIN 2 lesions regress spontaneously, particularly in young women. Close active surveillance is justified for selected young women with CIN 2 that are likely to adhere to monitoring.
CERVICAL CANCER

ESGO7-0710

CHARACTERISTIC FINDINGS OF HIGH-GRADE CERVICAL INTRAEPITHELIAL NEOPLASIA OR MORE ON MAGNIFYING ENDSCOPY WITH NARROW BAND IMAGING

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Aims

Colposcopy, which is a standard modality for diagnosing cervical intraepithelial neoplasia (CIN), can have limited accuracy due to poor visibility. Currently, magnifying endoscopy with narrow band imaging (ME-NBI) has excellent diagnostic accuracy for early gastrointestinal neoplasms and is expected to be highly useful for CIN diagnosis. This study aimed to determine the characteristic findings and evaluate the diagnostic ability of ME-NBI using gastroscopy for lesions \( \geq \) CIN 3.

Method

A total of 24 patients who underwent cervical conization with a preoperative diagnosis of high-grade squamous cell intraepithelial lesions (HSILs) or lesions \( \geq \) CIN 3 were enrolled. Prior to conization, still images and video of ME-NBI were captured to investigate the cervical lesions. The images were retrospectively reviewed based on histological examination of the resected specimens. The NBI-ME images revealed the following abnormal findings: (1) light white epithelium (l-WE), (2) heavy white epithelium (h-WE), and (3) atypical intra-epithelial papillary capillary loop (IPCL).

Results

Pathological examination of the resected specimens confirmed cervical lesions \( \geq \) CIN 3 in 21 patients. The ME-NBI findings were classified into four groups, l-WE, l-WE with atypical IPCL, h-WE, and h-WE with atypical IPCL, at rates of 0%, 23.8%, 9.5%, and 66.7%, respectively. Additionally, all 3 patients with MIC showed strongly irregular IPCLs.

Conclusion

The detection of h-WE or l/h-WE with atypical micro-vessels using ME-NBI can be indicative for diagnosing lesions \( \geq \) CIN 3. This study indicates that ME-NBI may have novel value for CIN diagnosis.

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CERVICAL CANCER

ESGO7-1160

IMMUNE CHECKPOINT SYSTEM FOR EARLY STAGE CERVICAL CANCER WITH HIGH-RISK FACTORS

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Aims

The aim of this study was to evaluate the relationship between the expression of PD-L1 and survival in early stage cervical cancer with high-risk factors.

Method

Patients with high-risk factors of recurrence due to pathologically confirmed parametrial invasion and/or pelvic lymph node metastasis from 2002 to 2012 were included. Formalin-fixed, paraffin-embedded material of each patient was obtained through extraction after radical hysterectomy. Standard immunohistochemical staining was done using PD-L1 antibody. We also tested each tissue specimen for PD1 to evaluate the status of tumor-infiltrating lymphocytes (TILs). At least 1% of tumor cells expressing PD-L1 was defined as PD-L1(+) 50% or more TILs expressing PD1 was defined as high-PD1, less than 50% TILs expressing PD1 was defined as low-PD1, and no TILs expressing PD1 was defined as non-PD1.

Results

In total, 96 patients were enrolled. Patients with PD-L1(+) numbered 29 (30.2%), in which 12 (12.5%) had at least 50% of tumor cells expressing PD-L1. Patients with high-PD1 numbered 16 (16.7%). There were significantly more PD-L1(+) patients than PD-L1(-) patients with high PD1 (41.4% vs 6.0%, p=0.001). The 5-year progression free survival (PFS) rate of all patients in this study was 70.0%. The 5-year PFS rate of high-PD1 was higher than non-, and, low-PD1 (87.5% vs. 66.4%, p=0.054). 5-year PFS rate of patients with PD-L1(+) had no difference with PD-L1(-) (79.3% vs. 65.9%, p=0.101).

Conclusion

In patients with early stage cervical cancer, the patients with high-PD1 would tend to have a longer survival duration. The expression of PD-L1 would not affect the survival duration.
CERVICAL CANCER

ESGO7-0711

PELVIC EXENTERATION IN PATIENTS WITH RECURRENT OR ADVANCED GYNECOLOGIC MALIGNANCIES


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Aims

Pelvic exenteration (PE) can be indicated for patients with central recurrent or advanced gynecologic malignancies. The purpose of this study was to evaluate surgical outcomes after PE in our institute.

Method

Retrospective analysis of all patients with PE for recurrent or advanced gynecologic malignancies between 2006 and 2017 at our institution was performed.

Results

Sixteen patients were included. The diagnosis of them were cervical cancer in 6 patients, corpus cancer and sarcomas in 2 patients, ovarian cancer in 3 patients, and vaginal cancer in 4 patients, and unknown in 1 patient. Eleven patients underwent total pelvic exenteration and 5 underwent anterior pelvic exenteration. Six of them were performed laparoscopically. The median blood loss was 2601ml (range 88-15700ml) and the median operation time was 677minutes (range 338-954 minutes). Sciatic nerve injury was observed as an intraoperative complication. Postoperative complications were urinary tract infection in 5 patients, wound infection in 4 patients, and intestinal obstruction in 2 patients. Complete tumor resection was achieved in 15 patients. Microscopically positive surgical margin was detected in 3 patients of them. During a median follow-up of 22 months (range 1-85 months), 5 patients experienced recurrence. Tow of 3 patients who had positive surgical margin experienced recurrence. Nine Of 12 patients who had negative surgical margin are alive without recurrence.

Conclusion

Despite frequent complications, PE is feasible and could be the effective treatment alternative in selected patients with recurrent gynecologic malignancies.
CERVICAL CANCER

ESGO7-0886

THE PLACE OF ENDOCERVICAL CURETTAGE ADJUVANT TO HPV POSITIVE PATIENTS WITH ASCUS CYTOLOGY AND NORMAL COLPOSCOPY

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Aims

To examine the additive information of ECC in the management of patients with ASCUS cytology, normal colposcopy and positive HPV result.

Method

A population based cohort study conducted at a single institution in the north of Israel between January 2007 and December 2014. All women with ASCUS cytology on routine PAP screen referred to colposcopy. All women with normal colposcopy were tested for HPV. Women with positive HPV referred to ECC.

Results

Of 11100 PAP smears taken in the study period, 980 (8.8%) were diagnosed as ASCUS. 910 of them had normal colposcopy and 260 of the normal colposcopy group (28.5%) were HPV positive. The mean age was 33 (18-55) and 85% of them were Jewish. HPV 16 was the most prevalent type (30%) in these patients. All the patients with positive HPV, had ECC test and 67 (25.7%) had cervical dysplasia – LGSIL or HGSIL. In 2 patients, squamous cell carcinoma in situ and adenocarcinoma in situ were found ultimately.

Conclusion

Preforming ECC to women with ASCUS cytology, normal colposcopy and positive HPV enable us to detect precancerous dysplasia and even carcinoma in situ and it is justified in these patients.
CERVICAL CANCER

ESGO7-0311

PALLIATIVE PELVIC EXENTERATION USING ILIOFEMORAL BYPASS WITH SYNTHETIC GRAFTS FOR ADVANCED CERVICAL CARCINOMA

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Aims

Recurrent cervical cancer can cause severe morbidity. Despite severe morbidity is high after the surgery, pelvic exenteration is still used today for mainly curative intent. This intention is neither based on randomized controlled trials (RCTs) nor high quality non-RCTs with adequate patient numbers comparing medical management with surgery. The same is true for exenteration for palliative intent, so the patient selection for either curative or palliative intent must be considered on patient basis.

Method

35 year old patient who had undergone primary chemo-radiotherapy for advanced cervical cancer, presented with intractable pain on the swollen left leg and pelvis 8 months later. Left lower extremity doppler ultrasound revealed echogenic thrombus in external iliac, femoral and popliteal veins consistent with acute deep vein thrombus. She underwent total exenteration, end colostomy, ileal urinary conduit, pelvic lymphadenectomy, paraaortic lymph node sampling and ilio-femoral arterial and venous bypass.

Results

Results: The procedure relieved her pain, leg diameter dramatically decreased from 75cm to 44 cm and circulation of the leg reestablished. The procedure deferred leg amputation for about five months.

Conclusion

Conclusions: To the best of our knowledge, this is the first report of a palliative pelvic exenteration for cervical cancer with combined ilio-femoral arterial and venous bypasses. These procedures with high morbidity and mortality are also more controversial when undertaken for just palliation of symptoms. They must be considered in basis of each patient, benefits and risks must be discussed thoroughly in a realistic perspective with the patient.
CERVICAL CANCER

ESGO7-0254

EFFECTIVENESS OF AWARENESS PROGRAMME ON KNOWLEDGE, ATTITUDE AND PRACTICES FOR EARLY DETECTION AND PREVENTION OF CERVICAL CANCER IN EDUCATED WOMEN

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Aims

To evaluate the effectiveness of structured awareness programme on knowledge, attitude and practices for early detection and prevention of cervical cancer among educated women.

Method

Method: 5000 participate included for study from different teaching institution in whom structured awareness information related to cervical cancer was provided and ask them to fill pre and post test questionnaire

Results

There was significant difference in the of pre test knowledge, attitude and practices score among the women after administration of structured awareness programme for early detection and prevention of cervical cancer.

Conclusion

Conclusion- study shows there is need to spread awareness among the women in relation to early detection and prevention of cervical cancer.
CLINICAL VALUE OF FERTILITY PRESERVING MANAGEMENT IN WOMEN WITH ADENOCARCINOMA IN SITU OF THE UTERINE CERVIX

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Aims

The aim of our study is to determine the outcomes of women with AIS in correlation with their initial management and to establish the impact of pathologic parameters identified at cervical conization.

Method

Retrospective analysis of medical records, from 2000 to 2016, of patients with AIS histologically confirmed, who underwent either conservative or radical surgery was conducted. Follow up ranged from 8 to 60 months (median 34) were also collected.

Results

A total of 33 patients aging 26 to 68 years old (median 47), were including in the study.

Eleven patients (33%) underwent hysterectomy: 2 cases (18%) of adenocarcinoma and 2 cases (18%) of residual AIS with positive surgical margins. 7 patients (64%) underwent hysterectomy due to undesired fertility and no residual disease was identified at final histology.

The remaining 22 women (67%) were treated conservatively – 20 women with LEEP and 2 women with abdominal radical trachelectomy – and all of them were free of disease at the last contact.

No significant difference was noted: 1) in age between patients with residual AIS or adenocarcinoma and those without residual disease, and 2) between those with AIS/progressive disease and those free of disease in regards to adenosquamous/squamous dysplasia, disease extent or the marginal status in either the whole group of participants or hysterectomy group alone.

Conclusion

Our results demonstrate that conservative management with strict follow up – given the risk of recurrent AIS or invasive cancer - may be an acceptable approach in the management of AIS.
A CASE OF ADULT EMBRYONAL RHABDMyOSARCOMA OF THE CERVIX WITH A REVIEW OF THE CURRENT LITERATURE

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Aims

Embryonal rhabdomyosarcoma (EMRS) is a rare malignant mesenchymal tumour showing evidence of skeletal muscle differentiation. It is more commonly detected in children <5 years old and within the vagina in 90% of cases. Adult presentation is much less common but frequently involves the cervix. This presentation of a case report will also review current evidence for treatment of this rare tumour.

Method

Case reported and literature search performed. Keywords applied to searches with PUBMED and MEDLINE.

Results

Case

32 year old with irregular PV bleeding. An exophytic cervical tumour was discovered. Biopsy confirmed embryonal rhabdomyosarcoma. CT demonstrated a 5cm cervical mass (confirmed on MRI), with an 8mm aortocaval lymph node. PET-CT demonstrated a bulky cervical mass extending into the endometrial cavity, but no evidence of metastatic disease. Incidental finding of absent corpus callosum on MRI Brain. Excellent response seen post 2nd cycle IVAD (Ifosfamide, Vincristine, Actinomycin D, Doxorubicin) with tumour regression to containment within cervix. Progressed to surgical resection following 3rd cycle.

Review:
Adult ERMS is rare and has a worse prognosis than the childhood form. Overall survival has improved with the advancement of multi modal treatment. High dose chemotherapy and surgery is now advocated as in childhood disease. Although overall guidance for the adult group is still lacking, the Intergroup Rhabdomyosarcoma Study Group (ISRG) are moving more from radical surgery to intensive primary chemotherapy (VAC) and have shown survival up to 84%.

Conclusion

With the use of multimodal treatments of chemotherapy and surgery the prognosis for adult ERMS is improving.
AWARENESS ON HPV AND HPV VACCINE AND ACCEPTANCE OF VACCINATION AGAINST HPV AMONG HIGH SCHOOL STUDENTS AND THEIR PARENTS: A PRIVATE HIGH SCHOOL BASED STUDY

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Aims

The aim of this study was to evaluate the awareness, knowledge, and risk perception about HPV and HPV vaccines among high school students and their parents. Another aspect assessed was the parent’s acceptance of the vaccine and willingness to vaccinate their children against HPV.

Method

Two different standardised electronic questionnaires, one for the students and one for the parents, were sent out. All subjects were students currently in school and their parents. Questionnaires were first sent in December 2016 and then twice more with 4 week intervals. All data from answered questionnaires were stored automatically by a computer program designed for the study (E.G.).

Results

The overall response rate was 34% for students and 27% for parents. The proportion of students who knew what the symptoms of HPV were was 21%, while 32% of students had heard about HPV only namely. 26% knew that there was a vaccine for the prevention of cervical cancer. Only 9.9% had been vaccinated against HPV, 86% vaccinated students were female. 70% of the students would like to be further informed.

Among parents, 74% had heard about HPV. Of 96 parents who have daughters in RC, 15 (16%) had vaccinated their child already. Reimbursement of HPV vaccine may influence on the decision of vaccination in 86% of parents.

Conclusion

This study is the first study evaluating the knowledge on HPV and the HPV vaccine among the high school students and their parents. Compared to vaccination rates in USA and Canada the vaccination rate in our population is very low.
USE OF AORTO-ILIAC GRAFT FOR RECURRENT VILLOGLANDULAR PAPILLARY CERVICAL CARCINOMA

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Aims

Isolated pelvic and paraaortic recurrences of cervical cancer can be potentially cured with surgery. It may be necessary to remove and reconstruct major blood vessels to obtain complete resection.

Method

A 33-year old woman with a diagnosis of stage 1B1 villoglandular papillary cervical adenocarcinoma underwent type III hysterectomy and pelvic lymph node dissection. Patient did not receive any adjuvant treatment. After a 6-year of disease-free interval, a 6 cm in diameter recurrence occurred covering the lower abdominal aorta and bilateral common iliac arteries (Figure 1).

Therefore, we resected the area from the aortic bifurcation to the bilateral common iliac arteries and replaced them with a Y-shaped graft (Figure 2).

Results

Follow-up 24 months after surgery showed no evidence of recurrence.

Conclusion

The extended resection involving the replacement of major vessels is sometimes useful when dealing with tumor recurrence on paraaortic and pelvic areas.
CERVICAL CANCER

ESGO7-1188

FEASIBILITY OF TWO FRACTIONS INTRACAVITARY/INTERSTITIAL BRACHYTHERAPY IN THE TREATMENT OF LOCALLY ADVANCED CERVICAL CANCER

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Aims

Today the standard treatment for locally advanced cervical cancer is chemoradiotherapy consisted of external beam radiotherapy, weekly cisplatin and brachytherapy. Recently introduced combined intracavitary / interstitial (IC/IS) brachytherapy allows to increase radiation dose delivered to the tumor. In this study we evaluated treatment outcomes of patients with IIA-IIIB stage cervical cancer treated by chemoradiotherapy and two fractions of IC/IS brachytherapy.

Method

Methods. Eighty nine IIA-IIIB stage cervical cancer patients were treated at National Center of Oncology, Baku, Azerbaijan from 2012 to 2015. Median age of patients was 51 years; 16 (18%) patients had IIA, 41 (46.1%) – IIB, 4 (4.5%) – IIIA and 28 (31.4%) – IIIB stage cervical cancer. Histological analysis showed 82 (92.1%) cases of squamous cell cancer and 7 (7.9%) adenocarcinomas. All patients received external beam radiotherapy (without central shielding) to the pelvis in 2 Gy daily fractions, 5 times weekly up to 46 Gy with concurrent weekly cisplatin in dose 40 mg/m2. After that high dose rate IC/IS brachytherapy was initiated: two weekly fractions of nine Gy. Planning was done on 2 mm paratransversal MRI slices.

Results

Results. All patients completed radiotherapy as planned and 91.4% patients received at least four cycles of chemotherapy. Mean dose to high risk clinical target volume (HRCTV) was 87.7±11 Gy. Actuarial five year overall survival rate for all patients was 68.9%. We did not reveal any significant early and late treatment related toxicity.

Conclusion

Conclusion. Our data shows that chemoradiotherapy by two fractions of IC/IS brachytherapy regimen is feasible for wider clinical use.
CERVICAL CANCER

ESGO7-0953

SENTINEL NODE MAPPING VS. SELECTIVE DISSECTION OF THE PELVIC LYMPHATIC CENTER IN EARLY STAGE CERVICAL CANCER < 2 CM

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Aims

To compare sentinel node mapping vs. dissection of the pelvic lymphatic center (both without full pelvic lymphadenectomy) in terms of overall morbidity and incidence of lymphatic complications.

Method

Consecutive women with cervical cancer < 2 cm, who underwent radical hysterectomy and sentinel node detection (SN group) or dissection of the interiliac and superficial obturator nodes (pelvic lymphatic center group) without completion of systematic full pelvic lymphadenectomy in the period between May 2012 and January 2017. Patients were matched in a 1:2 ratio for age, BMI, histological type and presence/type of medical comorbidities.

Results

Thirty women were included: 10 in the SN group and 20 in the pelvic lymphatic center group, respectively. The groups were similar in terms of tumor diameter, histological subtype, grading, lymphovascular space invasion, blood loss, and hospital stay. No intra-operative complication was registered. Post-operative adverse events (other than lymphatic complications) occurred in 1 (10%) and 3 (15%) patients in the SN and pelvic lymphatic center groups, respectively (p=1.00).

A median(range) of 4(2-8) and 7(3-12) lymph nodes were removed in the SN and pelvic lymphatic center groups, respectively (p=0.03). One symptomatic lymphocele was diagnosed in the pelvic lymphatic center group, vs. none in the SN group (p=1.00). No asymptomatic lymphoceles, lymphedema or lymphorrhea were registered.

Conclusion

Sentinel node mapping is associated with a low risk of complications in cervical cancer < 2 cm. Dissection of the pelvic lymphatic center may represent an alternative to full pelvic lymphadenectomy if the technology for sentinel node detection is not available or in cases of inadequate mapping.
NEOADJUVANT-CHEMOTHERAPY IN LOCALIZED BULKY CERVICAL CANCER: A SINGLE INSTITUTION EXPERIENCE

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Aims

Cervical cancer is very rare in Israel. Radical-surgery is usually reserved for small localized lesions. The aim of this work is to present our experience with neoadjuvant-chemotherapy (NACT) in highly-selected patients (Bulk I-B1/IIA1 and I-B2/IIA2, with negative lymph-nodes per PET-CT).

Method

In 2004-2016 we treated 12 patients fulfilling the above-mentioned criteria with NACT prior to planned radical-surgery. All were included in the retrospective analysis. All NACT was IV platinum-based mostly with paclitaxel for at least 3-cycles. Response rate was measured according to RECIST-criteria. The need for adjuvant radiation-therapy was decided according to Seldis-criteria.

Results

Median age was 42 years (range, 26-68). Overall toxicity was very low, while clinical-response was high (10 patients, 83%). Two patients (17%) had stable-disease and were subsequently treated with chemoradiation. Clinical-response was defined as complete in 6 patients (50%) and as partial in 4 patients (33%). All these patients had radical-surgery. As for the pathological response: 7 patients had suboptimal-response (stromal-invasion >3 mm), 2 had complete-response and one had minimal residual-disease (<3 mm stromal-invasion). Only two patients required adjuvant radiation-therapy. Overall, 3 patients (25%) had persistent-disease, 2 patients that weren't eligible to surgery and one patient that had surgery and needed adjuvant radiation-therapy. Two of these patients (one in each group) died of the disease.

Conclusion

In highly-selected patients with early, localized bulky cervical cancer, neoadjuvant-chemotherapy can generate high clinical-response which allows radical-surgery without subsequent radiation. This approach can achieve satisfactory outcomes, with few benign complications. We believe it could be applied as a valid alternative to primary chemoradiation.
SQUAMOUS CELL CARCINOMA ANTIGEN AND CARCINOEMBRYONIC ANTIGEN IN CERVICAL CANCER: THE PROGNOSTIC VALUE BEFORE AND AFTER RADIATION THERAPY

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Aims

Recurrence of cervical cancer after primary treatment has a poor prognosis but early detection might contribute to a better survival based on individualized adjuvant treatment. However, no standardized protocols are available for identifying patients at high risk for recurrence. Measurement of squamous cell carcinoma antigen (SCC-Ag) and carcinoembryonic antigen (CEA) might contribute.

Method

This is a retrospective cohort study of cervical cancer patients treated with (chemo)radiation (Maastricht University Medical Centre, 2007 - 2016). SCC-Ag and CEA levels before and approximately three months after treatment, tumor histology, treatment strategy, local and metastatic recurrence, disease free survival and follow-up period were collected from medical files. The prognostic value of SCC-Ag and CEA was evaluated using receiver operating characteristic (ROC) curves and Kaplan-Meier survival analysis. Pre-defined cut-off points of 1.9µg/L and 2.5µg/L were used, respectively. A p-value<0.05 was considered statistically significant.

Results

Based on preliminary data, elevated SCC-Ag and CEA before or after treatment were not of statistically significant value in predicting a worse progression-free survival (p>0.05). However, patients with SCC-Ag levels of more than 0.9µg/L after treatment (based on the optimal cut-off point of the ROC curve (AUC 0.73)) show a significantly worse progression-free survival in comparison with patients with non-elevated levels (p=0.006).

Conclusion

This retrospective analysis suggests that SCC-Ag levels above 0.9µg/L three months after (chemo)radiation might be useful in identifying patients with a worse progression-free survival.
CERVICAL CANCER

ESGO7-1352

PATHOLOGY REVIEW OF 159 CASES OF MICROINVASIVE CERVICAL CANCER

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Aims

Current FIGO definition of microinvasive cervical cancer (MICC) from 1994, limits stages IA1 and IA2 to 3 and >3<5 mm of invasion, respectively. Treatment options have greatly varied and changed within this period, new techniques have evolved, and the data of case series and reviews are becoming more available. Our study reviews the pathology in 159 cases in both stages of MICC primarily focusing on the possible spread of the disease beyond cervix and the spread pathways.

Method

Retrospective study of patients primarily treated for MICC where pathology review excluded over 100 due to missing data and primary pathology not complying with up to date standards, leaving 159 cases to review fulfilling all the criteria for MICC, including the „third dimension” measure not exceeding 7 mm. Most of the excluded patients would have had to be staged as small IB1 on the basis of requirements of our pathology review.

Results

Of 159 reviewed pathologies 126 were stage IA1 and 33 IA2. Most frequent surgical treatment was radical hysterectomy, followed by simple hysterectomy and cone biopsy. LVSI in 12 patients and invasion to the middle third in one patient were registered. Pelvic nodes were found positive in 2 patients, both with LVSI, whilst parametrial invasion was not found in analyzed group. Positive pelvic nodes correlate with LVSI and deeper stromal invasion.

Conclusion

Despite current surgical treatment standard of modified radical hysterectomy or radical trachelectomy for stage IA2 patients it seems like an unnecessary procedure leading to over treatment of patients with possible complications.
CERVICAL CANCER

ESGO7-0726

BOWEL-, BLADDER- AND SEXUAL FUNCTION AFTER ROBOTIC ASSISTED RADICAL HYSTERECTOMY FOR EARLY STAGE CERVICAL CANCER- A ONE YEAR PROSPECTIVE STUDY

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Aims

To prospectively assess the impact of robot-assisted laparoscopic radical hysterectomy (RRH) for early stage cervical cancer on sexual-, bowel-, bladder and lymphatic function. Further to investigate the impact of RRH on androgen levels and ovarian reserve.

Method

Women consecutively scheduled for RRH during 2011-2013 were included in the study. Participants answered a validated questionnaire regarding psychological well-being, sexual-, bladder-, bowel-function and lymphoedema at baseline and one year after treatment. At the same time, serum samples for sex hormones and anti-Müllerian hormone were measured.

Results

50 women were included in the study and 32 were eligible for analysis one year after surgery. Six women needed adjuvant treatment. Vitality, anxiety and depression deteriorated in 50-60% of the women. Further, a significant proportion of the women treated with surgery alone (n=26) reported distress of sexual function including shortness and numbness of the vagina and deep dyspareunia. Lymphoedema was reported by 50% and micturition problems by 32% of the women. Sexual arousal and orgasm were significantly impaired among women receiving adjuvant treatment. FSH and LH levels were significantly increased and AMH decreased one year after surgery in women <45 years with preserved ovaries.

Conclusion

RRH is associated with sexual distress as well as micturition problems, lymphoedema and affects the ovarian function. Adjuvant treatment worsens the situation. Identifying women with impaired sexual and natural functions after RRH is important in order to provide adequate counseling and treatment. Patient reported experience measures should be incorporated in the follow-up after RRH for cervical cancer.
CERVICAL CANCER

ESGO7-0239

MICRORNA-221-3P, A TWIST2 TARGET, PROMOTES CERVICAL CANCER METASTASIS BY DIRECTLY TARGETING THBS2

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Aims

MicroRNAs (miRNAs) have been implicated in the relapse and metastasis of cervical cancer (CC), which is the leading cause of CC-related mortality. But the underlying molecular mechanisms need to be further elucidated.

Method

MiRNAs microarray analyzed abnormal expression of miRNAs in CC with lymph node metastasis (LNM) or SiHa-tw2 cells. qRT-PCR, in situ hybridization (ISH) were used to study the expression of miRNAs. Western blot detected the expression of EMT markers. Transwell and wound healing assays were used to evaluate the invasion and migration abilities of cells, respectively. Subsequently, we established in vivo models to show the function of promoting LNM of miR-221-3p. Bioinformatics predicted the upstream transcription factors and the putative targets of miR-221-3p. Luciferase reporter assays determined the association between miR-221-3p and the THBS2 3'untranslated region, and TWIST2 and the miR-221-3p promoter.

Results

The level of miR-221-3p was significantly increased in CC tissues with LNM and SiHa-tw2 cells. Increased expression of miR-221-3p promoted CC cells migration and invasion in vitro, and LNM in spontaneous metastasis model. TWIST2 bound to the promoter of miR-221-3p and activated its transcription. Inhibitors of miR-221-3p drastically decreased the induction of EMT mediated by TWIST2. ISH or immunohistochemical staining in serial tissue sections of CC showed that miR-221-3p is positively correlated with TWIST2. By bioinformatics and dual-luciferase reporter assay, THBS2 was recognized to be an important target gene of miR-221-3p.

Conclusion

miR-221-3p, which is up-regulated by the transcription factor TWIST2 and targets to down-regulate THBS2 to promote LNM, may constitute a potential therapeutic target in CC.
CERVICAL CANCER

ESGO7-0243

THE CLINICAL SIGNIFICANCE OF THE CD163+ AND CD68+ TUMOR-ASSOCIATED MACROPHAGES IN HIGH-RISK HPV-RELATED CERVICAL CANCER

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Aims

Objective. To explore the influence of M2-polarized tumor-associated macrophages (TAMs) on high-risk human papillomavirus (hr-HPV) related cervical carcinogenesis and metastasis.

Method

Methods. CD68+/CD163+ macrophages were examined immunohistochemically in a series of 129 samples, including 26 cases of normal cervical tissues, 59 cases of cervical intraepithelial neoplasia (CIN) and 44 cases of squamous cell carcinoma (SCC). Hr-HPV testing was carried out using the Hybrid Capture 2 assay (HC-II).

Results

Results. High counts of CD68+/CD163+ macrophages were associated with hr-HPV infection (both \( p<0.05 \)) and positively correlated with cervical carcinogenesis (Spearman’s rho=0.478, \( p=0.000 \); Spearman’s rho=0.676, \( p=0.000 \), respectively). The immunostaining pattern of CD163 exhibited cleaner background compared with CD68. Notably, a high index of CD163+ macrophages is significantly associated with higher FIGO stages and lymph node metastasis (\( p=0.009, p=0.007 \), respectively), while CD68+ macrophages not (\( p=0.101, p=0.070 \), respectively).

Conclusion

Conclusions. Our study supported a critical role of TAMs as a prospective predictor for hr-HPV-related cervical carcinogenesis. CD163, as a promising TAMs marker, is superior to CD68 for predicting the malignant transformation and metastatic potential of cervical cancer.
CERVICAL CANCER

ESGO-0751

IS CLINICAL STAGING OF CERVICAL CANCER STILL BETTER THAN IMAGING?
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Aims

Cervical cancer is still staged by clinical examination following the International Federation of Gynecology and Obstetrics (FIGO) classification. Computed tomography (CT) and magnetic resonance imaging (MRI) show different accuracy in predicting the correct stage of disease compared to clinical examination.

Method

We retrospectively analysed patients with operable cervical cancer treated at the Department of Obstetrics and Gynaecology of the University Hospital Ulm from 2000-2012. All included patients (n = 206) had a clinical pelvic examination; in addition, 57 patients had a CT scan, 26 patients had MRI, and 61 patients had both a CT and MRI. Surgicopathological findings were used as the reference for evaluation of diagnostic performance.

Results

To evaluate diagnostic efficacy with respect to detection of parametrial involvement, patients were divided into those with histopathological confirmed stage IIA or less disease (n = 133; 64.6%) and those with stage IIB or higher disease (n = 73; 35.4%). The diagnostic accuracy (percentage correctly classified) was 73.3%, 67.3% and 56.0% for clinical staging, CT, and MRI, respectively. Sensitivity and specificity were 47.9% and 87.2% for clinical staging, 42.9% and 84.7% for CT, and 35.0% and 75.0% for MRI. Positive and negative predictive values were 67.3% and 75.3% for clinical staging, 66.7% and 67.6% for CT, and 56.0% and 55.9% for MRI.

Conclusion

Clinical examination showed better diagnostic features than both CT and MRI for presurgical evaluation of early invasive cervical cancer.
CERVICAL CANCER

ESGO7-0942

ONCOLOGICAL AND OBSTETRIC OUTCOME OF ABDOMINAL RADICAL TRACHELECTOMY (ART): AN UPDATED SERIES OF CERVICAL CANCER FROM A 13-YEAR EXPERIENCE

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Aims

To update the oncological and obstetric outcome of our study on ART for young patients with cervical cancer.

Method

We conducted a retrospective review of a prospectively maintained database of patients undergoing ART for cervical cancer at our institution from 04/2004 to 12/2016.

Results

Three hundred and forty-eight cases were planned for ART. Among 310 patients who successfully underwent ART, 47 had IA1 disease (with positive margin or LVSI), 27 had IA2 and 236 IB1 (123 had tumor ≥2 cm). Histology included 46 with adenocarcinoma, 256 squamous and 8 adenosquamous carcinoma. With a median follow-up of 48 months, 10 patients recurred and 3 died. For patients with tumors ≥2 cm, 6 recurred and 3 died. The 5-year RFS and OS were 96.7% and 99%, respectively. Tumor size ≥2 cm and adenosquamous carcinoma impact RFS significantly on univariate analysis. On multivariate analysis, however, only adenosquamous carcinoma retained independent predictive value. Among 103 patients who attempted to get pregnant, 21 succeeded with 23 pregnancies. Assisted reproductive technology was utilized more often recently with a success rate of approximate 60%.

Conclusion

Recurrent cases accumulated as the follow-up getting longer. However, with recurrent rate of 3.3% and 5-year OS of 99%, ART still seems to be a reasonable option for selected patients with larger tumor. Adenosquamous carcinoma may have intrinsic risk for recurrence. The unsatisfactory obstetric outcome was largely attributed by the proportion of patients who did not attempt to conceive. Assisted reproduction technology was utilized to improve obstetric outcomes.

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CERVICAL CANCER

ESGO7-1049

NEoadjuvant Chemotherapy (NACT) and Abdominal Radical Trachelectomy (ART) for Stage IB1 Cervical Cancer with Tumor Size ≥2cm: Preliminary Results from Chinese Patients

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Aims

To assess the effectiveness of NACT and ART for IB1 cervical cancer with tumor size ≥2cm

Method

From April 2016 to March 2017, all patients with IB1 cervical cancer whose tumor ≥2 cm and fit the inclusion criteria for ART were considered for this study. Laparoscopic lymphadenectomy was performed before NACT to rule out lymph node metastasis. Three courses with cisplatin 50mg/m², paclitaxel 135 mg/m² were followed by ART, and 3 more cycles after surgery.

Results

Seven young women considered eligible for ART were included. Median age was 30 years and tumor size before treatment was 31.4 mm. One (14.3%) had positive lymph node confirmed by frozen section during laparoscopic lymphadenectomy and converted to hysterectomy, although her PET-CT showed no suspicious lymph node before surgery. Adenocarcinoma was present in 1 (14.3%) and squamous carcinoma in 6 (85.7%). Pathological microinvasive residual tumor was observed in 2 cases, and 3 patients had tumor less than 2cm by final pathology. After a median follow-up of 7.1 months no relapses were observed. No patients had ever attempted to conceive.

Conclusion

Preliminary results from our data didn’t suggest a perfect pathological response although the regimen was well tolerated. We are now planning a further study with dose-dense regimen, to explore more effective pre-surgery treatment for reducing the tumor volume and performing less radical surgery.
HPV INFECTION VERSUS VAGINAL INTRAEPITHELIAL NEOPLASIA AND CERVICAL STUMP CANCER IN WOMEN RECEIVED SUBTOTAL HysterECTOMY

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Aims

To retrospectively report series cases of patients received subtotal hysterectomy, evaluate their relationship with human papillomavirus (HPV) infections and vaginal intraepithelial neoplasia (VAIN) or cervical stump cancer.

Method

We retrospected and analyzed the data of patients with cervical cancer or cervical stump cancer in the West China Second University Hospital, Sichuan University (the largest women hospital in the western of China) from 2005 to 2015.

Results

There were 9481 patients received subtotal hysterectomy in our hospital and 3218 losing following-up. Among the rest 6263, there were 1071 got HPV infections (mean HC II value of 124.3), HPV-16, HPV-18, HPV-58 were the most common types. And 311 with grade I of vaginal intraepithelial neoplasia (VAIN), 108 with VAIN II, 89 with VAIN III and 61 occurred with cervical stump cancer. Fifty-six among the 61 suffered cervical stump HPV infections after the subtotal hysterectomy with a mean HC II value of 483.18. The interval time between subtotal hysterectomy and stump cancer was 8.89 years. Women with HPV positive versus negative results had non-benign cytology 77.2% versus 28.3% (p<0.001).

Conclusion

Among the patients who received subtotal hysterectomy, there are strong relationships between HPV infection and VAIN or cervical stump cancer. With gynecologic surgeons more experienced and operation technology progressed, it is significant to weigh the necessity to operate subtotal hysterectomy against the risk of cervical stump cancer. If the operation cannot be avoided, further HPV and cervical stump cancer screening is mandatory.
CERVICAL CANCER

ESGO7-0829

OVARIAN PRESERVATION IS ASSOCIATED WITH BETTER SURVIVAL IN YOUNG PATIENTS WITH T1N0M0 CERVICAL ADENOCARCINOMA: A SEER-BASED STUDY

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Aims

Ovarian preservation is controversial in patients with cervical adenocarcinoma due to the risk of ovarian metastasis. The aim of this study is to evaluate the association of ovarian preservation with survival outcomes in young patients with T1N0M0 cervical adenocarcinoma.

Method

Women at 45 years old or younger with T1N0M0 cervical adenocarcinoma from 1988 to 2013 recorded in the Surveillance, Epidemiology, and End Results (SEER) Database who underwent hysterectomy were included. Propensity score weighting was used to balance the intragroup differences in baseline demographic and clinical characteristics. Cause-specific survival (CSS) and overall survival (OS) were compared through Kaplan-Meier estimates. Multivariate cox model was used to adjust for covariates including propensity score.

Results

A total of 1368 patients with T1N0M0 cervical adenocarcinoma, including 1090 (79.7%) patients underwent oophorectomy and 278 (20.3%) patients preserved ovaries were identified. Patients who preserved ovaries were younger, with lower T classification and less likely to undergo pelvic lymphadenectomy (all p<0.05). The median follow-up was 89 months for oophorectomy group versus 91 months for ovarian preservation group. In weighting cohort, ovarian preservation group had better CSS (5-year 98.8% versus 97.1%, 10-year 98.0% versus 95.2%, p=0.0370) and OS (5-year 98.8% versus 97.1%, 10-year 96.5% versus 93.5%, p=0.0025). After adjusting for covariates, the CSS benefit of ovarian preservation was marginally significant (p=0.051) and OS benefit was still significant (p=0.006).

Conclusion

Among young women with T1N0M0 cervical adenocarcinoma, ovarian preservation is associated with better survival.
CERVICAL CANCER

ESGO7-1194

ERBB2 MUTATION: A PROMISING TARGET IN NON-SQUAMOUS CERVICAL CANCER

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Aims

Oncogenic mutations of ERBB2 have emerged as promising therapeutic targets in human cancers, whereas KRAS and PIK3CA mutations are predictors of resistance. ERBB2 mutations have been found in a subset of invasive cervical cancer (ICC). Nevertheless, the prevalence, mutation spectrum, clinicopathological relevance, human papillomavirus (HPV)-genotype association, prognostic significance, and other genetic background information of ERBB2-mutated ICCs have not been well established.

Method

In this study, ICC samples (N=1015) were assessed for mutations in ERBB2, KRAS, and PIK3CA by cDNA-based Sanger sequencing and were measured for HPV genotype by TaqMan fluorescent quantitative PCR. In addition, 157 ICC specimens were examined for HER2 overexpression and amplification by immunohistochemistry and fluorescence in situ hybridization.

Results

Somatic ERBB2 mutations were detected in 3.15% patients. The ERBB2 mutation rate was significantly higher in adenocarcinoma (4.52%, 7/155), adenosquamous carcinoma (7.59%, 6/79) and neuroendocrine carcinoma (10.34%, 3/29) than that in squamous carcinoma (2.14%, 16/749) (P=0.004, Fisher exact test). In addition, 18.75% of the patients carrying ERBB2 mutations concomitantly harbored PIK3CA or KRAS mutations. Patients with ERBB2-mutated ICCs tended to have a worse prognosis than those with wild-type or PIK3CA-mutated ICCs but a better prognosis than those with KRAS-mutated ICCs. The ERBB2 overexpression/amplification rate was 3.82 % in ICCs.

Conclusion

This study provided a promising rationale for the clinical investigation of tyrosine kinase inhibitors for the treatment of cervical cancer with ERBB2 mutations. Patients with non-squamous cell carcinomas have priority as candidates for ERBB2-targeted therapy. Concurrent PIK3CA/RAS mutations should be considered in the design of clinical trials.
CERVICAL CANCER

ESGO7-0082

A COMPARATIVE STUDY OF THE LAPAROSCOPIC AND OPEN SURGERY IN THE MANAGEMENT OF LOCALLY ADVANCED CERVICAL CANCER

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Aims

To compare the efficacy and outcomes of laparoscopic surgery in treating patients with locally advanced cervical cancer with open surgery.

Method

Three hundred and four consecutive patients with FIGO stage Ib2 and IIa2 cervical cancer, who underwent either laparoscopic radical hysterectomy (LRH) or abdominal radical hysterectomy (ARH) between 2006 and 2015 in the OB/GYN Hospital of Fudan University, were enrolled in our study. Medical charts and clinical data were retrieved and retrospectively reviewed. The Kaplan-Meier method and Cox regression model were used for survival analysis.

Results

Of all 304 patients, 214 women underwent LRH and the other 90 ones underwent ARH. When compared with ARH, patients in LRH group had less intraoperative blood loss and less surgical complications including bladder fistula, ureteral injury and poor wound healing (P<0.005). Among patients without neoadjuvant chemotherapy, the rate of preoperative ureter stenting was higher in patients underwent LRH than those with ARH (P=0.03), whereas this tendency was not obvious among patients with neoadjuvant chemotherapy (P=0.076). The overall 5-year survival rate in LRH and ARH group was 75.6% and 87.8%, respectively (P>0.05). Multiple Cox regression analysis indicated that only lymph node involvement, but not surgical approach, was the risk factor for overall survival (P<0.05).

Conclusion

Laparoscopic surgery is as effective as open surgery in treating patients with locally advanced cervical cancer. With the advantage of reducing intraoperative blood loss and surgical complications, laparoscopy maybe popularized in developing countries, where there is limited access to radiotherapy but have relatively large population of patients.
PARADOXICAL OUTCOME OF URINARY FUNCTION REHABILITATION IN PATIENTS WITH CERVICAL CANCER FIGO STAGE 1B1 AFTER NERVE–SPARING RADICAL HYSTERECTOMY

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²Medinstru cooperation, medical instrument development, Yongin-si- Gyenggi-do, Republic of Korea
³Daejeon St. Mary's Hospital - College of Medicine- the Catholic University of Korea- Seoul- Republic of Korea, Obstetrics and Gynecology, Obstetrics and Gynecology, Republic of Korea

Aims


Method

Evaluation of urinary system function in patients with cervical cancer (CC) FIGO stage IB1 has been performed in 2011-2016. The study enrolled 37 patients (average age of 45.3±6.9 years) treated with radical hysterectomy (RH) : 21 patients (group I) underwent RH with sparing of pelvic splanchnic nervous plexus (PSNP), and 16 patients underwent RH without PSNP sparing (group II).

Results

In patients of groups I and II we have evaluated the urinary difficulty (UD). Patients of group I were distributed in 2 subgroups: subgroup A – patients with CC of stage IB1 with laparoscopic RH with PSNP preservation (18 patients), and subgroup B – patients with laparotomic RH (3 patients). Group II was distributed in 2 subgroups: subgroup A – laparoscopic RH without PSNP preservation (3 patients), and subgroup B – laparotomic RH without PSNP preservation (13 patients). Removal of urinary catheter in group IA and IB was performed on days 3-7, with 5-13 bed-days. There is no significant difference between 2 subgroups. Removal of catheter in group IIA and IIB was performed on days 3-5, with 7-20 bed-days. There is no significant difference between 2 subgroups. But, There is unexpected difference between group I and II.

Conclusion

Removal of urinary catheter in group II was performed on days 3-5, while in group I on days 3-7, which showed the paradoxical outcome. We postulated the possibility of neuropraxia caused by PSNP sparing procedure might induce transient neurogenic bladder.
CERVICAL CANCER

ESGO7-0800

THE STUDY OF THE POSTOPERATIVE FERTILITY AND SEXUAL FUNCTION AFTER LEEP TREATING HIGH-GRADE SQUAMOUS INTRAEPITHELIAL LESION

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Aims

This study was designed to investigate the postoperative fertility and sexual function after LEEP.

Method

Patients with high-grade squamous intraepithelial lesion who were treated with LEEP from 11 obstetrics and gynecology hospitals were enrolled in the study. The clinical and follow-up data were collected.

Results

Twenty-seven of the 125 patients who had live birth after LEEP were preterm birth. The risk of preterm birth was significantly increased in the conization group (RR 2.634, 95% CI 1.689-4.108). With the increase of the depth and volume of conization, the risk of premature births increased gradually. The premature births happened mostly at the 32-36 weeks. But the incidence of the premature birth at the 20-28 gestational weeks also increased after LEEP. The risk of cesarean section (RR 1.667, 95% CI 0.598-4.644) was not increased significantly (P = 0.220). The weights of the neonates were significantly lower than that of the control group (P <0.001). With the increase of volume and depth of conization, the risk of newborns with low birth weight increased. With the increase of the depth and volume of the conization, the pain of postoperative sexual intercourse gradually increased, and the scores of sexual function reduced.

Conclusion

LEEP increase the risk of preterm birth and low birth weight infants. The scores of sexual function decreases with the increase of depth and volume of conization.
ARE WE APPROPRIATELY SELECTING THERAPY FOR FIGO STAGE IIB CERVICAL CANCER PATIENTS? —— A 10-YEAR RETROSPECTIVE STUDY OF A SINGLE CHINESE CENTER

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Aims

Standard care in NCCN guidelines for FIGO IIB is definitive chemoradiation. However in developing countries, where there is limited access to radiotherapy, locally advanced cervical cancer may be treated with a combination of radical hysterectomy and adjuvant chemoradiotherapy. The aim of this study was to evaluate the feasibility and outcomes of patients with FIGO stage IIB cervical cancer who received surgery.

Method

Seventy-four women with FIGO stage IIB were treated with radical hysterectomy, with or without adjuvant radio/chemoradiotherapy, in the OB/GYN Hospital of Fudan University between 2004 and 2015. Medical charts and clinical data were retrieved and retrospectively reviewed. The Kaplan-Meier method and the Cox regression model were used for survival analysis.

Results

The percentage of patients with pathologically verified parametrial involvement was only 28.3% (21/74). Although the usage of imaging technology including MRI/PET-CT was increased after 2010 compared to prior to 2010, the accuracy of MRI/PET-CT in detecting parametrial involvement was lower than physical examination with intravenous anesthesia (P<0.05). Surgical complications were found in 6.8% (5/74) including bladder fistula, intestinal obstruction and ureteral injury. The 2 and 5-year overall survival rate was 84.1% and 68.9%, respectively. Cox regression analysis indicated that common iliac lymph node involvement, pathological parametrial involvement and intra-operative complications were risk factors for overall survival (p=0.025, 0.023, 0.031).

Conclusion

Surgery in FIGO stage IIB is safe and feasible. As pre- and after-operative accordance rate of parametrial involvement is relatively low, how to appropriately select patients who will benefit from surgery via pretreatment evaluation needs to be further studied.
CERVICAL CANCER

ESGO7-1156

DOES SIZE MATTER? MICROSCOPIC VERSUS GROSS TUMOR IN STAGE IB1 CERVICAL CANCER TREATED WITH RADICAL HYSTERECTOMY: IS THERE A DIFFERENCE?
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²SUNY Downstate Medical Center, Obstetrics and Gynecology, New York, USA

Aims

There is ongoing debate regarding the extent of radical dissection for stage IB1 cervical cancer. However, limited data exists regarding microscopic versus gross tumor presentation. This study compares pathologic outcomes of microscopic and gross stage IB1 cervical cancer in patients undergoing primary Type 3 radical hysterectomy (RH) at two large U.S. academic medical centers.

Method

All patients (1995-2017) with stage IB1 cervix cancer undergoing RH with pelvic lymphadenectomy were retrospectively analyzed using clinical and pathologic data. Pathology slides were reviewed by gynecologic pathologists. Squamous cell, adenocarcinoma, and adenosquamous carcinoma were included. Mann-Whitney U test was used to define age differences. Chi-squared test was utilized to calculate differences in pathologic variables with two-tailed p<.05 considered statistically significant.

Results

A total of 71 patients were identified, 60 met inclusion criteria. Mean age at diagnosis in the microscopic vs gross tumor cohort was 51.1 vs 49.5, p = .20. For microscopic confirmation of IB1 disease, 22 of 33 patients (67%) underwent cone biopsy or LEEP prior to RH.

<table>
<thead>
<tr>
<th>Intermediate Risk Feature</th>
<th>Microscopic (n=33)</th>
<th>Gross (n=27)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth of invasion, % (n)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle 1/3</td>
<td>24.2% (8)</td>
<td>14.8% (4)</td>
<td>.37</td>
</tr>
<tr>
<td>Deep 1/3</td>
<td>30.3% (10)</td>
<td>40.7% (11)</td>
<td>.40</td>
</tr>
<tr>
<td>LVSI, % (n)</td>
<td>39.4% (13)</td>
<td>40.7% (11)</td>
<td>.92</td>
</tr>
<tr>
<td>Nodes, % (n)</td>
<td>12.1% (4)</td>
<td>14.8% (4)</td>
<td>.76</td>
</tr>
<tr>
<td>Parametral invasion, % (n)</td>
<td>0</td>
<td>7.4% (2)</td>
<td>N/A</td>
</tr>
<tr>
<td>Vaginal margin involvement, % (n)</td>
<td>3.0% (1)</td>
<td>3.7% (1)</td>
<td>.89</td>
</tr>
</tbody>
</table>

Conclusion

Though limited by low numbers, no parametrial invasion was seen in the microscopic cohort. According to our analysis, microscopic and gross IB1 have similar incidences of intermediate and high-risk features, affirming FIGO staging criteria. Further studies are warranted to better individualize treatment according to tumor burden to lessen treatment related adverse effects without compromising clinical outcomes.
CERVICAL CANCER

ESGO7-0296

REDUCING THE NUMBER OF CONE BIOPSIES IN 10-YEAR PERIOD BY ACHIEVING THERAPEUTIC EFFECT WITH PUNCH BIOPSIES OF TARGET LESIONS

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²University Hospital Merkur, Obstetrics and Gynecology, Zagreb, Croatia

Aims

The aim of this study was to evaluate outcomes after conservative management of precancerous lesions of cervix in 10 year period.

Method

Cone biopsy after biopsy of target lesions in selected cases were replaced with cytology and colposcopy examinations every six months. Initial pathohistological findings were compared with findings during follow up to see whether there was a progression, persistance or regression of lesions.

Results

A total number of 786 patients with HSIL cytological findings were included in study. In first 5 year period between 2002 and 2006, cone biopsies were performed in 264 out of 450 patients. In a second five year period from 2007 to 2012 selected cases were managed conservatively with reduction in number of cone biopsy procedures, 50 out of 336 patients. During 5 year follow up in first group there was a 4% progression rate. However in a group managed conservatively there were no cases with progression of findings.

Conclusion

Due to continuous development of team work and acquisition of the diagnostic equipment of higher quality, with mentioned conservative approach we were able to significantly reduce number of conisations, as well as the number of patients with progression to higher grade lesions in ten year period.
CAN TUMOR MARKERS HE4 AND CA125 BE USEFUL IN DIFFERENTIATION OF DIFFERENT STAGES OF INTRAPELVIC ENDOMETRIOSIS?

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¹Medical University of Warsaw, Chair and Department of Obstetrics- Gynecology and Oncology, Warsaw, Poland

Aims

Aim of the study was to compare serum level of tumor markers HE4 and CA125 between different stages of intra-pelvic endometriosis.

Method

A total of 52 patients were included in the retrospective study. Serum level of tumor markers was measured for each patient before surgical intervention. Staging of endometriosis was done intraoperatively according to revised American society for reproductive medicine classification of endometriosis.

Results

The mean of age of patients was 37.73 (SD 8.84) years. The number of patients with stage I, II, III and IV was 2 (3.85%), 1 (1.92%), 24 (46.15%) and 25 (48.08%), respectively. The results of serum level of HE4 and CA125 for comparing different stages of endometriosis is presented in table 1 and 2 respectively.

Table 1. Results of serum level of HE4 (pmol/L).

<table>
<thead>
<tr>
<th>Comparison of certain stages of endometriosis</th>
<th>Mean of HE4 level</th>
<th>SD</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>I+II+III</td>
<td>49.66</td>
<td>15.90</td>
<td>0.564</td>
</tr>
<tr>
<td>IV</td>
<td>46.65</td>
<td>12.45</td>
<td></td>
</tr>
<tr>
<td>I+II</td>
<td>36.8</td>
<td>2.36</td>
<td>0.078</td>
</tr>
<tr>
<td>III+IV</td>
<td>48.91</td>
<td>14.42</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>37.90</td>
<td>1.98</td>
<td>0.255</td>
</tr>
<tr>
<td>II+III+IV</td>
<td>48.62</td>
<td>14.42</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>51.26</td>
<td>16.16</td>
<td>0.317</td>
</tr>
<tr>
<td>IV</td>
<td>46.65</td>
<td>12.45</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Results of serum level of CA125 (U/ml).

<table>
<thead>
<tr>
<th>Comparison of certain stages of endometriosis</th>
<th>Mean of CA125 level</th>
<th>SD</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>I+II+III</td>
<td>59.47</td>
<td>65.64</td>
<td>0.213</td>
</tr>
<tr>
<td>IV</td>
<td>69.18</td>
<td>62.08</td>
<td></td>
</tr>
<tr>
<td>I+II</td>
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</table>

Conclusion

Both tumor markers were not useful in differentiation of different stages of endometriosis.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0200

PRIMARY HPV-BASED SELF-SAMPLING SCREENING WITH THE COBAS® HPV TEST FOR UNDERSERVED GREEK WOMEN. PRELIMINARY RESULTS OF THE GRECOSELF STUDY


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3Centre for Research & Technology - Hellas, Institute of Applied Biosciences, Thessaloniki, Greece
4Hippokratio General Hospital, Department of Neonatology, Thessaloniki, Greece
5PEDY, 25th Martiou, Thessaloniki, Greece
6Hippokratio General Hospital, Laboratory of Cytology, Thessaloniki, Greece
7Hippokratio General Hospital, Department of Histopathology, Thessaloniki, Greece

Aims

To assess the performance of self-sampling HPV-based screening in underserved Greek women, in comparison to historical real-life cytology-based screening results, and the acceptability of the Roche® self-collection cervicovaginal specimen device.

Method

Women (sample size n=12,700) 25-60 years old, residing in rural Greek areas, are contacted by midwives, via public announcement, and are provided, after written informed consent, with a self-sampling kit (Roche®). After sampling each woman fills in a questionnaire designed to assess cervical cancer screening participation and outcome history during the last 10 years, and the acceptance of the self-sampling procedure. Samples are tested using the cobas® HPV Test, Roche®, which detects HPVs 16 and 18 separately, and HPVs 31,33,35,39,45,51,52,56,58,59,66 and 68 as a pooled result. HPV-positive women are referred for colposcopy. In case of Cervical Intraepithelial Neoplasia (CIN) grade 1 or 2 or worse (CIN2+) they are referred to follow up or appropriate treatment respectively.

Results

Between May 2016 and April 2017 7,143 samples were collected, 6,456 were tested, of which 489 (7.6%) were HPV-positive, 249 colposcopies were performed and CIN 1, 2 and 3 was detected in 21, 12, and 10 cases respectively. There was a case of vaginal intraepithelial neoplasia and a case of cervical adenocarcinoma. The prevalence of high-grade disease or cancer among HPV-positive women examined was 9.6%.

Conclusion

The preliminary report of the GRECOSELF study shows that HPV-testing with individual HPV16/18 genotyping on self-collected cervicovaginal samples is a feasible and effective cervical cancer prevention method for Greek women residing in rural distant areas.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0783

INFLUENCE OF AGE ON HISTOLOGIC OUTCOME OF CERVICAL INTRAEPITHELIAL NEOPLASIA: RESULTS FROM A LARGE COHORT, SYSTEMATIC REVIEW AND META-ANALYSIS

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3Medical University Vienna, Department of Pathology, Vienna, Austria

Aims

Age is one of the crucial factors influencing the natural history of cervical intraepithelial neoplasia (CIN). Aim of this study was to investigate the histologic outcome of CIN during observational management in young women.

Method

This analysis included 783 women presenting with CIN at our outpatient clinic between 2006 and 2010. At least one colposcopically guided biopsy (CGB) for histologic diagnosis had to be obtained and observational management for at least three months was mandatory. The histologic findings of initial and follow-up visits were collected and rates of persistence, progression and regression were assessed. Uni- and multivariate analyses were performed. In addition, a systematic review of the literature and meta-analysis of published data was performed.

Results

In our cohort CIN I, II, and III was diagnosed by CGB in 42.5%, 26.6% and 30.9%, respectively. Younger patients had higher rates of regression (p<0.001) and complete remission (<0.001) and lower rates of CIN progression (p=0.003). Among women aged <25, 25<30, 30<35, 35<40, and >40 years, regression rates were 44.7%, 33.7%, 30.9%, 27.3%, and 24.9%, respectively. Pooled analysis of published data showed similar results. Multivariable analysis showed that with each five years of age, the odds for regression reduced by 15% (p<0.001) independently of CIN grade, and presence of HPV high-risk infection.

Conclusion

Patient’s age has a considerable influence on the natural history of CIN – independent of CIN grade and HPV high-risk infection. Observational management should be considered for selected young patients with CIN. Results of this analysis can be useful for patient counselling.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0013

THE ACCURACY OF FROZEN SECTION OF UTERINE LESIONS IN THE PRACTICE OF GYNECOLOGIC SURGERY. A RETROSPECTIVE ASSESSMENT STUDY IN A GOVERNMENT TERTIARY TRAINING HOSPITAL

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²Philippine General Hospital, Manila, Philippines
³Philippine General Hospital, Pathology, Manila, Philippines

Aims

To determine of accuracy, sensitivity and specificity of frozen section in the diagnosis of uterine neoplasms.

Method

A retrospective validation study from 2004 -2015 involving cases of uterine lesions from Gynecologic surgeries. All histopathologic results of frozen and paraffin sections were retrieved and reviewed.

Chi square test with 2x2 Fischer Exact test adjustment were used to test associations. Accuracy indices of FS tool were estimated such as sensitivity, specificity, likelihood rations, negative and positive predictive values, and overall accuracy.

Results

A total of 143 uterine specimens were submitted for frozen section (FS) diagnosis. The utilization rate of FS is 1% per year. The FS results were associated with the final histopath results with 96% agreement rate. Utilizing a median number of 3 sections per specimen provides an overall accuracy rate of 97%. The accuracy rate of FS is equal between combined benign- premalignant and malignant cases at 96%. The accuracy rate is not statistically affected by the procedure by which the specimen was taken; the source and gross morphology of the specimen. Moreover, a minimum of 11 sections per specimen is needed to arrive at 99-100% accuracy rate. The accuracy rate particularly for endometrial lesions is between 94 and 100 %.

Conclusion

Accuracy rates of frozen section on uterine lesions is high regardless the sampling procedure and source of the specimen. Increasing the number of section during FS parallels that of the final histopathologic diagnosis. FS for uterine lesions is vital and cost- effective intraoperative decision tool to maximize care of patients.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-1211

BORDERLINE HIGH RISK-HPV CYTOLOGY: IS OUR BIOPSY RATE SUFFICIENT TO DETECT HIGH-GRADE CIN?

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Aims

Patients with borderline cytology and high-risk (HR)-HPV are referred to colposcopy in accordance with British guidelines. Following normal colposcopy, patients should be discharged to routine recall (3 or 5 years), pressuring colposcopists to make long-term management decisions based upon examination alone. Aims of this study were: to determine the incidence of high-grade (HG) CIN (CIN2+) in this population; to determine the incidence of further cytological abnormality; to consider the role of colposcopy directed biopsies.

Method

Retrospective review for all patients with borderline cytology (HR-HPV+) between 04/2013-04/2014. Cytological, colposcopic and histological data were collected including follow-up (FU) cytology from 2013 to 2017.

Results

294/321 (85.8%) patients underwent punch biopsy, of which 40% demonstrated koilocytosis at worst. 1.4% patients underwent see-and-treat loop biopsy for HG-colposcopy appearance. The overall incidence of CIN2+ was 14.8%. The PPV and NPV of colposcopy examination for CIN2+ was 0.61 and 0.88 respectively. The incidence of negative FU cytology in patients with normal colposcopy (no biopsy) was 64.4% and 82.3% in those treated for CIN2+. In patients with low grade colposcopy/koilocytosis at worst on punch biopsy, the incidence of HG-dyskaryosis on FU cytology was 4.4% (but 25% of these did not attend the FU).

Conclusion

Management of women with borderline (HR-HPV+) cytology continues to represent a challenge with clear evidence of a strong commitment to biopsy. Our study demonstrates that colposcopy alone is poor at predicting HG-CIN and single punch biopsy may miss CIN2+. In patients with low grade colposcopy, multiple biopsies are desirable to increase the detection of CIN2+. 

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DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0067

NOMOGRAM-BASED PREDICTION OF CERVICAL DYSPLASIA PERSISTENCE / RECURRENCE

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1National Cancer Institute, Gynecologic Oncology, Milan, Italy

Aims

To indentify predictors of cervical dysplasia persistence/recurrence among women undergoing primary conization.

Method

Data of consecutive women undergoing LASER CO2 conization were retrospectively evaluated. The risk of developing cervical dysplasia persistence/recurrence was assessed with Kaplan-Meier and Cox hazard models. Additionally, two nomograms were built to estimate probability of cervical dysplasia persistence/recurrence: the first based on baseline and operative parameters and the second focusing on type-specific HPV detected. The performance of the above nomograms was assessed using concordance index (c-index).

Results

Overall, 2680 patients were included. After a mean (SD) follow-up of 47.7 (±20.7) months, 149 (5.5%) patients required secondary conization. Via multivariate analysis, HIV infection (HR: 8.22 (95%CI. 3.81, 17.7); p<0.001), positive margins (HR: 10.1 (95%CI: 5.73, 17.8); p<0.001) and persistence of HPV (HR: 11.4 (95%CI: 7.94, 16.49); p<0.001) correlated with CIN2+ persistence/recurrence. The importance of those variables was corroborated by our first nomogram (Figure). The second nomogram suggested the impact of type-specific HPV infection in predicting cervical dysplasia recurrence. HPV16, 33, 35 and 45 were the most common HPV types associated with cervical dysplasia persistence/recurrence. The c-index was 0.73 for both nomograms, thus suggesting the reproducibility of our models.

Conclusion

No other nomogram estimated the risk of developing cervical dysplasia persistence/recurrence is still published. We developed the first two nomograms predicting this risk. Although the large sample size and the high performance of our nomograms, external validation of our data is needed. Once validated our data might be useful to plan a tailored postoperative surveillance of women having conization.
Aims

Ovarian cancer is the most common type and lethal of gynecological malignancy. Distinguish between benign and malignant ovarian masses is very important to refer patients to centers with experience in the surgical. The aim of this study was to investigate the validity of the risk ovarian malignancy algorithm (ROMA) in ovarian mass.

Method

One-hundred patients who had been diagnosed with ovarian masses were assessed for the tumor markers CA125, and the ROMA. The sensitivity and specificity of each parameter were calculated using receiver operating characteristic curves according to the area under the curve (AUC) for each method.

Results

The median CA125, and ROMA serum levels had different significant between benign and malignant tumors in the overall assessment (P<0.001). The areas under the curve (AUC) were 0.83(CA125), and0.92 (ROMA) for benign vs malignant tumors in whole patients. The ROC curves were compared using a pairwise comparison method, and no differences were detected between the CA125, and ROMA. At specificity 75 percent, sensitivity was 64.7 for CA125, 82.4 ROMA generally.

Conclusion

The results based on the area under the curve markers of CA125 and ROMA show that ROMA had the best accuracy of AUC-ROC than CA125 in all patients and each group pre- and post- menopausal patients.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0574

PREDICTORS OF CANCER PRECURSOR LESIONS IN BRCA MUTATION CARRIERS UNDERGOING RISK-REDUCING SALPINGO-OOPHORECTOMY

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³Vall d’Hebron University Hospital, Pathology, Barcelona, Spain

Aims

BRCA1/2 mutation carriers are at increased risk of developing ovarian carcinoma arising from precursor lesions in the tubal epithelium (p53 signature/STIL/STIC lesions). Risk-reducing salpingo-oophorectomy (RRSO) is still recommended between the age of 35-40 years. We aimed to analyse the presence of preinvasive lesions in BRCA1/2 mutation carriers undergoing RRSO and associated clinical predictors.

Method

Retrospective study of BRCA1/2 mutation carriers undergoing RRSO at the Vall d’Hebron Hospital over a seven year-period. Data was collected on women’s age at RRSO, parity, personal history of breast cancer, CA125 levels, TVUS results and final histology. All tubes/ovaries were assessed using the SEE-FIM protocol.

Results

Out of 133 women undergoing RRSO, 73(55%) had a BRCA1 mutation and 60(45%) BRCA2. The median age was 46 years (range 35-70) and CA125 levels 10.8 U/mL (2.6-48). Twenty-five women were nulliparous (19%) and eighty (60%) had a personal history of breast cancer. Four women had a simple cyst on TVUS. Final histology confirmed p53 signature/STIL lesions in 10 women (7.5%) and one was diagnosed with invasive carcinoma. Multivariate analyses showed a positive correlation between age over 50 years [OR 4.46 (95%CI 1.12-17.6); p=0.033] and abnormal TVUS [OR 13.03 (95%CI 1.39-121); p=0.024] with the presence of preinvasive lesions.

Conclusion

About 8% of BRCA1/2 mutation carriers will have a preinvasive lesion at the time of RRSO and this risk significantly increased in women over 50 years. This suggests that the identification of new markers that predict the development of precursor lesions may help us in the future to defer RRSO when possible. Thus, efforts and future research should be devoted in this direction.
INCIDENCE AND COSTS OF CERVICAL INTRAEPITHELIAL NEOPLASIA IN THE KOREAN POPULATION
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²National Cancer Center Korea, obstetrics and gynecology, Goyang-si Gyeonggi-do, Republic of Korea

Aims

we aim to identify differences in the incidence of CIN(Cervical intraepithelial neoplasia) and its medical costs, with respect to age. A 5 years retrospective study was conducted using data collected on cervical cancer, from 2010 till end of 2014

Method

These cases were procured from the database of the Health Insurance Review and Assessment Service (HIRA), and included both high grade-CIN(Cervical intraepithelial neoplasia grade 3) and low grade-CIN (cervical intraepithelial neoplasia grade 1 or 2). Evaluation was done using the Standardized Disease Classification Code and the Standardized Medical Treatment Code.

Results

the crude rates of cervical cancer and high grade-CIN are reducing with passage of time, whereas low grade-CIN is getting significantly higher ($p$ for trend<0.001). Incidence of Low grade-CIN showed an increasing trend in all age groups. The crude incidence of Low grade-CIN had increased by approximately 30% compared to 5 years ago. High grade-CIN showed a significantly increasing trend in individuals of age group 35-39 years. The incidence of Cervical cancer was significantly reduced in all ages, except the 35-39 year olds age bracket. Cervical cancer is associated with high health care costs. The treatment of cervical cancer requires $3,342 per year, whereas treatment of High grade-CIN and low grade-CIN requires $467 and $83 per year, respectively.

Conclusion

Although the incidence of cervical cancer shows a decreasing trend over time, the rate of high grade-CIN and cervical cancer is increasing among the younger generation between 30 to 40 years old in Korea.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-1356

USUAL VULVAR INTRAEPITHELIAL NEOPLASIA. AN ENTITY IN WHICH TO THINK.
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²Complejo Hospitalario Universitario Insular Materno Infantil, Ginecología Oncológica, Las Palmas de Gran Canaria, Spain
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Aims

ISSVD recognizes in 2015, only uVIN and dVIN, (VIN II-III before), advising to avoid the term VIN I since it is not considered a precursor of vulvar cancer.
Know the incidence in our population and the characteristics of it.

Method

67 cases 18 VIN I, 48 uVIN and 1dVIN.

Results

Mean of 3.76 cases/year[1-13], with gradual increase.
Mean age 47.9 years [22-93], smokers58.3%, 33.3% menopausal, 5(10.4%) immunosuppression (3HIV+2 inmunosupresor treatment).
22(45.8%) multicentric lesions, a history of vulgar condyloma in 31.2%.
Multifocal lesions 54.2%, and only 41.7% reported any symptoms, pruritus(65%), the most frequent.
The treatments varied from topical(imiquimod), destructive(laser) or excision. Increasing in the last years combined therapies.
12cases of relapses(25%), without significant relation with other variables, multifocality was the factor that most touched the significance but did not reach it(p = 0.089).
Regarding cases of vulvar neoplasia, 4(8.3%) carcinomas hidden in lesions biopsies previously as uVIN. Only age 46 vs 67 years was found(p = 0.007).

Conclusion

Increased diagnoses is probably due to the greater sensitivity of the professionals during the physical examination, most of them asymptomatic, and to a broader knowledge
Immunosuppression plays an important role in the recurrence and progression of uVIN although we do not find any relation in our series.
In the future we should find an impact in the reduction of these cases in vaccinated patients, but the absence of screening and homogenization in the appearance-progression of precursor lesions requires us to pay attention to the physical examination of the vulva.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-1368

ATYPICAL GLANDULAR CELLS, MANY POSSIBILITIES
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3. Ginecología Oncológica, Las Palmas de Gran Canaria, Spain

Aims

To know the prevalence, the characteristics of our population as well as the definitive diagnosis of women with cytology of ACG screening.

Method

Retrospective descriptive study of database in 2015.

Results

798 patients were seen in the consultation for the first time, of which 55 with a GCA result: 6.9%. Mean age 45.1 years and 30.9% smokers.

Beginning of sexual relations: 18.3 years, number of sexual partners average 6.3.

The mean number of pregnancies was 2.4, with the vaginal route being the most frequent, 1.78. 16 of these patients were menopausal (mean 49.7 years). 26 patients had HPV: 47.3%.

We found that 5 of them had been vaccinations against HPV, but all of them subsequently to have had contact with HPV. None of these patients had a previous history of CIN. 3 cases (5.4%): neoplastic processes, 16 cases (29%) HSIL, 65.6% without pathology.

All patients with cervical cancer were menopausal (p: 0.021), with no other significant relationships. When choosing HSIL variable, we found the presence of HPV and the highest number of sexual partners.

Conclusion

In our study, the prevalence of GCA was slightly higher than that published in the literature.

It can be explained by the wide interobserver variety and the high number of benign situations that simulate glandular alteration. The probability of pathology is high, 34.4% of the total, being for neoplastic processes of 5.4%.

They are a population at high risk of having an underlying pathology, so the assessment in consultation should be made consciously.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-1370

ANALYSIS OF THE MARGINS IN THE CONIZATION PIECE AS A PREDICTOR OF RECURRENCE / PERSISTENCE OF INTRAEPITHELIAL LESION

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2. Ginecología Oncológica, Las Palmas de Gran Canarias, Spain

Aims

Clinical-anatomopathological factors such as margins involvement and HPV test as predictors of relapse/persistence after CIN 2-CIN 3 conization

Method

A retrospective descriptive study of 1,349 patients using Lletz between January 2000-December 2013.

Results

630(46%) are CIN 2 and 719(54%) CIN 3.

Average age = 37 years, 29%nulliparous, 60%smokers, onset of sexual intercourse mean=17 years and a half couples=6.

60% free margins, 35% affected and 5% non-valued, with no difference between endocervical margins (44%), exocervical margins (40%) and affection of both (16%).

Endocervical canal biopsy was positive in 11%.

Patients with CIN 2 had affected margins(27%) versus 41% of CIN 3, p <0.0001, with no difference in margins.

The cases of CIN 3, presented greater affectionation of the channel 14% vs 7% of the CIN 2 p<0.001.

69% of patients with nerve heart disease have a hpv negative test compared to 85% of patients with free margins, p <0.0001.

7% are remitted a second time.

Multivariate analysis: CIN 3 presented OR 1.92 CI (1.5-2.4), P<0.0001 for affected margins than CIN 2. HPV test positive for high OR 10.7, 95% CI(6.6-17.2), P<0.0001, margins affected OR 0.9, 95% CI (0.6-1.5) P=0.9

Conclusion

A result of CIN 3 is more likely to affect both margins and endocervical biopsy. Before performing a second treatment, it is recommended histological confirmation, since in a high percentage with negative HPV. The most potent factor that conditions recurrence/persistence is the persistence of HPV infection.
Aims

Pathologic diagnosis of placental hydatidiform mole is inaccurate and imprecise if based upon histopathology only. We present our 5-year experience using immunohistochemical and genotyping methods in a Placental-Molar Disease diagnostic pathology service.

Method

Starting in 2012, we established a specialist pathology service to assess abnormal villous morphology in missed and therapeutic abortions. In addition to histopathology, pathologists selectively used p57 immunohistochemistry (IHC) and quantitative-fluorescence-PCR-based analysis for microsatellite markers on chromosomes 13, 18, 21, X, and Y—on routine formalin-fixed paraffin-embedded tissues. Final diagnoses reflected IHC and genotyping data. (Table 1)

Results

Within 5 years, we evaluated 443 cases: 161 were from our institution and 282 were consultative referrals from 6 of 10 Canadian provinces. We diagnosed 113 complete mole (CM), 141 partial mole (PM), 189 non-molar abortus (NMA) (Table 2). In cases of CM, p57 IHC confirmed the diagnosis in 97/113 (86%) cases, with a 100% interpretable rate.

Genotyping was informative in 196/243 (81%) of attempts. Rates of non-informative testing due to poor quality DNA or maternal cell contamination were similar in intramural and consultation cases. In Year 1, only 13/46 (28%) PM and NMA were diagnosed by the preferred method due to variability in tissue suitability and pathologist practice. By Year 5, this rate had improved to 68/95 (72%).
Table 2. Placental Molar Disease Service, 2012 to 2016 (N=443 cases)

<table>
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<th>Partial Mole (PM)</th>
<th>Non-Molar Abortion (NMA)</th>
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</thead>
<tbody>
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<td></td>
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<td>Molecular Morphology Total</td>
<td>Molecular Morphology Total</td>
</tr>
<tr>
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<td>21 4 25</td>
<td>6 12 18</td>
<td>7 21 28</td>
</tr>
<tr>
<td>2013</td>
<td>23 7 30</td>
<td>14 9 23</td>
<td>18 14 32</td>
</tr>
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<td>2014</td>
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<td>29 17 46</td>
</tr>
<tr>
<td>2015</td>
<td>15 3 18</td>
<td>12 8 20</td>
<td>20 12 32</td>
</tr>
<tr>
<td>2016</td>
<td>22 1 23</td>
<td>28 16 44</td>
<td>40 11 51</td>
</tr>
<tr>
<td>Total</td>
<td>97 16 113</td>
<td>82 25 141*</td>
<td>114 22 189*</td>
</tr>
</tbody>
</table>

*Genotyping was attempted in 249/309 (74%) of PM + NMA (see Text).

Conclusion

Molecular placental molar diagnosis by a regional pathology practice can be provided successfully. Barriers to success include: availability/suitability of paraffin blocks, failure to separate maternal and villous tissue, and DNA degradation. These represent opportunities to improve molecular placental-molar diagnosis and obstetrical care.
THE INCIDENCE OF CO-TWIN PREGNANCY INCREASES IN HYDATIDIFORM MOLE CASES

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Aims

A co-twin may occur alongside either complete or partial hydatidiform mole in one per 20,000–100,000 pregnancies. The study was planned to investigate the incidence of co-twin pregnancy in the patients presenting with Gestational Trophoblastic Disease (GTD).

Method

The present study was conducted in a tertiary center as a prospective study over a period of 3 years. Total 188 cases with GTD were included the study. In addition to co-twin pregnancy all subjects having GTD were evaluated on the basis of their mean age, theca lutein cyst, preeclampsia, hypertroidism, postmolar GTD history, hyperemesis gravidarum, need for chemotherapy, unembryonic pregnancy, blood group and villous structure.

Results

The incidence of co-twin pregnancy accompanying gestational trophoblastic disease was 9% with the mean age of patients being 30.3 years. 80% of all participants had the diagnosis of partial mole. The remaining 20% had the diagnosis of complete mole. Two most common chief complaints at presentation was vaginal bleeding (65.6%) and hypertroism (23.7%). The incidence of hyperemesis was (20%). While the occurrence of theca lutein cyst was 8.7% the incidence of preeclampsia and unembryonic pregnancy were 2.5% and 2.5% respectively. 28.7% of the cases developed postmolar GTD and 11.2% out of the required chemotherapy. Most common blood group of subjects was ARh (+) followed by 0 (+). Histopathological evaluation revealed villous structure formation in 60% of all subjects.

Conclusion

Detection of high co-twin pregnancy rates contrary to expectations suggest that biparental triploid genotype incidence increase in cases with hydatidiform mole.
HIGH-RISK HPV E6/E7 MESSENGER RNA TESTING VERSUS HPV DNA TESTING IN WOMEN WITH SQUAMOUS CELL ABNORMALITIES OF THE UTERINE CERVIX

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2Institute of Public Health of Republic of Macedonia, Laboratory of Virology and Molecular Diagnostics, Skopje, FYR Macedonia
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4University Clinic for Radiotherapy and Oncology, Department of Histopathology and Clinical Cytology, Skopje, FYR Macedonia

Aims

The study is performed in order to compare the results of two HPV screening methods: High-risk HPV E6/E7 mRNA and HPV DNA.

Method

Comparative prospective study, conducted in the period for April 2016 to March 2017 at the University Clinics for Gynecology and Obstetrics and Radiotherapy and Oncology in Skopje and Institute of Public Health of Republic of Macedonia of 98 sexually active women, age groups of 20 to 60 years, with squamous cell abnormalities on the cervical cytology. In all 98 women were done: HPV DNA testing, High-risk HPV E6/E7 mRNA testing and colposcopy and directed biopsy with endocervical curettage for histopathological analysis.

Results

Histopathologically, there were: 36.7% non-neoplastic lesions, 20.4% LGSIL cases, 29.6% HGSIL cases and 13.3% invasive squamous cell carcinomas. HPV DNA was found 78.6% of the cases; E6 and E7 transcripts were found in 58.2%. The rates of detection of HPV DNA and E6 and E7 transcripts were 83.3% and 22.2% for cases with non-neoplastic finding; 65.0% and 45.0% for cases with LGSIL; 75.9% and 93.1% for cases with HGSIL and 100% for cases with invasive squamous cell carcinoma. High-risk HPV E6/E7 mRNA testing showed a higher sensitivity than the HPV DNA testing (79.0% and 75.8%), higher specificity (77.8% and 16.7%) and a higher positive predictive value for HGSIL (93.1% and 75.9%) and invasive squamous cell carcinoma (100% and 92.3%).

Conclusion

High-risk HPV E6/E7 mRNA testing could be more powerful then HPV DNA testing for screening and investigation of HGSIL and invasive squamous cell carcinoma.
IMMUNOHISTOCHEMICAL EVALUATION OF IMMUNE RESPONSE AFTER LEEP IN PATIENTS DIAGNOSED WITH HSIL AND THE EFFECT OF THIS RESPONSE ON ERADICATION OF HPV DNA

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Aims

The effect of LEEP on HPV eradication in patients undergoing LEEP due to HSIL and role of Toll Like Receptors in the development of immunological response and HPV eradication in patients with LEEP due to HSIL were investigated.

Method

Between February 2016 and December 2016, 30 patients who were admitted to Gynecology Department of Akdeniz University for cytological abnormality and who proved to be HSIL in final pathology were included prospectively. HPV status in sixth month control and immunohistochemical staining of TLR 4, 5, 9 was evaluated in first admission and six month control.

Results

Mean age of patients was 40.6 years and median parity was two. On the LEEP material of patients, seven of them were HPV negative or low-risk HPV type (23.3%) and 23 of them were high-risk HPV type (76.7%). HPV screening results of patients at 6 months; 24 HPV screening was negative (80%) and six was positive (20%). Cervical tissues were stained with TLR 4, 5, 9 kits before LEEP and at 6 months after LEEP. The IHC staining of TLR 4, 5, 9 in two time period (immediately before LEEP and 6 months after LEEP) was comparable. Although not statistically significant, HPV positive patients showed more TLR 5 staining tendency than negative ones. Moreover although not statistically significant, in case of infection with multiple HPV types, there was a trend towards more TLR 4 staining tendency 6 months after LEEP.

Conclusion

HPV eradication increases after LEEP treatment. TLR expression is observed in cervical tissue and cervical intraepithelial carcinogenesis.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0473

LONG-LASTING INCREASED RISK OF HPV-RELATED CARCINOMAS AND PREMALIGNANCIES AFTER CERVICAL INTRAEPITHELIAL NEOPLASIA GRADE 3: A POPULATION-BASED COHORT STUDY

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Aims

The aim of this study was to determine the risk of HPV-related carcinomas and premalignancies in women diagnosed with cervical intraepithelial neoplasia grade 3 (CIN3). Knowledge on this risk is important to consider HPV vaccination and/or increased attention on other HPV-related carcinomas and premalignancies when CIN3 is identified.

Method

Women diagnosed with a CIN3 between 1990 and 2010 were identified from the Dutch nationwide registry of histopathology and cytopathology (PALGA) and matched with a control group without CIN3. Subsequently, all hrHPV associated high-grade lesions and carcinomas in the ano-genital region and oropharynx between 1990 and 2015 were extracted. Incidence rate ratios (IRR) were estimated for carcinomas and premalignancies of the vulva, vagina, anus and oropharynx.

Results

178,036 women were identified; 89,018 with a previous diagnosis of CIN3, and 89,018 matched controls without a history of CIN3. Women with a history of CIN3 showed increased risk of HPV-related carcinomas and premalignancies with IRRs of: 3.85 (95%CI 2.32-6.37) for anal cancer, 6.68 (95%CI 3.64-12.25) for AIN3, 4.97 (95%CI 3.26-7.57) for vulvar cancer, 13.66 (95%CI 9.69-19.25) for VIN3, 86.08 (95%CI 11.98-618.08) for vaginal cancer, 25.65 (95%CI 10.50-62.69) for VAIN3, and 5.51 (95%CI 1.22-24.84) for oropharyngeal cancer. This risk remained significantly increased, even after long-term follow-up, up to 20 years.

Conclusion

This population-based study shows a long-lasting increased risk for HPV-related carcinomas and premalignancies of the ano-genital and oropharyngeal region after a CIN3 diagnosis. Studies investigating methods to prevent this increased risk in this group of patients, like intensified screening or vaccination, are warranted.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0264

FINAL STAGE IN PATIENTS WITH OVARIAN CANCER AND NEGATIVE PRE-SURGICAL CT SCAN
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Aims
According to a recent meta-analysis, 13% - 24% of patients are overestimated from an apparent initial stage I or II to a III after complete staging. In our Center, the practice of annual gynecological ultrasounds allows us to diagnose a higher proportion of ovarian cancers in the early stages. The objective of this study is to assess the initial staging of ovarian cancer in our setting and how the stage varies after the surgical procedure.

Method
Between 2010-2016, 93 patients with ovarian cancer underwent surgery at our Center. In these patients the clinical history has been reviewed to determine the presence or not of ganglion or peritoneal disease by CT scan. Only 42 patients with pre-operative negative CT have been included in the study. The variables that have been considered have been the type of surgery, the histology, the nodal involvement, the postoperative stage and the evolution.

Results
Of the 42 patients with clinical or radiological suspicion of disease in the initial stage, only 5 (8%) have been overexplained by surgery, becoming a stage IIIa with affected lymph nodes. Almost half of the patients (49%) were operated by laparoscopy. As for the histological type, 11 (26%) were endometrioids and 18 (43%) were serous. Only the serous were the ones that finally showed positive nodes.

Conclusion
If gynecological ultrasound is performed by experts and CT scan does not detect affected nodes, a few cases that were "clinical-radiological" considered as initial stages, change to advanced stages with surgery. In all cases they were serous-papillary tumors, and no disease-free survival or overall survival varied in any way compared to the rest of the group. The main limitation of the study is the short follow-up.
SENTINEL NODE DETECTION IN GYNECOLOGICAL CANCER, OUR EXPERIENCE.
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Aims

The sentinel lymph node biopsy (SLN) in cervical and endometrial cancers is used to simplify the surgical procedure and decrease morbidity. It has been shown that in addition, it can have other advantages, such as more reliable detection of key nodes in atypical localizations, detection of small metastasis, and intraoperative triage of patients, due to identification of this nodes for pathologic evaluation. We present our experience in 50 cases.

Method

Since 2010 we have been performing the detection of the sentinel lymph node in gynecological cancers. On the same day of the surgery, we injected the technetium at the 4 cardinal points of the cervix, injecting 1 cc at each point. Then the detection of the migration of technetium in the department of nuclear medicine is proceeded. Subsequently, in the operating room, the injection of methylene blue is performed at the same points.

Results

38 cases (76%) were endometrial cancers and 12 (24%) cervical. Our detection rate with double technique reaches up to 97%, detecting it with one of two techniques or both. The detection rate with tc99m was 93.7%, and by the methylene blue technique, it drops to 71.5%. The 12.6% (n=6) were positive nodes. According the migration site, 96% were pelvic, and 2% only aortic. A mean of 2.1 GC per patient was obtained. The FN rate was 2.6%.

Conclusion

In cervical cancer, the presence of micrometastasis is associated with shortened survival. In endometrial cancer, SLN biopsy incorporating an institutional mapping algorithm and ultrastaging has been shown to significantly reduce false-negative rates and increase sensitivity and negative predictive value. The sentinel lymph node biopsy seems to be an standarized procedure for endometrial and endocervical cancer with a low false negative detection rate that allows the detection of metatstatic lymph nodes in pelvic and aortic region.
Aims

This is the first UK-based study aiming to assess the detection rates of CIN2+ by different methods of biopsy selection, and evaluate if and how using the dynamic spectral imaging (DSI) digital colposcope affects outcomes compared to conventional colposcopy.

Method

This is a nested case control study including women referred with LG high-risk (HR) HPV positive cervical cytology from 11/2015 until 1/2017 to Musgrove Park Hospital, Taunton, who were examined using the DSI digital colposcope (DSI group). Biopsies were taken from sites identified: (1) before DSI map (internal control); (2) using map to confirm/refine biopsy area; (3) map only identified sites. A contemporaneous control group (4), examined by conventional colposcopy, was used to compare results (external control).

Results

Seventy-one women were in the DSI group. Of those, 22 (31%) were found to have CIN2+ lesions. Colposcopy pre-DSI predicted 5 (22.7%) of the CIN2+ cases as “high-grade”. However, as some areas considered “low-grade” were also biopsied, standard pre-DSI colposcopy (sub-group 1) detected 9 CIN2+ cases and a further 8 with use of the DSI map (sub-group 2) (p=0.008). Biopsies based exclusively on DSI (sub-group 3) detected 5 additional CIN2+ cases (p=0.044).

The control group included 390 women. Baseline characteristics were comparable to the DSI group. Of those, 79 were found to have CIN2+ lesions, a detection rate of 20.3%, which is lower than in the DSI group (p=0.0637).

Conclusion

These data suggest that DSI has an adjunctive role, on many levels, for this important, challenging population.
CORRELATING DYNAMIC SPECTRAL IMAGING AND HIGH-GRADE HISTOPATHOLOGY MAPPING OF THE CERVIX: A FEASIBILITY SERVICE EVALUATION.

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Aims

This is the first comparison of Dynamic Spectral Imaging (DSI) and histopathological mapping of the cervix, aiming to assess the potential of DSI to assist the precise colposcopic description of high-grade lesions.

Method

Five women (age range 24-39 years) who had DSI colposcopy prior to a large loop excision of the transformation zone (LLETZ), due to CIN2+ biopsies (n=3) or high-grade cytology (n=2), were included. LLETZ specimens were oriented by the colposcopist and processed by an expert histopathologist blinded to colposcopy findings. Samples were serially cut in 2-3mm slices perpendicular to the os and at least three levels were taken from each slice. CIN was measured and mapped onto a diagram that divided the cervix in eight slices (octants), and each octant in two parts (closer and farther from the os), providing 16 evaluable areas per case. Each area was characterized, independently, as either HG or not by the DSI map and histopathology.

Results

All five colposcopies were satisfactory. Four had histology showing CIN2+ and one showed CIN1 only. In total, CIN2+ was found in 31 areas. One satellite CIN2+ lesion was missed by DSI and overall 25 of the CIN2+ areas were mapped correctly. Three areas that were predicted as HG by DSI were not confirmed by histopathology.

Conclusion

These data suggest excellent correlation between DSI mapping and high-grade histology and justify future prospective studies to explore uses of DSI beyond improved sensitivity and biopsy site selection.
DOES DEPTH OF EXCISION OR MARGINAL STATUS SIGNIFICANTLY INFLUENCE TEST OF CURE OUTCOME FOLLOWING A LLETZ? RESULTS OF A RETROSPECTIVE COHORT STUDY.

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Aims

The National Health Service Cervical Screening Programme (NHSCSP) document 20 states minimum and maximum suggested depth of excision for large loop excision of the transformation zone (LLETZ). Involved endocervical margins have been found to increased risk of residual and recurrent disease. This study aims to assess if excision parameters influence the post-treatment cytology result.

Method

This is a retrospective cohort study including all women who had LLETZ for high-grade (HG) lesions, from 01/10/2013 until 30/09/2015 in Musgrove Park Hospital, Taunton. All women with no HG CIN in the LLETZ specimen, invasive cancer or glandular abnormalities were excluded from analysis. Mann Whitney and Fisher’s exact tests were used to compare groups.

Results

A total of 554 women who had LLETZ for HG CIN during the study period were identified. Of those, all information including TOC cervical cytology results were available for 503, and these data were analyzed. There was a correlation between depth of excision and marginal involvement of the LLETZ by HG CIN (p=0.038). However, LLETZ excision margin involvement did not influence the follow up cytology result or HR HPV status (p=0.89 and p=0.11, respectively). Depth of excision also did not correlate with presence of high risk HPV status in the TOC smear (p=1.000).

Conclusion

Neither depth of excision nor marginal status appear to influence cytology or HR HPV positivity at the TOC smear. More importantly, marginal involvement seems to have no impact on follow up cytology result. These data support the recommendations in NHSCSP Document 20, albeit only for short-term outcomes.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-1323

PERITONEAL FLUID MESOTHELIN CONCENTRATION AND MENOPAUSAL STATUS OF PATIENTS WITH OVARIAN CANCER

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Aims

The risk of developing epithelial ovarian cancer increases after menopause. Lack of symptoms and insufficient tumor markers contribute to late diagnosis and poor prognosis. Mesothelin, which is overexpressed in ovarian cancer, may serve as a potential marker for epithelial ovarian neoplasms. The aim of the study was to assess the concentration of soluble forms of mesothelin in peritoneal fluid of patients with advance ovarian cancer and stratify the results according to menopausal status.

Method

The study group consisted of 47 patients with ovarian malignancies (47% serous, 32% endometrioid, 13% mucinous, and 8% undifferentiated tumors). Commercially available enzyme linked immunoassay (ELISA) kits (Quantikine Human Mesothelin Immunoassay, R&D Systems) were used to quantify mesothelin levels in the peritoneal fluid, which was aspirated intraoperatively during the surgery. Samples were processed in duplicate according to manufacturer's guidelines. The results were stratified according to patients' menopausal status.

Results

Median mesothelin peritoneal fluid concentration was 53.88 ng/ml and ranged from 4.98 to 233.04 ng/ml, and it varies in different histological cancer types. There was no significant correlation between general mesothelin peritoneal fluid concentration and patients' menopausal status (p>0.05).

Conclusion

Peritoneal fluid mesothelin concentration is not correlated with patients' menopausal status, and possibly hormonal status. Alterations in hormones levels after menopause probably does not influence mesothelin expression and peritoneal fluid concentration in ovarian cancer patients.
A FALLOPIAN MASS AND ELEVATED CA125; A CLINICAL, RADIOLOGICAL AND PATHOLOGICAL CHALLENGE
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Aims

Serum Ca125>95u/ml has 96% positive predictive value for postmenopausal women, while its specificity is lower for premenopausal women because of possible adenomyosis, uterine fibroids, pelvic inflammatory disease, pregnancy, menstruation or endometriosis. We present a case of hyperplasia of fallopian tubes with chronic salpingitis and elevation of serum ca125 mimicking tubal cancer.

Method

A 24-year-old nulliparous woman was referred to our hospital due to lower abdominal pain, bilateral adnexal masses and a highly elevated Ca125 (936U/ml). MRI showed bilateral adnexal complex cystic masses with papillary projections and thick wall, indicating mucinous cystadenocarcinoma. Colonoscopy was performed until 16cm due to external pressure. Intraoperative frozen sections were negative. Left oophorectomy with bilateral salpingectomy and appendectomy were performed.

Results

The diagnosis was set histologically based on many morphologic features, absence of mitotic figures and immunohistochemistry (p16, Stathmin1, p53, Ki-67). Microscopical examination revealed extensive mucosal hyperplasia associated with chronic active salpingitis often called pseudocarcinomatous hyperplasia. Postoperative Ca125 was 250u/ml and her recovery was uneventful. Few cases are described in the literature concerning women 17-40 years-old due to chronic salpingitis, pyosalpinx, tubo-ovarian abscess, hydrosalpinx and female genital tract tuberculosis.

Conclusion

Ca-125, identified since 1981, is elevated in 50% in patients with FIGO stage I disease while in 90-94% in greater stages. When the marker is highly elevated, the patient must be referred to a surgeon who routinely performs thorough abdominal exploration, keeping in mind that benign situations can provoke its high elevation. Genomic and proteonomic technologies should identify additional novel markers.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0587

RETROSPECTIVE STUDY IN ALGIERS WOMEN SHOWING THE PROFILE EPIDEMIOLOGIC WITH ADVANCED OVARIAN CARCINOMA (STUDY PERIOD 2010-2013) AND REVIEW OF LITERATURE

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Aims

Objective: to determine the profile of the Algerian patients treated for advanced cancer of the ovary

Method

Retrospective study of the patients reached of epithelial cancer of the ovary during the period = (2010-2013)

Results

g Median: 53 years (23 – 76 years) The young woman most reached Front 50 years =47% Front 60 years = 79% after the old one of 61 years = 21% Primary sterility = 14% treated by Citrate of Clomifene duration superior at 2 years Average of pregnancies = 5 (3 to 12) Multiparity = 84% Breast feeding maternal (6 months - 2 years) = 42% Oral contraceptives = (62%) average 12 months (6 - 60) Personal antecedents Cancer of the ovary = 7 cancer of breast + ovary = 18, other cancers = colon=6, endometrial=8 primary sterility S=8 14% secondary sterility= 7% inductors of ovulation= Clomid® 14% Family antecedents cancer of the ovary= 21, cancer of breast = 23 other cancers Time diagnosis (1st symptom date of diagnosis) Average time = 2 months we can say according to the exploitation of our results which there exists in Algeria a profile different for our patients relating to certain parameters for cancer from the ovary compared to the data the literature

Conclusion

- Similar for = Personal and family antecedents cancerous Circumstances of discovery, histological Type, stages Discordance = for The age with the diagnosis

Multiparity, Nulliparity, Contraceptives oral, Initial surgery, Time 1st symptom diagnosis: longer
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0602

MIXED TUMORS MULLERIENNES OVARIAN, RETROSPECTIVE STUDY ABOUT 9 CASES WITH REVIEW OF THE LITERATURE

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Aims

to show through this study and the review of the literature which it is about a mixed tumour, rare, aggressive, the treatment primarily surgical is followed by chemotherapy, but it is about a not very sensitive tumor and it only found prognostic factor is the stage initial of the tumor

Method

we used medical records of our patients, 9 cases of Mullériennes ovarian

Results

The median age is 52 year, all the patients profited from a surgery of exérèse tumoral followed by chemotherapy

Stages

IA : 2, IIA :1, IIB :1, IIIC : 5

Surgery =

-Carcinological = hysterectomy , annexectomy bilateraland omentectomy, pelvic clearing out and lomboaortic =5 ,
- Reducing surgery =4

Chemotherapy: used in all the patients, two types of protocol CAP = 5 ENDOXAN, ADRIAMYCINE, CISPLATINE, PACLITAXEL CARBOPLATINE

RC=3, RP=2, PR=3, ET=1,

alive in remission= VR=3,

Alive under chemotherapy= VM=1, died =5

1° = RC/VR/ time of follow-up = 16 years, 2°= Failure/DIED =she died 20 days after the 3rd cycle of chemotherapy =6 months

3°= PR/DIED =14 months

4°=PR/DIED = 7 months 5°= PR/DIED = 8 months , 6°=PR DIED = 12 months

7°= RC/ VR I =8 years 8°= RC/VR =14 months , 9°= RP/VM = 16 months

Conclusion

The ovarian Tumors mullériennes are a rare and aggressive pathology considering the sarcomateuse component associated with L weak chemotherapy sensitivity and the frequent relapses. The only found prognostic factor is the initial stage. The rate of answer to chemotherapy is of 20 % approximately.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0681

TUMORS OF THE GRANULOSA OF THE OVARY IN CONNECTION WITH 24 CASES, RARE TUMOR OF THE STROMA AND SEXUAL CORDS WITH REVIEW OF LITERATURE

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Aims

The goal of this work was to describe the epidemiologic characteristics and anatomoclinical tumors of the granulosa and to study the various factors of forecast in order to determine a correct therapeutic attitude.

Method

Retrospective study of 24 cases, diagnosis of tumor granulosa during the 10 years January 2006 to December 2016 parameters studied: (the age, circumstance of discovery, initial imaging, the stage, surgery, chemotherapy, answer, total survival)

Results

23 patients were standard adult Granulosa, only one waits were standard Granulosa jévunile the age at the time of the diagnosis varied from 22 to 72 years, the circumstances of discoveries were dominated by pains abdomino-pelvic = 15 case (62%), the pelvic echography was practised at all our patients the tumor was solidokystic at 60% of our patients, and solid in 35% cases. Tumors were bulky with a size varies from 7 to 27 cm

Stages: (79.66%) = I, 4, 16% = II, 12, 50% = III, 4.16% = IV, all the patients profited from a exérèse surgical, radical in 18 cases (hysterectomy with annexectomy bilateral), 6 cases unilateral annexectomy (young woman) 6 patients have received of auxiliary chemotherapy stage I with two types of protocols: cisplatin, vinblastine, bleomycin, 4 with the protocol: paclitaxel, carboplatin

Median of survival = 26 month

Conclusion

garnulosa Tumors, rare, often diagnosed at an early stage, treatment relies on surgery, we note in our series that age, stage at diagnosis was correlate with that of literature
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0696

UMBILICAL RARE METASTASES SECONDARY WITH A ADVANCED CANCER OF THE OVARY IN CONNECTION WITH TWO OBSERVATIONS WITH REVIEW OF THE LITERATURE

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Aims

to showing the rare metastases cutaneous umbilical in the advanced ovary cancer, it said the nodule of Sister Mary Joseph

Method

we used the clinical data of the file of the patient treated in our structure, two cases of epithelial malignant tumors of the ovary associated with umbilical metastases

Results

Case 1: 52 years woman operated for ovarian tumor: bilateral annexectomy + biopsies of peritoneum - the histological results are in favor of a bilateral mucineux cystadenocarcinoma of the ovary, stage III B

The patient received chemotherapy: Paclitaxel Carboplatine follow-up complementary surgical Colpohysterectomy + ganglionic clearing

treated by chemotherapy which had answered well, 6 months after it progressed at the pelvic and hepatic, appearance umbilical repetition, a treatment by oral Endoxan, No answer was observed died 7 months after the discovery of metastasis

Case 2: 44 years woman presents cancer of the ovarian stage IV, Pelvic echography, and CT scan: it had shown bulky pelvic mass of heterogeneous lesions hepatic with nodules péritonéales metastasis umbilical, CA 125= 900 UI/ml, Surgery: biopsy was carried aspect of ovarian carcinoma, the patient had received chemotherapy by evolutionary continuation of the lesions after 10 months

Conclusion

umbilical metastases of an epithelial cancer of the ovary fortunately are rare, are associated has a very bad forecast, resistance has any chemotherapy, with a short survival; and we confront these cases with the data of the literature.

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BEVACIZUMAB (BEV) IN FIRST LINE WITH STANDRAT TREATMENT IN OVARY CANCER IN ADVANCED STAGE

**Aims**

To show the effectiveness of BEV in the cancer of the advanced ovary.

**Method**

We used the clinical data of the files of the treated patients with chemotherapy and bevacizumab in first line in ovary cancer. The cancer of the ovary is a not very frequent female cancer but its forecast remains a serious dependent high mortality rate. We bring back 40 patients treated between (2012 - 2016) for a cancer of the ovary having received Bevacizumab in 1st line with Paclitaxel Carboplatine.

The median age 51 (36-73).

**Results**

Stage: IIIb (15%), IIIc: (62.5%), IV: (22.5%), the metastatic sites hepatic, 4 case ganglionic.

The initial surgical: radical 71.5%, 21.5% biopsy, 7 surgery of reduction.

The most frequent is the serous cystadenocarcinomist 29 case, 3 endométrioïde, 2 with clear cells, 2 mixed with transitional cells, endométrioïde and with clear cells and the other malignant of Brenner with transitional cells, 1 mucineux tumor.

Complete response: 57.5%

Partial response: 30%

Objective response: 87.5%

Failure Thérapeutique ET: 7%

RESPONSE STABILITE: 11.7%

A live under chemotherapy: 45%

Complete response a live in Rémission: 40%

Died: 15%

The total survival between 5 and 60 months an average from 19.5 months.

**Conclusion**

Toxicity observed was 1 cas of venous thrombosis, 2 cas of HTA, 2 cas of hemorrhagic syndrome (épistaxis), 1 case of nephritic.

Our remain modest this can be explained by the low number of recruited patients, the recruitment of one plus a large number of patients with more passing would allow us better an evaluation of its effectiveness.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0709

ALGERIAN EXPERIMENT IN THE USE OF THE BEVACIZUMAB IN ADVANCED OVARY CANCER AFTER RELAPSE OF THE STANDARD TREATMENT

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Aims

to show the effectiveness of BEV in the cancer of the advanced ovary

Method

we used given files of our patients treated for cancers advanced of the ovary in relapse, by using several parameters: old, the standard histological one, stage of the disease, treatment used before the relapse

The cancer of the ovary is regarded as one of the gynecological cancers most serious.

We treated during the period active (2012/2015) 52 patients who had relapsed after the standard, stage: III, IV, two groups are considered according to their sensitivity or not to salts of platinum

Platinosensibles = CT+SELS of PLATINUM + BEV = 29 Sensitive

NPS = NOT platinosensitive = CT + BEV = 23

Median age: 54 (21-6 years),

al presented advanced stages of epithelial cancer of the ovary

Results

Evaluation of the patients in Relapse Platino-sensitive = 29/52,

Complete response: 45% Partial response: 24% Objective response: 69% Failure: 4% Alive in remission: 31% Died: 14%

Evaluation of the patients in Relapse Not Platino-sensitive = 23/52

Complete response: 4% Partial response: 22% Objective response: 26% Failure: 44% Alive in remission: 4% Died: 39%

Toxicity

péritonite aigue 5%, - Arterial hypertension 5%, - épistaxis+hémorragie genital faibleabondance: 3% • neurotoxicity: 3% • Functional renal toxicity = 4 (créalémie>14mg/l) • (protéinurie >2g) = 2

Conclusion

the targeted therapy is a profit confirmed in rate of answer and survival Interest of a multidisciplinary dialogue (oncologists, gynaecologists, surgeons oncologists and anatomopathologists) for the best taken in charge of this cancer considered frightening
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0827

CORRELATION BETWEEN HISTOLOGICAL ASPECTS OF THE EPITHELIAL TUMORS OF THE Ovary AND MARKER CA125

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Aims

Our study aims to search the interest of CA125 in the histological types of the ovarian tumors.

Method

This study (2014-2016), 67 cases of the ovarian tumors of various histological types whose biological follow-up is carried by the proportioning of the CA125.

The proportioning of the CA125 is carried out by method TRACES (Time-Resolved Amplified Cryptate Emission)

The distribution of histological type shows the cancer ovary of the serous type is most frequent 48%

Results

serous (31 cases): CA125, Average show: 1700 UI/ml (48 X NR).

This clear rise is found in 90% of the cases (28/31).

mucineux (5 cases): the normal CA125 (<35UI/ml) for 3 cases present. The two other cases

CA125 which does not exceed 3xN, they correspond at a advanced stage of cancer or a repetition.

endométroides (8 cases): rates, normal CA125 (<35UI/ml) for 5 cases present. The 3 other cases show a rate of CA125,

they correspond at a advanced stage with the endometrium or a repetition.

clear cells (6 cases): a rate of CA125 raised at 3 cases presents but which do not exceed 2xN; only one case shows a CA125 to 6xN, it corresponds at a advanced stage.

transitional cells (1 case) and tumors mixed (2 cases): a normal CA125 present. undifferentiated tumors (2 cases):

CA125 raised to 11xN, they correspond to a presence of carcinoses

Conclusion

CA125 is an effective tool for the monitoring of ovarian serous epithelial cancers;

the reduction in CA125 always corresponds to a therapeutic good answer and the absence of its decrease with a resistance to the treatment.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-1094

TUMORS NON EPITHELIAL MALIGNANT RARE OVARIAN RETROSPECTIVE STUDY WITH REVIEW OF LITERATURE

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Aims

The malignant non epithelial tumors of the ovary, two groups the stroma sexual cords, the germinal tumors earlier median age, clean tumoral markers aspecific genomics a stage more often located, a surgery whose major target is to preserve the fertility

Method

1 malignant germinal tumors 44 young, median age 22 (15– 43 years). All the patients have a surgery first, it has was preserving in 42 and complete in 2

2 stroma, sexual cords which 2 groups (Granulosa, sertoli, leydig), here will be approached only tumors of sertoli and leydig

09 patients, median age 23 (16– 43 years). 07 are nulliparous the average of the diagnosis is 2-4 months. 8 IA, 1 IC

Results

1 malignant germinal tumors

17 dysgerminomist, 17 tératoma, 6 : TSE the mixed germinal : 4

I=32, stage II: 1 stage III : 10 stage IV: 1
1st line protocol PVB (29 patients), in 2nd line BEP : 8 and , 15 = monitoring.

39 Complete answer, 3 partial answer

37 a live incomplete remission, 7 patients are die

2 stroma, sexual cords

the surger was preserving = 07, radical =2,

chemotherapy = 06 the evolution was marked progressive disappearance about the signs of virilisation

08 are alive in remission, 01 deceased

Conclusion

ovarian malignant tumors, the assumption of responsibility of these tumors is complex because of their weak incidence, the frequent absence of preoperative diagnosis and of need for taking in to account the desire of procreation

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DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-1106

LONG SURVIVAL OF A TUMOR OF KRU肯BERG: IN CONNECTION WITH A CASE
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Aims

The tumor of Krukenberg is defined as being an ovarian metastasis of a cancer of colonist, stomach, breast and appendix, it represents 1 à 2\%
touches primarily the woman 35 - 50 years, often bilateral it is characterized by the presence of cells out of kitten ring.
The treatment is above all surgical, their evolution is quickly fatal

Method

38 years old since 2007 tumor of Krukenberg, a scanner objective in 2006 a bulky tissue mass evoking a process aggressive of the ovary, a decision taken to operate the patient for goal diagnosis and therapeutic,
chirurgie N°1 = laparotomy biopsies exploring

Results

anatomopathologic N°1: returning in favour of a tumor of Krukenberg (primitive site to search of which the pancreas)
The search for primitive site is negative,
surgery N°2 total hysterectomy and annexectomy,
anatomopathologic N°2 Mucineux Adenocarcinomists of bilateral ovarian localization and endocervicale,
(tumor of Krukenberg), 4 cures of chemotherapy

Docetaxel - Cisplatine with good a complete answer 6 months after a repetition with the echography suspect of a vesical retro solid lesion
of 17mm /11mm evokes a repetition confirm by a scanner objective a tissue nodular formation 24 mm latéro vesical,
The patient is incomplete remission, with a long passing,
survival a 10 years

Conclusion

The tumor of Krukenberg is an uncommon illness,
touches the young woman, it is a metastasis of another cancer: gastric, breast, a pejorative forecast, a weak survival, a death less than 6 months
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0235

EVALUATE A REAL TIME MID-IR SPECTROSCOPIC METHOD BASED ON ATR-FTIR AS AN ADDITIONAL METHOD TO 'FROZEN SECTION' IN GYNEONCOLOGY PROCEDURE – A PRELIMINARY STUDY

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Aims

The sensitivity of the 'frozen section' test is in the range of 75% to 100% and the specificity is 80% to 100%. Increasing those measures is needed to improve the clinical decision-making process. ATR-FTIR spectroscopy is a rapid and sensitive technique that measures changes in molecular structures. Hence, it has the potential to differentiate between malignant and benign tumors. The objective of the current study was to explore the potential of mid-IR ATR-FTIR technique in improving the accuracy of pathology evaluation during surgical procedure.

Method

18 samples extracted from suspected tumors were tested using an ATR-FTIR system. Absorption spectrum were measured and analyzed. 'Frozen section' and histopathological results of these samples were used to develop a discriminant model using multivariate classification methods.

Results

Preliminary results of our study suggest that measured spectra of malignant and benign tumors differ from each other (Figure 1). The model demonstrated that the ATR-FTIR technique was able to correctly differentiate between malignant and benign tumors with 100% sensitivity and 93% specificity.

Conclusion

The ATR-FTIR technique was able to discriminate between malignant and benign tumors. Thus, it has the potential to be used as an additional or alternative technique to the 'frozen section' test during the clinical decision-making process. Further study is needed to support this finding.
HUMAN PAPILLOMAVIRUS DNA METHYLATION PREDICTS RESPONSE TO TREATMENT USING CIDOFOVIR AND IMIQUIMOD IN VULVAL INTRAEPITHELIAL NEOPLASIA 3

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Aims

Response rates to treatment of vulval intraepithelial neoplasia (VIN) with imiquimod and cidofovir are approximately 57% and 61% respectively. Treatment is associated with significant side effects and, if ineffective, risk of malignant progression. Treatment response is not predicted by clinical factors. Identification of a biomarker that could predict response is an attractive prospect. This work investigated HPV DNA methylation as a potential predictive biomarker in this setting.

Method

DNA from 167 cases of VIN 3 from the RT3 VIN clinical trial was assessed. HPV positive cases were identified using: Greiner PapilloCheck and HPV 16 type-specific PCR. HPV DNA methylation status was assessed in three viral regions: E2, L1/L2, and the promoter, using pyrosequencing.

Results

Methylation of the HPV E2 region was associated with response to treatment. For cidofovir (n=30), median E2 methylation was significantly higher in patients who responded (p = <0.0001); E2 methylation >4% predicted response with 88.2% sensitivity and 84.6% specificity. For imiquimod (n=33), median E2 methylation was lower in patients who responded to treatment (p = 0.03 (not significant after Bonferroni correction)); E2 methylation <4% predicted response with 70.6% sensitivity and 62.5% specificity.

Conclusion

These data indicate that cidofovir and imiquimod may be effective in two biologically defined groups. HPV E2 DNA methylation demonstrated potential as a predictive biomarker for the treatment of VIN with cidofovir and may warrant investigation in a biomarker-guided clinical trial.
LONG TERM RESULTS FROM RT3VIN: A MULTI-CENTRE, RANDOMISED, PHASE II TRIAL OF CIDOFOVIR OR IMIQUIMOD TREATMENT FOR VULVAL INTRAEPITHELIAL NEOPLASIA 3
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Aims

Vulval intraepithelial neoplasia (VIN) is a chronic condition, which, if untreated, may become cancerous. Currently standard treatment VIN is surgery, but this does not guarantee a cure and can cause significant physical and psychological problems. The RT3 VIN trial demonstrated that topical treatment with cidofovir and imiquimod are effective in 46% of patients with acceptable levels of adverse events. This study reports the long-term (24 month) follow up of these patients.

Method

Participants with complete response were followed up for a further 24 months. Events were either “new lesion” (any new lesion either biopsied or not biopsied) or “new VIN” (biopsied lesions with histologically proven VIN). All statistical analyses were pre-planned and conducted using Stata SE 14.

Results

Median length of follow up was 18.4 months. At 18 months, 50% on imiquimod (95% CI: 33.6-64.5%) and 69% of patients on cidofovir (95% CI: 51.2-82.0) remained lesion free. At 18 months, 71.6% on imiquimod (95% CI: 52.0-84.3) and 94% of patients on cidofovir (95% CI: 78.2-98.5) remained VIN free. There were no grade 4+ adverse events reported and the number of grade 2+ events was similar between treatment arms (imiquimod: 24/42 (57%) vs. cidofovir: 27/41 (66%), $\chi^2=0.665$, $p=0.415$).

Conclusion

Long-term data indicates that response is maintained for longer following treatment with cidofovir compared to imiquimod with no difference in the rates of adverse events between the two drugs. Overall, the levels of adverse events and the absence of grade 4 events, indicates acceptable safety of use of these drugs in this setting.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0772

FACTORS ASSOCIATED WITH RESIDUAL DISEASE AFTER COLD-KNIFE CONISATIONS
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Aims

Increasing number of young nulliparous women suffering from cervical dysplasia imposes pressure of avoiding re-intervention due to residual disease after the first conisation. The aim of the study was to investigate factors contributing positive margins after conisation.

Method

Case-control study of the patients treated with cold-knife conisation during the three years at the Clinic for Gynecology and Obstetrics (Clinical Center of Serbia, Belgrade) was conducted. All surgical samples were analyzed by experienced gynecological pathologists and following data was extracted from patients records: age, parity, abortions, indications for conisation, final pathological finding, surgical margins status, cone dimensions. Cone volume was calculated.

Results

Among 250 patients treated with cold-knife conisation, 104 met inclusion criteria. Eleven patients (11%) had positive margins and 93 had negative margins. No statistically significant difference was found in age, abortions number and deliveries number between the groups. Cone volume was statistically greater in patients with positive margins (4.69 cm³ vs. 8.05 cm³). Cone diameter analysis indicates significant difference in shorter diameter of the cone basis (p=0.001) and no difference in cone height (although the p value is close to the significance limit [0.079]). No statistically significant difference was found between the groups according to indications for conisation. No statistical difference was found in the positive margins incidence when surgeons were stratified according to the colposcopic experience.

Conclusion

In order to avoid positive margins large volume cones should be made, when reproductive history allows. Colposcopic experience does not affect positive margins incidence.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0647

HPV GENOTYPE IS IMPORTANT IN PREDICTING DISEASE PROGRESSION IN WOMEN WITH ATYPICAL SQUAMOUS CELL OF UNDETERMINED SIGNIFICANCE (ASC-US) CYTOLOGY.

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Aims

Our aim was to estimate the risk of disease incidence in women with atypical squamous cell of undetermined significance (ASC-US) without histology-proven cervical intraepithelial neoplasia grade 2 or worse (CIN2+) by human papillomavirus (HPV) genotype.

Method

Between January 2002 and September 2010, incidence of CIN2+ in 2,880 women including 2,172 with ASC-US and histology-proven negative and 708 with ASC-US with histology-proven CIN1 was investigated. Baseline HR-HPV status was determined by the hybrid capture II assay (HC2) and HR-HPV genotype by the HPV DNA chip test (HDC). Cumulative incidence and hazard ratios were estimated to explore differences between index data and associations with CIN2+.

Results

Of the 2,880 women, the HC2 was positive in 1,509 women (52.4%) and the HDC was positive in 1,563 women (54.3%). The overall agreement between the HDC and HC2 was 97.4%. One hundred ninety (6.6%) patients developed CIN2+. The 5-year cumulative incidence rate of CIN2+ in HPV-16, HPV-31, HPV-52, and HPV-58 were 16.7%, 15.1%, 12.6%, and 12.9%, respectively. On multivariate analysis, being positive in HPV-16 (hazards ratio [HR] = 2.431; 95% CI, 1.789-3.332; P < 0.01), HPV-31 (HR = 2.335; 95% CI, 1.373-3.971; P < 0.01), HPV-52 (HR = 1.592; 95% CI, 1.031-2.458; P = 0.03), and HPV-58 (HR = 1.650; 95% CI, 1.132-2.407; P < 0.01) were significantly associated with developing CIN2+ compared to being negative for that type.

Conclusion

Among women with ASC-US, HPV-16, HPV-31, HPV-52, or HPV-58 positive women may need intensified follow-up as they have the highest risk of becoming CIN2+.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0050

ANALYSIS OF PATIENTS WITH CYTOLOGY NEGATIVE AND HPV 16/18 POSITIVE ON CERVICAL CANCER SCREENING PROGRAM: EXPERIENCE FROM A SINGLE CENTER IN EASTERN REGION OF TURKEY

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Aims

The aim is to evaluate and analyse the outcomes of patients with the cytology negative for malignity and positive for HPV 16/18.

Method

The medical records of patients who were admitted to our gynecologic oncology clinic between January 2015 and January 2017 with complaint of negative cytology and positive HPV test either type 16 and/or 18 and underwent colposcopic examination including cervical biopsy and endoservical curettage results were reviewed.

Results

106 cases were referred to our clinic. 56 of these cases were positive for HPV 16 (52.8%) and 32 were HPV 18 + (30.1%). 18 of patients were positive both for HPV 16 and 18 (16.9%). All patients had a negative cervical cytology. The median age of cases was 41.6 (range:29-67). 76 out of 106 cases were pre-menapousal (71.6%) and 30 patients were post-menapousal (28.3%). All patients underwent colposcopic examination and biopsy procedure was applied to 96 patients (90.5%). HGSIL was detected in 21 % of cases with positive HPV 16 (12/56) and 12.5% of HPV 18 positive (4/32). And also, 33.3 % of HPV positive for both type 16 and 18 cases had HGSIL (6/18). Only one case of microinvasive cancer was detected in HPV 16 positive patient (1.7 %, 1/56).

Conclusion

The high risk HPV positivity necessitates the colposcopic examination even in the presence of negative cytology. It was found rationally that the high grade lesion can be seen in colposcopically quided biopsies. Also, the presence of both types of HPV 16 and 18 together increases the possibility of high grade lesion.
Aims
Cervical cancer is the second most common cancer among women. High-risk human papillomavirus (hr-HPV) persistence is the primary cause of cervical neoplasia. Early detection of hr-HPV is important for identifying women at risk for developing cervical lesions. Approximately 85% of new cases of cervical cancer worldwide and 50% of the total cervical cancer deaths occurred in developing countries.

Method
In a cross-sectional study, two hundred women aged 21-51 years for screening tests always care HPV (cervical), and PCR Pap tests and biopsies were targeted. Women who screened positive were referred for colposcopy and histology results were confirmed. Sensitivity, specificity and predictive values for each screening test to check for CIN-I and higher tracking tests were compared.

Results
The sensitivity of Care™ HPV for detection of CIN-I and higher neoplasia grade I was higher than other methods and also the specificity of the Pap test was also higher for other procedures. The positive and negative predictive value of Care™ HPV test was higher than other tests. There was no significant difference between Care™ HPV and PCR tests for detection HPV-DNA results and CIN-I and higher neoplasia grade I.

Conclusion
Care™ HPV test have sensitivity and predictive value for HPV infection and also Care™ HPV testing is superior to Pap test for the detection of high-grade CIN in and is better in low-income areas to be used as a screening test.
PERSISTENCE AND CLEARANCE OF HUMAN PAPILLOMAVIRUS-58 IN KOREAN WOMEN

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Aims

HPV-58 accounts for higher proportion of cervical cancers in Korea than other types. We followed the women with HPV-58 positive over 6 month. Here, we evaluated the clearance of HPV-58 and identified other co-factors with persistence of HPV-58.

Method

This study was conducted on 176 patients with CIN or ASCUS cytology at the St Paul’s Hospital of the Catholic University of Korea from Dec, 2010 until Dec, 2014. They all were positive for high risk HPV at initial visit. Patients were followed in 4-6 month interval with Pap smear and Anyplex TM Real time PCR HPV 28 detection method which detect 19 high-risk HPV genotype , 9 low-risk genotypes.

Results

The mean age of 176 patients was 53.7 years and the mean age of the 16 patients diagnosed with HPV-58 was 46.1 years. Of the women with HPV-58, seven were CIN1, four was CIN2/CIN3, and 5 were chronic cervicitis. Women with multiple HPV infection inclding HPV-58 were 10. The median clearance time of those infected with HPV after conization was 25 months. Of these, HPV-16 and HPV-18 were 23 months, HPV-58 was 69 months, and the other types were 22 months.

Conclusion

In a follow-up situation after HPV-58 positive cases, they showed relatively long time persistence and identification for the HPV-58 could stratify the high-risk recurrent group after HPV positive state. The future study for the HPV-58 types will require follow-up epidemiological studies with a large-scale and prospective design.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0040

EXPRESSION OF NOD1 AND NOD2 DURING PROGRESSION OF HUMAN CERVICAL NEOPLASIA AND THEIR CORRELATION WITH P16INK4A EXPRESSION

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Aims

Nod1 and Nod2 are cytosolic receptors which recognize pathogen-associated molecular pattern (PAMPs) and initiate the innate immune response. In this study, we examined the expression of Nod1 and Nod2 to determine whether their expression is associated with the tumor progression in cervical neoplasia.

Method

The expression of Nod1 and Nod2 was evaluated by immunohistochemistry (IHC) in 80 formalin-fixed paraffin-embedded cervical tissues; 20 normal cervical specimens, 20 low-grade cervical intraepithelial neoplasias (CINs), 20 high-grade CINs, and 20 invasive squamous cell carcinomas (ISCCs).

Results

IHC staining showed that Nod1 was constantly expressed in normal cervical epithelium, CINs, and ISCCs with variable staining intensity. However, Nod2 expression was detected in 40.0% of normal cervical epithelium (8/20), 45.0% of low-grade CIN (9/20), 70.0% of high-grade CIN (14/20) and 55.0% of ISCC (11/20). Interestingly, the Nod2 expression was more frequently observed in the high-grade CINs and ISCCs compared with that in normal cervical epithelium, but this association was not statistically significant. In addition, Nod2 expression was significantly more frequent in high Nod1 expression group compared to low Nod1 expression group (P=0.044) and increased frequency of Nod2 expression was associated with increased expression of P16INK4a (P=0.033) which is believed to be associated with human papillomavirus (HPV)-induced transformation of cervical tissue.

Conclusion

Our results showed the increased frequency of Nod2 expression in CINs compared with that in normal cervical epithelium and suggests Nod2 may be associated with the cervical tumor progression of CINs.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-1213

HPV TESTING WITH AND WITHOUT CYTOLOGY AFTER LASER DESTRUCTION OR LARGE LOOP EXCISION OF THE TRANSFORMATION ZONE

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Aims

HPV DNA or mRNA tests may provide better validity parameters than cytology smears alone at follow-up examinations after surgical management of cervical intraepithelial neoplasia (CIN) lesions.

Method

266 women with an abnormal colposcopy finding after large loop excisions of the transformation zone (LLETZ, n = 153) or laser treatment (n = 113) were included into this study. Routine cytology and HPV genotyping smears were obtained in addition to cervical biopsies of the colposcopically suspicious area. Digene Hybrid Capture 2 HR-HPV DNA (HC2) and APTIMA HPV assays were performed. Validity parameters including positive and negative predictive values (PPV, NPV) were calculated using the cervical biopsy result as the gold standard.

Results

The median follow-up time was 25 months and the median age of the study population was 34 years (IQR: 19-69). The post-treatment recurrence rate of CIN II or III was 17.3 %. 29 patients (10.9 %) had a post-treatment CIN II and 15 patients (5.6 %) a CIN III recurrence. 2 patients developed cervical cancer (0.07 %). For CIN II recurrences, the NPV/PPV for HC2 was 0.93/0.44, for APTIMA 0.94/0.58 and for cytology alone 0.91 / 0.62. For CIN III recurrences, NPV/PPV for HC2 was 0.98/0.18, for APTIMA 0.98/0.25 and for cytology 0.99 / 0.36. Combined testing of HC2 with cytology improved the NPV/PPV to 0.95 / 0.46.

Conclusion

In this study, co-testing of cytology smears with HC2 or APTIMA assays yielded to excellent NPVs and moderate PPVs in the post-treatment follow-up of CIN patients.
CORRELATION OF HPV, CYTOLOGICAL AND HISTOPATHOLOGICAL FINDINGS WITH DIFFERENT COLPOSCOPIC IMAGES

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Aims

The aim of this study is to determine the level of correlation between present of HPV infection and cytological and histopathological findings with different colposcopic images.

Method

Chi square test were used to determine the level of correlations among 1927 examined patients.

Results

Altogether 612 women (31.76%) were positive for one or more HR HPV types. HPV16(11.36%) and 33(6.43%) were the most prevalent types. HPV31 in 5.24%, HPV18 in 5.03% and HPV51 in 3.68% of all with normal colposcopic findings. 82.31% had normal cytology and 17.69% had abnormal cytology and among them 2.1% were HRHPV positive. There was a statistical difference between the findings of colposcopy and cytology in patients with HRHPV (x²=35.33, p=0.000). Abnormal colposcopy findings and normal cytology had 49.71%, among them there were 29.5% HRHPV positive and 9.5% LRHPV. There was no statistically significant difference between colposcopic and cytological findings (x²=0.394, p=0.530). Patients with normal colposcopy findings had histologically LGSIL changes in 53.81%, 11.95% were HRHPV positive. There was statistically significant difference between histopathology and colposcopy in patients with HRHPV (x²=10.17, p=0.001). 438 patients had abnormal colposcopy images and histopathological LSIL (71.51) and 2 patients had normal colposcopic images and histological HSIL. There was no statistically significant differences between histopathological and colposcopic exam in LRHPV patients (x²=1.71, p=0.190). HPV16 type was found in LGSIL statistically significant presence and in group age >35 years, HPV33 was the most often in age group 24 till 34 years. Abnormal findings on colposcopy was found in 93.3% patients with LGSIL and 68.05% patients with LGSIL had normal cytology and that 70.15% was HRHPV negative.

Conclusion

Our study showed that HPV testing could help for better screening for preinvasive lesions.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0182

DIAGNOSTICS OF CANDIDA ISOLATES FROM VAGINAL BIOTOPES OF PATIENTS WITH ESTABLISHED DIAGNOSES: BEHAVIOR OF CANDIDA IN CULTURES IN THE PRESENCE OF HUMAN MUCOSAL PROBIOTIC LECTINS

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Aims

Probiotic lectins (PL) recognize glycoconjugates (GC: antigens and biomarkers). The aim was to evaluate antitumor prospects of PL.

Method

Candida isolates were from patients with established diagnoses. Altered urogenital biotopes studied were without lactobacilli and/or bifidobacteria, with established relatively pathogenic microbes and viruses, and leukocytes. Acidic PL of lactobacilli or bifidobacteria (PLL, PLB) were added to Candida suspensions in microplates to control turbidimetry during 3 days (37°C). PLL and PLB were identified by glycoconjugates-biotin (GC) (www.lectinity.com) on blots treated with streptavidin-peroxidase. Chemiluminescence of peroxidase was registered in BioChemi System (UVP).

Results

1. Groups of PL-typing Candida strains established: Non-albicans Candida (urethritis, vaginitis, vaginose); C.krusei (urethritis, vaginose); C.tropicalis (cervicit, vaginose). Examples of PL-typing strains: Exposed mannan on C.tropicalis 738[PLB+PLL]≥ 665[PLB2+PLL] ≥ 633[PLB+PLL2] or C.krusei 687 [PLB2+PLL] ≥ 396[PLB+PLL] on the background of availability of mucins in 665 and 633; 687< 584 in accordance to affinity to PLL; similarity between 633 and 73 (in the presence of PLL or PLB), 73 and 42 (PLL), 73 and 4 (PLB). 2. PLL and PLB recognized mucin-like glycoantigens with exposed GalNAc residues (Adi and Fs, intensity of recognition significantly higher than in case of exposed non-antigenic GalNAc), and were able to bind fucan-like GC (PLB> PLL, probiotic strain dependent).

Conclusion

Results indicate the early appearance (before inflammation) of functionally different active Candida cells of increased affinity to the PLB and/or PLL in pathological biotopes of urogenital tract. The data indicate potential of PL (reversible carriers) and GC (support of decor of normal mucosal cells, therapeutics) against vaginal and intestinal mucosal tumors.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-1302

E2/E6 RATIO AND L1 IMMUNOREACTIVITY AS MARKERS FOR DETECTING HPV TYPE 16 POSITIVE > CIN2 LESIONS AND CERVICAL SQUAMOUS CELL CARCINOMA

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Aims

The objective of the study is to identify whether of HPV type 16 L1 capsid protein detection and measurement of E2/E6 ratio are potential biomarkers that would determine cervical pre-malignancy and squamous cell carcinoma (SCC)

Method

226 cervix samples with HPV type 16 single infection were collected from Seoul St. Mary’s Hospital. Real-time polymerase chain reaction (PCR) was done in order to determine E2/E6 ratio of HPV type16 DNA and Cytoactiv® HPV L1 screening Set was performed to detect the L1 capsid protein.

Results

We found that E2/E6 ratios of CIN2/3 (mean, 0.481) and SCC (mean, 0.355) were significantly lower than normal pathology (mean, 0.792) and CIN1 (mean, 0.736) (p < 0.05) (Fig 1). Moreover, difference in HPV L1 positivity predicted >CIN2 cervix lesions and discriminated CIN2/3 (22%, 17/79) from SCC (3%, 1/48) with significant difference (p < 0.05) (Fig 2). Moreover, receiver operating characteristic (ROC) curve revealed that the combination of HPV L1 immunohistochemistry and E2/E6 ratio measurement predicted >CIN2 cervix lesions (Area Under Curve (AUC), 0.871 (95% CI; 0.826-0.917)) better than the individual test (Fig 3).

Conclusion

To our knowledge, we are the first to identify that the combination analysis of HPV E2/E6 ratio measurement and HPV L1 capsid protein detection may be a powerful predictive marker for >CIN2 cervix lesions.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0220

SENSITIVITY OF NON-INVASIVE PRENATAL FOR CANCER DETECTION AND TREATMENT MONITORING IN PREGNANT WOMEN

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Aims

We recently developed a massive parallel sequencing-based analysis pipeline for non-invasive prenatal testing (NIPT), allowing genome-wide detection of foetal and maternal chromosomal imbalances. On cell-free DNA samples of 20,000 asymptomatic pregnant women we incidentally identified 7 genomic imbalance (GI) profiles reminiscent of cancer-related copy number variations. Six women were subsequently diagnosed with cancer. We now aim to explore the sensitivity of routine NIPT testing for cancer detection and treatment monitoring in pregnant women, potentially contributing to enhanced prognosis.

Method

Pregnant women (≤ 40 years) diagnosed with breast, ovarian, cervical or haematological cancer (the 4 most prevalent cancer types encountered during pregnancy) are recruited in UZ Leuven or via the International Network on Cancer, Infertility and Pregnancy. A plasma sample is taken for GI-profiling. In case of an aberrant GI-profile, consecutive samples are taken to assess treatment response.

Results

Of the 23 pregnant cancer cases included, cell-free plasma DNA of 9 cases showed chromosomal abnormalities (either segmental or genome-wide). Sensitivity of cancer detection was highest for haematological (67%) and breast cancers (40%). No GIs were detected in cell-free DNA of the ovarian (n=1) and cervical (n=4) cancer cases. For the true positive cases, GI-profiling of tumor biopsy DNA showed comparable genomic imbalances as seen in cell-free plasma DNA. Furthermore, GI-profiling of cell-free DNA was able to follow treatment response.

Conclusion

Primary results indicate that GI-profiling of circulating cell-free DNA is able to detect cancer in a proportion of cancer cases. Further recruitment is ongoing and supplementary analyses are planned to understand false negative results.
SUBJECTIVE ULTRASOUND ASSESSMENT AND THE ADNEX MODEL TO DIFFERENTIATE BETWEEN BENIGN AND MALIGNANT OVARIAN TUMORS.

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Aims

This study aimed to compare subjective ultrasound assessment and the mathematical multiclass model developed by the International Ovarian Tumour Analysis (IOTA), the ADNEX model, to differentiate benign and malignant ovarian tumors.

Method

This was a retrospective study including women with ovarian tumors who underwent surgery for these lesions. All patients underwent both transabdominal and transvaginal examination to assess tumor morphology and extent of the disease. Two expert sonographers performed all the scans. The ultrasound examiner assessed tumor morphology according to the IOTA protocol. Finally, the sonographer predicted the tumor as benign or malignant. This assessment was based on subjective evaluation based on knowledge from previously published IOTA studies and was given without knowledge of the results of the ADNEX model. Accuracy of the ADNEX was calculated for the cut-offs of 3% (ADNEX-3%) and 10% (ADNEX-10%) total risk of malignancy.

Results

A total of 207 women were included in the study with a median (range) age of 52 (15-81) years. Subjective ultrasound evaluation had a significantly higher accuracy (91.8%) in discriminating benign and malignant ovarian tumors in comparison with ADNEX-3% (77.3%; p<0.001) and ADNEX-10% (81.6%; p<0.001). Sensitivity and sensibility of subjective ultrasound evaluation, ADNEX-3% and ADNEX-10% were respectively: 92.2% and 92.4%, 94.0% and 68.9%, 99.1% and 50.0%.

Conclusion

This study shows that subjective ultrasound assessment performed by an expert sonographer is more accurate than ADNEX model using two different cut-off points in differentiating benign and malignant ovarian tumors. Future prospective studies with larger population of patients should confirm these preliminary findings.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-1135

UTERINE MASS IN PELVIC MRI: THE "ATYPICAL" MYOMA PUZZLE FOR THE RADIOLOGIST AND THE GYNECOLOGIST

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Aims

The aim of this iconographic review (benign and malignant uterine pelvic masses) is to illustrate MRI diagnostic pitfalls and how the radiologist's interpretation between two diagnoses (myoma or sarcoma) impacts the surgical therapeutic decision.

Method

Review of clinical cases that had make discussed or suspected in MRI some opposing diagnoses in their therapeutic management: atypical or variant leiomyoma, leiomyosarcoma, other etiology?

Results

- myoma and leiomyoma variants: degenerative modifications are frequent in ordinary myomas and will change their appearance in MRI (cystic, oedematous, myxoid, hyaline, hemorrhagic, fatty, hypercellular, necrotic pseudo-invasive), their vascularization is also variable (hyper or hypovascular).

- leiomyosarcoma,

- endometrial stromal tumor: stromal nodule, endometrial stromal sarcoma of low grade to high grade,

- STUMP (smooth muscle tumor of uncertain malignant potential),

- adnexal fibrous tumor and plurimyomatous uterus,

- pelvic lymphoma.
Conclusion

Frequency argument: 2 leiomyosarcomas per 1000 uterine myomas.

A single uterine tumor discovered after 45 years must remind one of sarcoma, without forgetting the frequent degenerative changes in the myoma that modify its MRI signal.

Full pelvic MRI protocol is justified if "atypical" myoma in pre-therapeutic associating the morphological sequences T2 correlated with the diffusion (b1000 / ADC) and the perfusion: MRI diagnostic accuracy >90%.

Surgical consequences: fertility in young woman in case of radical hysterectomy for leiomyoma and overall survival in case of "failed" sarcoma with tumoral morcellation.

Pelvic MRI in myomas is indicated for mapping of a large polymyomatous uterus / before myomectomy or if atypical myoma in ultrasound or increase in size in post menopause.
Aims

There has been a recent shift from cytology-only screening to HPV DNA testing in cervical cancer screening. The aim of this study is to identify outcomes of women with positive oncogenic HPV.

Method

This is a retrospective study of 4867 women who underwent HPV testing as part of cervical cancer screening between January 2013 and December 2016 in a tertiary institution in Singapore.

Results

Cotesting was performed in 58.1% and HPV primary screening in 23.5% of women. Of the 42 positive HPV 16 results, 2 had biopsy-proven CIN1 and 4 had biopsy-proven CIN2+. Two patients with normal colposcopy had negative random punch biopsies. Of the 15 positive HPV 18 result, 2 had biopsy-proven CIN1 and 3 had biopsy-proven CIN2+. One patient with normal colposcopy had negative multiple random biopsies and another had a negative diagnostic LEEP procedure. One patient had both HPV 16 and HPV 18 positivity and underwent diagnostic LEEP procedure of which histology was negative. Of the 183 positive non 16/18 HPV results, 1 had biopsy-proven CIN1 and 7 had biopsy-proven CIN2+. Two patients with normal colposcopy had negative diagnostic LEEP and another had negative hysterectomy. The sensitivity, specificity, positive predictive value and negative predictive value were 100%, 94.39%, 4.48%, 100% for HPV primary testing and 100%, 93.40%, 4.48%, 100% for co-testing respectively.

Conclusion

While HPV DNA tests can increase detection of high grade CIN, there is a need to strike a balance between increased sensitivity and over-treatment that may lead to recognised future fertility implications.
AGGRESSIVE FIBROMATOSIS OF THE BREAST: TWO CASES REPORT

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Aims

Fibromatosis or desmoid tumour of the breast is an extremely rare, locally aggressive tumour with a tendency to relapse. The main clinical and pathological characteristics of this rare disease are illustrated, emphasizing the difficulties encountered in the diagnosis of the primary lesion.

Method

Two patients diagnosed with fibromatosis tumour of the breast at Salah Azaiez institute, Tunis, Tunisia, in the period from 2002 to 2016, from retrospective chart review and histologic analysis.

Results

Case n1:

We report a case of desmoid-type fibromatosis in the breast in a 38 year-old female who presented with a two-month history of a palpable right breast mass. Her imaging was discordant. She underwent surgical excision of the mass. Margins were positive. She underwent re-excision with free margin. The patient is currently fifteen years out from her local excision of fibromatosis of her right breast and she remains disease-free.

Case n2:

We report a case of desmoid-type fibromatosis in the breast in a 23 year-old female who presented with a four-month history of a palpable left breast mass. Her imaging was discordant, so she underwent surgical excision of the mass. Margins were free. The patient is currently five months out from her local excision of fibromatosis of her left breast and she remains disease-free.

Conclusion

Primary fibromatosis of the breast is a very rare pathology which looks like a malignant tumor, clinically and radiologically. Fibromatosis of the breast is characterised by a local invasion and a risk of recurrence. Positive diagnosis is provided by histology and its treatment is surgical.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0645

INTRAVENOUS LEIOMYOMATOSIS: ABOUT TWO CASES
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Aims

Intravenous leiomyomatosis (LIV) is characterized by intraluminal growth of benign smooth muscle into either venous or lymphatic vessels outside the limits of myoma. It commonly extends into the pelvic veins and manifests as worm-like protrusions of tumor emanating from veins at the parametrial margins of hysterectomy specimen. The tumor can cause life-threatening symptoms if it involves inferior vena cava or right atrium.

Method

two patients diagnosed with LIV at Salah Azeiez institute, Tunis, Tunisia, in the period from 2006 to 2016, from retrospective chart review and histologic analysis.

Results

Case one:
A 48-year-old woman was admitted with complaints of abdominal swelling and pain since 6 months. She had no medical history before. Abdominal examination revealed irregular, non tender uterine mass of 20 cm of diameter. The uterus is measuring 23 cm in the pelvic ultrasound examination, with multiple hypoechoic lesions in anterior and posterior myometrium. Computed tomography (CT) scan showed an heterogeneous, well vascularized mass. The patient underwent hysterectomy and bilateral adnexectomy. The diagnosis of LIV was confirmed in the histological examination.

Case two:
We report a case of 70 year-old female who presented with a four-month history of a abdominal swelling and pain. Her imaging showed a right latero-uterine mass, well circumscribed with a right thickened fallopian tube. She underwent hysterectomy and bilateral adnexectomy. The diagnosis of LIV was confirmed in the histological examination.

Conclusion

IVL may grow within veins along various routes. Long-term follow-up is recommended, and familiarity with rare forms of benign smooth muscle uterine tumors is essential in avoiding misdiagnosis and overtreatment.
SECONDARY TRIAGE TEST FOR CERVICAL CANCER SCREENING AMONG WOMEN SCREENED POSITIVE ON VISUAL BASED TESTS
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Aims

WHO has recommended visual based techniques for primary screening of cervical cancers in countries with limited resources. However, there is need to triage these screen positive women with test with higher specificity in order to reduce referrals for Colposcopy.

To comparatively evaluate the performance of HPV Hybrid Capture 2 (HC2) and Cytology as triage tests among VIA/ VILI screen positive women, using CIN 2 as threshold.

Method

Community based cervical cancer screening using VIA and VILI was conducted in Mumbai. The screen positive women underwent Cytology, HC2 and diagnostic Colposcopy and/or biopsies. Gold standard was histopathology or negative Colposcopy.

Results

237 primarily screened positive women by VIA/ VILI underwent HC2 and Cytology, followed by Colposcopy. Biopsies were obtained in 207 cases. The sensitivity and specificity in detecting cervical dysplasia or cancer were 70 and 91.62 for HC2 and 70 and 89.43 for cytology. The positive and negative predictive values were 26.92 and 98.58 for HC2 and 22.58 and 98.54 respectively for cytology. The false positivity rate and the false negativity rate were 8.37 and 30 for HC2 and 10.57 and 30 for cytology respectively.

Conclusion

According to results of this study, if HC2 is used as triage test, referrals for Colposcopy will be reduced to 10.97% of original referrals and 30% of high grade CIN cases could be missed. However, if Cytology is used as triage test, referrals for Colposcopy will be reduced to 13.08% of the original referrals and 30% of high grade CIN cases could be missed.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-1041

THE VAGINAL MICROBIOTA AFTER EXCISIONAL TREATMENT FOR CERVICAL INTRAEPITHELIAL NEOPLASIA
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Aims

The vaginal microbiota (VMB) is usually Lactobacillus spp. dominant appears to protect the female reproductive tract against infections including HPV. CST (community state type) III and the high-diversity VMB deplete of Lactobacillus spp. CST IV have both been associated with higher rates of HPV acquisition, persistence and increased severity of cervical intraepithelial neoplasia (CIN). These CST’s have also been associated with pre-term birth (PTB); a known complication of excisional treatment.

We aimed to investigate the impact of excisional treatment for CIN on VMB composition.

Method


Interventions: Vaginal swabs collected immediately prior to treatment, and at 6 month follow-up. Bacterial DNA was extracted and sequenced using the Illumina MiSeq platform.

Results

One hundred and three women provided both pre- and post-treatment samples. Excisional treatment did not significantly alter the distribution of CSTs within the cohort, and diversity remained significantly greater compared to normal, healthy untreated controls. There was no association with post-treatment CST and HPV status. LEfSe identified Streptococcus agalactiae (Group B streptococcus) to be significantly overrepresented after treatment.

Conclusion

Excisional treatment did not significantly alter VMB composition. CST III and IV remained at a higher prevalence than in normal controls, which may be due to intrinsic host factors rather than as a result of disease, and these may also predispose them to PTB and risk of disease recurrence. Furthermore, Streptococcus agalactiae which has been associated with PTB risk, may add to the risk in this patient cohort.
THE IMPACT OF SURGICAL TREATMENT ON THE PSYCHOLOGICAL STATE OF PATIENTS SUFFERING FROM PREMALIGNANT LESIONS OF CERVIX

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Aims

The aim of this research is to discover how important is to patients treated from premalignant cervical disease to preserve possibility of conception after treatment.

Method

The research was conducted at Clinic of gynecology and obstetrics, Clinical center Serbia, during 2016., on the sample of women aged 18 to 40 years, with diagnosed premalignant cervical lesions. Psychological state and their attitudes about pregnancy were analyzed.

Psychological state was examined through questionnaire included in the project "Cancer and pregnancy". It is focused on course of disease, fear of recurrence, relations with partner and future pregnancy and is composed of 12 categorical type questions. These questions are designed as multiple-answer or one-answer possibility.

Attitudes about pregnancy were examined in more then 10 questions on four-graded Likert scale.

Results

The mean age of patients included in study was 33 years. 58.3% were without children while 27.8% had previous intervention or operation on cervix.

Majority of patients had positive attitude about pregnancy, while 19.4% didn't want to have children.

About half were concerned about future pregnancy and main issues were fear of recurrence, possible difficulties with conception and fear of preterm birth.

Also, quality of relationship with partner had positive impact on their attitude about pregnancy. Regarding planning of reproduction, women who wanted to have children, feared the most from possibility of recurrence.

Conclusion

This research indicates how important for young patients is education about course of premalignant cervical lesions, therapy and possible pregnancy outcome.

They should face the disease and choose minimally invasive, but effective treatment.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0505

CERVICAL CYTOLOGICAL SCREENING AND IMMUNOHISTOCHEMISTRY IN THE DIAGNOSIS AND PROGNOSIS OF CERVICAL PRECANCER

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Aims

Malignant transformation of cervix is a model of cancer that can be completely prevented and diagnosed by clinical and laboratory features. One of the factors which decrease morbidity and mortality in cervical cancer is annual performance of cervical cytology. We tried to find a combined method to evaluate cervical precancer – cervical cytology and immunohistochemistry.

Method

We took in study a group of patients with cervical cancer and precancer admitted in our hospital. For the patients diagnosed by cytology with intraepithelial cervical lesions or with clinical and citological suspicion of cervical neoplasia, we made the cervical biopsy and on these samples there were performed the histopathology and immunohistochemical tests. The immunohistocemical markers used in our study were E-cadherin, p53, Ki-67.

Results

The results obtained, helped us to make the differential diagnosis and appreciate the prognosis or the medical management in each patient's case. In cancerous lesions and H-SIL, the increased proliferation rate is put in evidence by the presence of Ki-67, so, the immunostaining for Ki-67 was more intense. Same reaction appears for p53, the immunostaining for p53 being pronounced with worsening of the cervical lesions. The expression of E-cadherin was increased in L-SIL, lower in H-SIL and more decreased and with citoplasmatic model in cancerous lesions.

Conclusion

We already know the importance of screening for cervical cancer, but we consider very useful to combine cytological examination and immunohistochemical markers. Using clinical examination and these two methods, we can get better results for the diagnosis, therapy and prognosis of our patients.
MILD ENDOMETRIAL DYSPLASIA IN CESAREAN SCAR ABDOMINAL ENDOMETRIOSIS – AN EARLY PREMALIGNANT TRANSFORMATION OF ECTOPIC ENDOMETRIUM

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Aims

Incidence of cesarean scar endometriosis varies between 0.03 and 0.45% of women who underwent abdominal delivery. Malignant transformation of cesarean scar endometriosis is exceptionally rare. The present case shows an early stage of potentially malignant transformation of endometriotic tissue localized in a cesarean section abdominal wall scar.

Method

The 40-year-old patient was referred to gynecological ward due to recurrent pain and presence of tumor in the cesarean section scar. The medical history revealed a cesarean delivery 7 years earlier followed by aggravating pain that had started 6 months after surgery. Since 3 years a painful mass measuring around 4 cm localized in the right edge of the cesarean scar had been observed. Typically for cesarean scar endometriosis the pain was more pronounced around menstruation. The patient was obese (BMI 42.7 kg/m²) and hypertensive. Family history revealed a colorectal cancer in patients' mother.

Results

The patient was scheduled for surgery aiming at complete removal of endometriotic lesion. During the surgery two endometriotic tumors infiltrating abdominal fascia and rectal muscles were excised: one measuring around 4 cm located in the right edge of the cesarean scar and the other measuring around 5 cm located 5 cm beneath the umbilicus in the sagittal line. The pathological examination revealed endometriotic tissue with fibrosis and mild dysplasia of endometrial glands. Immunohistochemical staining showed CKMNF 116 (+), CKAE1/AE3(+), CD 10 (+), Vimentin (+/-), CD 68 (+).

Conclusion

Ectopic cesarean scar endometrial tissue, especially in the presence of recognized risk factors, may undergo premalignant transformation analogous to eutopic endometrium.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0381

GIANT LIPOLEIOMYOMA OF THE UTERINE CORPUS SIMULATING MALIGNANCY: A CASE REPORT IN PATIENTS WITH MULTIPLE SCLEROSIS.

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Aims

Uterine leiomyoma is the most common benign pathology in women and lipoleiomyoma is an extremely rare and specific type of leiomyoma with an incidence ranging between 0.03% and 0.2%, but to keep in mind in differential diagnosis with malignant sarcoma. Here, we report an unusual case of giant lipoleiomyoma in a patient with multiple sclerosis.

Method

Case: A 54-year-old woman admitted to our Hospital for tiredness, and pelvic pain for the last 6 months. Sonography and abdominal magnetic resonance imaging (MRI) showed a giant semisolid mass that filled whole abdominal cavity from pelvis to subdiaphragmatic area. On operation, total abdominal hysterectomy with a uterus of size 24 × 23 × 13cm and weighing 4.6 kg, completely occupied by the mass, and bilateral salpingo-ophorectomy were performed. The histopathology revealed a lipoleiomyoma with extensive cystic and fatty degeneration without any malignancy.
Results

Discussion: The diagnosis of leiomyoma is done usually with pelvic ultrasound but sometimes it is difficult to reach a correct diagnosis, especially in cases of giant and pedunculated lipoleiomyoma that included fatty tissue which may mimick malignancy

Conclusion

Intramural giant lipoleiomyoma, albeit represents a rare event should be kept in mind in the differential diagnosis of leiomyosarcoma.
TYPES AND MULTIPLE INFECTION OF HPV ARE RELATED TO VIRAL PERSISTENCE AND CIN RECURRENCE AFTER LASER SURGERY

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Aims

In order to elucidate the factors related to HPV persistence and CIN recurrence after Laser surgery, we examined the details of infected HPV genotypes in 334 cases with CIN.

Method

Cases were recruited from CIN cases treated in our hospital from 2007 to 2011, and observed until December 2014. One hundred and four of the cases were treated by laser conization, while the other 230 cases by laser vaporization. Surgical procedure was selected on the basis of colposcopic examination, pathological grade, and patient’s hope for pregnancy. All cases examined infected HPV genotypes before and after treatment using the multiplex PCR method.

Results

There were no significant differences in cure rates, HPV persistence rates or recurrence rates between conization and vaporization. Persistent HPV infection after treatment was the independent risk factor of recurrence (RR, 9.25; 95%CI 3.06-27.98; p<0.001) in multivariate analysis. And, multiple-type HPV infection before treatment was the independent risk factor of the persistence of HPV infection (RR, 2.04; 95%CI 1.10-3.78; p=0.024). Types 16, 18 and 33 showed a higher potential for recurrence than the other types of HPV.

Conclusion

Multiple HPV infections are a risk factor of HPV persistence. Furthermore, types 16, 18 and 33 infections generate a high risk for the recurrence of CIN. In addition, HPV persistent cases, especially, HPV 16, 18 and 33 showed higher recurrence rates, thus may require more intensive follow up than HPV cleared cases.
POSSIBILITIES OF REDUCING NON-COMPLIANCE IN CERVICAL CANCER SCREENING PROGRAMME IN POLAND

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Aims

The aim was to map potential targets to improve participation in a cervical cancer screening programme.

Method

In 2016 150 female patients from rural region in Poland responded to questionnaire. Patients belonged to integrated care organization - Medical and Diagnostic Centre in Siedlce, Poland. The respondents were 25-63 years old (mean 42), of whom 33 (22%) had higher education. In the screening programme cervical tests were to be repeated every 3 years or more often. In the group 5 women (3.3%) had positive their own or family/friends history of abnormal test results. The average time from the last cervical screening test was 18 months.

Results

Of 150 patients, 140 participated in screening programme every 3 years or more often. 80 needed reminders and/or incentives to do the next cervical screening test on time and 70 remembered the date. 148 patients received in total 773 invitations (through public media, leaflets, letters, sms, phone calls, face-to-face invitations from doctors, midwives, nurse coordinators, family members or friends. 118 patients declared, that invitations were crucial for the decision to participate. Patients were more prone to participate if the invitation was polite, with easy to understand and well-defined aim and language, provided possibility of doing additional tests and choosing time, or if the date was proposed in the invitation, the staff was competent, polite, and the office was well equipped.

Conclusion

Repeated invitations and patients’ education are very important in reducing non-compliance.
COMPARISON BETWEEN OVARIAN MALIGNANCY ALGORITHM (ROMA) AND IOTA RISK MODEL (LR2) FOR DIFFERENTIAL DIAGNOSIS OF ADNEXAL MASSES: REAL-WORLD STUDY

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Aims

To compare IOTA logistic regression model (LR2) with Ovarian Malignancy Algorithm (ROMA) in predicting malignancy in women with pelvic masses.

Method

Multicenter prospective study enrolling consecutively 371 unselected patients (mirroring clinical practice) with suspicious pelvic masses: benign 285pts; borderline 15pts; malignant 71pts (of which epithelial ovarian cancer -EOC 63pts). LR2 and ROMA diagnostic performances were estimated and compared.

Results

**Results.** LR2 and ROMA had similar diagnostic performances in discriminating benign from EOC patients both in pre and postmenopause (Table 1; AUC: area under ROC curve).

<table>
<thead>
<tr>
<th>BENIGN vs EOC</th>
<th>Optimal cut-off</th>
<th>Specificity (95% CI)</th>
<th>Sensitivity (95% CI)</th>
<th>+ Predictive Value (95% CI)</th>
<th>Predictive Value (95% CI)</th>
<th>AUC (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premenopausal</td>
<td>LR2 (%)</td>
<td>10.5</td>
<td>86.0 (82.7-92.0)</td>
<td>84.2 (60.4-95.0)</td>
<td>40.0 (30.4-50.4)</td>
<td>98.3 (95.4-99.4)</td>
</tr>
<tr>
<td>ROMA (%)</td>
<td>13.2</td>
<td>87.0 (81.5-91.3)</td>
<td>84.2 (60.4-95.0)</td>
<td>38.1 (29.0-48.1)</td>
<td>98.3 (95.4-99.4)</td>
<td>0.90 (0.883-0.919)</td>
</tr>
<tr>
<td>p-value (LR2 vs ROMA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postmenopausal</td>
<td>LR2 (%)</td>
<td>27.7</td>
<td>92.5 (85.3-97.4)</td>
<td>85.4 (72.2-92.8)</td>
<td>89.8 (83.0-94.4)</td>
<td>95.0 (93.8-96.2)</td>
</tr>
<tr>
<td>ROMA (%)</td>
<td>32.5</td>
<td>94.3 (86.8-98.3)</td>
<td>88.6 (71.4-96.3)</td>
<td>88.6 (76.8-94.8)</td>
<td>94.3 (87.7-97.7)</td>
<td>0.90 (0.842-0.955)</td>
</tr>
<tr>
<td>p-value (LR2 vs ROMA)</td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

When using clinical recommended cut-offs, LR2 and ROMA presented comparable sensitivity and specificity in premenopause. In postmenopause, ROMA showed higher specificity and LR2 higher sensitivity. Risk calculated with LR2 and ROMA slightly agreed in patients with benign disease (pre and postmenopause: Cohen’s Kappa 0.07 and 0.20), whereas fairly or moderately agreed in patients with malignancy (pre and postmenopause: Cohen’s Kappa 0.23 and 0.56). AUC of LR2 and ROMA combination (logistic regression equation) was significantly higher in premenopausal patients compared to AUC for ROMA alone (AUC 0.943 vs 0.907, p=0.03). Mean predicted probability of malignancy increased by 0.155 when using LR2+ROMA in comparison to LR2 alone (0.620 vs 0.775), whereas decreased by 0.039 for benign tumors (0.095 vs 0.056); integrated discrimination improvement was 0.155+0.039=0.194.

Conclusion

Although LR2 and ROMA used individually show a comparable diagnostic performance, when used in combination they appear to differentiate EOC from pelvic masses more efficiently.
THE EVALUATION OF ABNORMAL PAP SMEAR RESULTS IN NORTHWEST REGION OF TURKEY

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Aims

Cervical cancer is a common malignancy affecting women in worldwide. Early detection of preinvasive cervical lesions are very crucial to avoid the progression of lesions to cervical cancer and decrease morbidity and mortality. Cervicovaginal cytology (pap smear) is a widely used screening tool for early diagnosis of cervical lesions. Abnormal results of pap smear results consists of premalignant or malignant cervical lesions. The aim of the study is to evaluate the prevalence of abnormal pap-smear results in northwest region of Turkey.

Method

In this study, we retrospectively analysed the pap smear results of patients who admitted to a high volume research and training hospital over 10 year period. The demographic, clinical characteristics of patients and pap smear results were recorded from medical records.

Results

A total of 13520 smear results were evaluated. Out of all, 12438 (92%) were appropriate for determining cervical abnormalities whereas the remaining are insufficient for reporting. Abnormal smear results were detected in 1368 (11%) patients. ASCUS was detected in 598 (43.7%) patients, LGSIL in 472 (34.5%) patients, HGSIL in 189 (13.8%) patients, ASCH in 48 (3.5%) patients and AGC in 26 (1.9%) and cervical cancer in 35 (2.6%) patients. Patients who have malign or high grade lesions were significantly younger, had multiple partner and higher smoking rates as compared to benign and low grade cervical lesions.

Conclusion

Cervical cancer is still one of the leading causes of cancer related mortality and morbidity. Cervicovaginal cytology, which has been progressively widened in our country as a screening tool nowadays, is a great helper for detecting early cervical lesions especially in younger ages.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-0867

OVARIAN GOITER CANCERATED BY THE WAY OF TWO RARE CASES EXPERIMENT OF DEPARTMENT OF ENDOCRINOLOGY ALGIERS ALGERIA

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2Pierre Marie Curie D'Alger, Medical Oncology, Alger, Algeria

Aims

The ovarian goiter are rare endocrine ovarian tumors are embryonic tumors differentiated which belong to the group of the germinal ovarian tumors

Method

the frequency of the goiter at 7% among the whole of the tératoma.

Exceptionally this fabric will be the object of a malignant degeneration whose frequency is estimated 5 and 10%, they demonstrators often like benign ovarian tumors and their often histological discovery is remotely made operational act which consists in general of a simple ovariectomy.

We report in this work two cases of cancerated ovarian goiter,

Results

-the first woman old with the diagnosis 51 years, married multipara operated there is 13 years for a right ovarian tumour (17x14x10 cm) stage IA discovered with pelvic ichnography following a pelvic painful symptomatology, and whose histological results conclude with a cancerated ovarian goiter, endocrinal exploration found a thyroid gland clinically and echo graphically normal with euthyoidie clinical and biological, tumoral markers (bhcg, and esparto foetoproteines) no treatment complementary was added, patient is under monitoring, alive with 13 years passing.

the second 60 years, multipara, operated for right ovarian tumor discovered with the imagery, pelvic echography, the histological results returning in favour of an ovarian goitre with the discovery of a papillary carcinoma within an ovarian goitre, exploration thyroid returned normal, a thyroidectomy was practised patient is alive with a 4 years passing.

Conclusion

the ovarian goiter is very rare, the degeneration is exceptional and the treatment is especially surgical, but the monitoring is obligatory because occurred of late metastases is possible.
EXCEPTIONAL ONE CASE OF A REVEALING PELVIC METASTASIS OF A CANCER OF THE THYROID

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²Pierre Marie Curie D'Alger, Medical Oncology, Alger, Algeria

Aims

We report in poster the exceptional case of a revealing pelvic metastasis of a bladder-like cancer of the thyroid

Method

Remote metastases occur at 10 to 15% of the patients with cancer of the thyroid

half among it are present during the initial diagnosis, 10 years after the thyroid tumor, lung, bone, brain, liver and skin

Results

woman operated in 2007 for a bulky mass retro peritoneal with vertebral lysis in the scanner abdominal pelvic exploration per finds a mass retro peritoneal hemorrhagic

results are evocative of a probable metastasis of a bladder-like carcinoma of thyroid origin.

thyroid exploration: standard goiter lb with thyroid nodule media lobar left

Thyroid scinti scanning: t left nodule lobar projected in frigid zone. she undergoes 4 months after her pelvic surgery, a total thyroidectomy with bilateral ganglionic clearing

the thyroidectomy is in favor of a bladder like carcinoma good differentiated process infiltrates capsule T4 of the

Complementary treatment will suit it therapy the ichnography made 3 months after its last cure of will go therapy showed a hydronéphrose stage I on the left by low obstruction urethral probably in keeping with its pelvic metastasis by uterine left which measures 66x45 mm of diameter.

complement of radiotherapy to sacrum : 65 Gy the evolution: relative clinical stabilization, and after a 9 years retreat, patient is always alive without thyroid or ganglionic repetition.

Conclusion

In spite of its exceptional character, a pelvic metastatic process must lead the clinician to explore the thyroid gland systematically, i
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-1027

IN CONNECTION WITH A RARE OF BLADDER-LIKE MICROCANCER OF THYROID OF OVARIAN SEAT

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\textsuperscript{1}Pierre Marie Curie D'Alger, Endocrinology, Alger, Algeria
\textsuperscript{2}Pierre Marie Curie D'Alger, Medical Oncology, Alger, Algeria

Aims

Our case illustrates an exceptional situation in which the modest amount of thyroid fabric contained in the tératome is a micro hearth of bladder-like cancer little differentiated from the thyroid one.

Method

Patient the 49 years old, She presented brutally 4 years ago of the pelvic pains associated with métrorragies

Pelvicechography found a right ovarian mass. 20 months ago, she undergoes a right annexectomy

The examination anatomopathologic find on the level of the right ovary a cyst without vegetation endo or exophytic

The histology aspects of cyst dermoide with several fabrics. The multiple fragments shonw near a thyroid fabric, with fitting trabéculaire and very rare small thyroid blisters

These aspects are suspect of little differentiae bladder-like carcinoma.

with micro hearth (1 mm diameter) with bladder-like carcinoma with the thyroid one.

Results

The assessment hormonal thyroïdien (FT4 and TSHus) normal confirms the state of euthyroidie After a 20 months retre at, the patientis alive with normal rates

HCG with 0.10 ng/ml (VN: 0 – 0.1 normal 1 ng/ml ) and Alpha 1 Foetoproteins in 1.60 UI/ml (VN: 0.5 – 5.5 UI/ml).

Pelvicechography abdomino and to scan it pelvic does not find a repetition

Conclusion

the ovarian tératomes require a long-term monitoring because of the diagnostic difficulties on the one and the occurred potential one of late metastases on the other hand. the discovery of a micro hearth of bladder-like cancer of thyroid within an ovarian cyst dermoide underlines the interest to practise histological examinations meticulous person of totality of the operation and examinations immunohistochim.
Aims

to presented exceptionnel and rare metastases to ovary from medullar thyroid cancer

Method

The medullary thyroid carcinoma is an uncommon malignant tumor

-Patient was Operated Thyroidectomy sub total , , anatomopathologists favor of a medullary carcinoma of the thyroid following by Radiotherapy mediastinal cervical

A chemotherapy adriamycine 60mg/ m2

ibone scintis canning : hyper fixation disseminated on the skeleton in keeping with multiple bone localizations

patient have presented a pelvic pain, pelvic echo graph, in urgency : two suspect ovary tumors

median laparotomy :In exploration the surgeon was discovered two ovary tumors

hysterectomy with total bilateral Annexectomy , curage ganglionic pelvic i

The examined anatomopathologic : ovarian metastasis bilateral of a medullary carcinoma of thyroid,
pelvic clearing out:(17N- /17N)

Results

, Tc scan Thoracic –abdominal –pelvic :objectived multiples disease ganglionic cervical thoracic, mediastinal and pulmonary, hepatic and ganglionic , bone pains. presence the recidivism and evolution of disease

Decision to treated the patient with target therapy (Sorafinib) =. 800mg/day , uninterrupted , so we realized 4 cycle and evaluation after them.
good evolution with disappearance of the bone pains and decrease of diameter of disease

Response showed in imaging was estimate : 60% , the patient is alive with a 24 months passing

Conclusion

- the diagnosis of the thyroid medullary carcinoma is often realized in a advanced stage, metastases distance has which constitutes a factor of graphite as well as the increase brutal or progressive of the rate of ACE , the targeted therapy currently constitutes a prospect for the treatment for the metastatic forms.
Comparing the Results of Operative Hysteroscopy Was Performed in Patients with Active Bleeding With and Without Uterine Evacuation Before the Procedure

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Aims

Having a clear vision during operative hysteroscopy is a very important issue. In a bloody environment with massive contents the vision is usually obscured. The aim of this study was to compare the results of operative hysteroscopy was performed in patients with active bleeding with and without uterine evacuation before the procedure.

Method

An analytic prospective study was designed to compare the intraoperative and postoperative outcomes of performing operative hysteroscopy in a population of women who referred to oncologic center of a teaching hospital in Tabriz, Iran, from Jan. 2015 to Feb. 2017. A total of 80 women with active uterine bleeding due to uterine pathology or misoprostol effect were evaluated in two equal groups either with or without (group 1 and 2) uterine evacuation before the procedure. Brightness of procedure, duration of surgery, amount of bleeding and complications were analyzed by SPSS 18.

Results

Group 1 and 2 had bright vision in 90.8% and 20.0%, respectively (p<0.001). In group 1, there was less severe bleeding than group 2 (grade I vs grade IV) (p<0.01). Mean procedure time between groups ranged between 10.2 min and 60.8 min, respectively (p<0.001). There was no significant difference between groups in post-operative complications except for hematocrit level which was lower and hospital stay was significantly higher for group 2 (p<0.01).

Conclusion

This study provided evidence that evacuation of the uterine contents before operative hysteroscopy in patients with active bleeding have a large effect on the surgical procedure. It is efficient, effective, and easy.
WHY REBRAND THE MOST SUCCESSFUL BRAND IN GYNAECOLOGY, THE PAP SMEAR?

B.C. Schmid

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Aims

To assess the preferred term for cervical cancer screening (“HPV test” versus a hypothetical “New Pap smear”), and what role brand perception has in women towards the brand “Pap smear” in future cervical cancer screening programs. Proportion of women preferring either “HPV test” or “New Pap smear”, and associating cervical cancer with a sexually transmitted infection (STI).

Method

Web-based survey.

Cross-sectional, non-interventional.

1473 women (769 from Australia, 704 from the Unites States).

Web-based survey, descriptive statistics.

Results

The majority (1029, 70±2%) preferred the term New Pap smear over the HPV test (444, 30±2%). 980 (67±2%) did not consider cervical cancer to be caused by a STI. Subgroup analysis did not reveal a clear relationship between test preference and association of cervical cancer with a STI. Analyses based on age or household income showed no clear correlation.

Conclusion

The “Pap smear” is an accepted and trusted term by patients in cervical cancer screening. It is essential that the transition from cytology to human papillomavirus DNA test-based cervical screening is optimized and high participation is not only maintained but improved. If we change the brand we stand to lose the trust of women which has taken decades to develop. Maintaining the brand “Pap smear” for future cervical cancer screening programs based on human papillomavirus testing will enhance participation rates and may minimize the potential negative effects of screening for a STI.
A CASE OF UTERINE RELAPSE IN A YOUNG WOMAN WITH A HISTORY OF ALL (ACUTE LYMPHOBLASTIC LEUKEMIA)

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Aims

Autopsy studies showed an incidence of 11-50% regarding the genital tract as extramedullar site of recurrence in patients with leukemia, though cases of antemortem recognition are sparse. There is need for an early identification of genital tract involvement in relapsing ALL.

Method

A 24 year old woman with a history of B-cell ALL (acute lymphoblastic leukemia) and two previous allogenic bone marrow transplantations was referred to our department with pelvic discomfort but without vaginal bleeding or discharge.

A transvaginal ultrasound examination revealed an abnormal uterine mass resembling a myoma. Because of rising levels of LDH (lactate dehydrogenase) and without evidence of other sites of recurrence, an uterine metastasis was suspected.

To differentiate between myoma and metastasis in order to determine the optimal therapy we performed a transcervical needle biopsy.

Results

Microscopic and immunohistochemical examinations of the biopsy specimen revealed proliferation of leukemic cells. Because of the young age of the patient we preformed a salvage therapy (abdominal hysterectomy and bilateral salpingoopectomy). Histopathological processing revealed a leukemic infiltration of the myometrium but no infiltration of the ovaries.

Conclusion

Leukemic infiltration of the uterus is difficult to diagnose because of nonspecific symptoms.

Transcervical needle biopsy is an useful tool to determine the origin of an suspected uterine mass in young patients who wish to preserve fertility.
THE ANALGESIC EFFICACY OF FORCED COUGHING DURING CERVICAL PUNCH BIOPSY: A PROSPECTIVE RANDOMIZED CONTROLLED STUDY

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2Carmel Medical Center, Anesthesiology, Haifa, Israel
3Schneider's Children Medical Center, Department of Pediatrics, Petah Tikva, Israel

Aims

To assess the efficacy of forced coughing as a pain-reducing technique during cervical punch biopsy compared to a control group.

Method

The study is a prospective randomized-control trial. The study group comprised 90 women who underwent cervical punch biopsies during investigation of abnormal Pap smear test results. The women were randomly assigned to "cough" and control groups. Pain was measured on a 10-cm visual analogue scale (VAS) during different stages of the procedure, and compared to assess the effect of forced coughing on pain level during biopsy.

Results

VAS pain score during biopsies was significantly lower in the "cough" group. The median pain level in the "cough" group was 1.5, compared to 4 in the control group. Eighty percent of the women in the "cough" group reported a pain level of 2 or less compared to 40% of the women in the "control" group (P = 0.0002). In the second biopsy, 69% of the women reported VAS ≤ 2 in the cough group compared to 28% of the patients in the control group. Forced coughing was shown both to reduce anxiety regarding the prospect of future cervical procedures and to decrease patients' desire for future pain management. This was true for 32% of the women in the "control" group compared to 12% of the women in the "cough" group (P=0.05).

Conclusion

Forced coughing provides significant pain relief during cervical punch biopsy and reduces the patients' fear and desire for pain medications in future procedures.
AGE ADJUSTED TREATMENT OF CERVICAL INTRAEPITHELIAL NEOPLASIA 1 (CIN 1) LESIONS BY SUPERFICIAL OR REGULAR LOOP EXCISION OF TRANSFORMATION ZONE (LLETZ)

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²Beilinson Medical Center, Orthopedics, Petah Tikva, Israel

Aims

The dispute about Cervical Intraepithelial Neoplasia (CIN 1) disease is between opinions that it is a transient HPV infection or first step in neoplasia continuum with progression to CIN 2-3 and Cancer. The guidelines of CIN 1 are observation for 24 month, and consider ablation or excision treatment after 24 months. CIN 2-3 is diagnosed between 12-22% in women treated because CIN1 lesion. We aimed to to evaluate the correct pathological diagnosis in treatment of CIN1 lesion with LLETZ, while adjusting the cone depth to the patients’ age.

Method

A retrospective study of 329 women diagnosed with CIN 1 on a cervical biopsy and treated by LLETZ. In patients under 35 years old, a thin superficial LLETZ was performed, and in women over 35 years old a regular LLETZ was performed.

Results

The final pathological diagnosis was CIN 2-3 in 14.6% of the women. The average excision height was 0.639 cm in women under 35 years old, 0.822 cm in women 36-45 years old, and 0.962 cm in women over 46 years old (p<0.0001). When comparing excision length less than 0.8cm to excision length over 0.9cm, positive margins rates and recurrence rates were similar in both groups.

Conclusion

CIN 2- 3 was diagnosed in 14.6% of the women, and because the mean depth of excision in young women is 0.639 cm, we recommend considering LLETZ procedure which enables a correct pathological diagnosis. The excisional depth should be adjusted to age and fertility status, with minimal risk of future premature delivery.
THE IMPACT OF INTRAUTERINE DEVICES AND ORAL CONTRACEPTIVES ON COMPLICATIONS AFTER CONIZATION

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Aims

Recent literature supports the impact of contraceptives (local and systemic) on the cervical canal microbiome and mucous. In relation to the findings we investigated the potential impact of combined oral contraceptives (COC) and intrauterine devices (IUDs) on postoperative bleeding, discharge and pain after conization.

Method

This cross-sectional study analyzes single center data on postoperative complications experienced by patients after conization between the years 2005 to 2015 at the University Medical Center Maribor, Slovenia. Physicians recorded at the follow up exam 4-6 weeks after conization the amount of postoperative pain, bleeding and discharge as well as type of contraception patients were using. Statistical analysis was done through descriptive data analysis and the Mann Whitney-U test using the SPSS programme.

Results

A total of 717 women were included in the study. 69 % of women (n=497) in the study were using COC, 7.8 % (n=56) were IUD users and the rest of women compromised the control group (n=164). There was a significant difference in the amount of moderate discharge between groups (p>0.029) in favor of IUDs (reducing discharge). Whilst not statistically significant, there is a tendency of IUDs also reducing perception of pain (p>0.078). Other parameters between IUD usage and COC usage were statistically insignificant.

Conclusion

IUD properties may present a positive impact on the postoperative discharge following conization. Further studies are needed to evaluate differences between hormone and gold/copper IUDs as well as larger studies on specific oral contraceptive substances.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-1353

HPV-DNA GENOTYPING IN WOMEN WITH CERVICAL INTRAEPITHELIAL NEOPLASIA UNDERGOING TO CONIZATION: COMPARISON BETWEEN CERVICAL CYTOBRUSH AND CORRESPONDING SELF-COLLECTED URINE SAMPLES

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Aims

To evaluate the feasibility and assess the concordance of the HPV genotyping both in cervical samples and corresponding self-collected urine by PCR-HPV specific detection kit in women with CIN in a colposcopic referral population. To correlate the genotype detection both cervical and self-collected urine sample with the grade of CIN.

Method

Design: Cross-sectional single centre study.
Patients: Women undergoing conization for CIN at cervical biopsy.
Intervention: Cervical brush and urine samples were collected before conization. A first void urine specimen was self-collected by patients and brought to the outpatient clinic. Cervical samples was collected with cytobrush. HPV genotype was assessed by Linear Array (Roche) procedure.

Results

134 patients were enrolled. HPV genotypes were detected in 81% of cervical samples and only in 57% of corresponding urine. By classifying the samples on CIN, the worse the grade of CIN the better detection of HPV was observed in both biospecimens. HPV was present in CIN1 (n= 31) in 45% and in 29% of cervical and urine samples, while the percentages raised to 92% and 66% respectively for CIN>1 (CIN2= 47 and CIN3=56). This trend was confirmed by chi-square statistical analysis in CIN1 versus CIN2 and CIN3 (p=0.006 for cervix and p=0.039 for urine). A statistically significant increase of poly-infection was observed in CIN>1 compared to CIN1 in both samples (p=0.001 cervical, p= 0.008 urine).

Conclusion

This study shows that urine can be used for HPV genotyping in CIN2+ lesions. The concordance of HPV genotype detection between cervical and urine samples depend on the grade of CIN.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-1360

ACCEPTABILITY OF URINE SELF-COLLECTED SAMPLES FOR CERVICAL CANCER SCREENING
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¹University of Florence, Department of Experimental and Clinical Biomedical Sciences, Florence, Italy

Aims

To investigate the acceptability of urine self-collection samples for cervical cancer screening

Method

Design: Cross-sectional single centre study
Patients: Women undergoing conization for CIN at cervical biopsy.
Intervention: Prior to conization, we administrated a questionnaire on acceptability of urine sampling for cervical cancer screening. The questionnaire was a validated seven item-survey developed to elucidate factors related to compliance to cervical cancer prevention program.

Results

160 patients were enrolled. The mean age of our population was 43.4 +/- SD 9.4 years (range 28-66). Level of education in our population was secondary 42.5% and tertiary 57.5%. Half of individuals reported that at least once the adherence to cervical cancer screening program with Pap test had represented a problem in their daily life. Sixty patients reported to have thought not to attend to cervical cancer screening program. Among these, 18 patients have missed at least one screening call. Given reason not to attend screening, 10 patients answered fear, 54 time needed to attend screening, 9 pain related to cervical sampling, 32 discomfort, 40 organizationals difficulties with the fixed execution date of the PAP test recommended by regional ICC screening service, 15 lack of knowledge about ICC screening program.

Conclusion

The results of our review suggest that urine self-collection method is well-accepted and may therefore encourage greater participation in cervical cancer screening programs.
SUBJECTIVE ULTRASOUND ASSESSMENT AND MULTIVARIABLE-PREDICTIVE MODELS IN DISCRIMINATING MALIGNANT FROM BENIGN OVARIAN TUMORS IN REFERRAL CENTER FOR GYNECOLOGIC ONCOLOGY

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²Gdańsk University of Technology, Department of Probability and Biomathematics, Gdańsk, Poland

Aims

The aim was to develop a predictive model and compare it with subjective ultrasound assessment (SUA) in preoperative discriminating malignant from benign ovarian tumors, thus enabling optimal treatment planning in referral center for gynecologic oncology.

Method

A prospective, observational study on 280 consecutive patients undergoing surgery for adnexal masses (53.1% malignant) and preoperative standardized transvaginal and abdominal ultrasound examination with predefined definitions was performed. Stepwise logistic regression (SLG) with lowest possible AIC and BIC (Akaike and Bayesian information criterion) values were used to develop the model on 160 cases. On an independent group of 120 patients the model was tested and compared with SUA, risk of malignancy (RMI) and International Ovarian Tumor Analysis (IOTA) models: ADNEX, LR2.

Results

Univariate analysis revealed that age, hormonal status (HS), ascites, bilateral (BL) and multilocular lesions, solid components (SC), metastases in abdominal cavity, Doppler parameters: color score (CS), resistance (RI), pulsatility indices, peak systolic velocity, Cancer Antigen (CA) 125, platelet count and D-dimer level were significant in predicting malignancy. SLG revealed final model consisting of 6 factors (SC, BL, HS, CA125, CS, RI)-area under the receiver operator characteristic curve (AUC) 0.974. In a testing set, sensitivity, specificity and positive predictive values were 77.0%, 93.2%, 92.1% respectively. For other models – ADNEX: 81.9%, 93.2%, 92.6%; LR2: 63.9%, 96.6% (88.4-99.0), 95.1% (83.8-98.6); RMI: 77.0%, 89.8%, 88.7%; for SUA: 90.1%, 93.2% (83.8-97.3), 93.2% (83.8-97.3) respectively.

Conclusion

SUA by gynecologist oncologist has better or comparable clinical usefulness as multivariable-predictive models in discriminating malignant from benign ovarian tumors.
IS GENOTYPING OF UGT1A1 REALLY USEFUL FOR GYNECOLOGIC CANCER PATIENTS TREATED WITH IRINOTECAN-BASED CHEMOTHERAPY?

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Aims

Genotyping of UGT1A1*28 and *6 was supported by national insurances since 2008 in Japan, however, there still exists argument which patients receive the test.

Method

Medical records of gynecologic patients treated with irinotecan-based therapy between 2003 and 2015 in our hospital were reviewed. Until 2007, dose reduction of irinotecan was based on physical status or previous myelosuppression (Non-UGT group). Since 2008, doses of irinotecan were modified by choice of physicians according to UGT1A1*28/*6 genotype (UGT-group). Adverse effects at the 1st cycle were compared.

Results

217 cases were treated with irinotecan-based therapy: 59 with cervix, 30 with uterine corpus, and 128 with mullerian cancers. 109 patients underwent UGT1A1 genotyping: 66 (61%) with wild-type, 39 (35%) with hetero-type, and 5 (5%) with homo-type/double hetero-type. Irinotecan dose was modified in 25% in UGT group, and 11% in non-UGT group. In UGT group, Grade3/4 non-hematologic (17% vs. 26%, p=0.13) and Grade4 hematologic toxicities (11% vs. 19%, p=0.08) were reduced. Of note, grade4 non-hematologic toxicities were not observed in UGT-group (0% vs. 5%, p=0.02).

Conclusion

Tailor-made chemotherapy according to UGT1A1 genotyping enabled us to reduce severe toxicities in gynecologic patients treated with irinotecan. Further investigations including response rates at reduced doses are needed to facilitate UGT1A1 genotyping.
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**Partial Genotyping in Cervical Cancer Screening**

*Comparing Co-Testing with Primary HPV Partial Genotyping in Cervical Cancer Screening*

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**Aims**

To compare the detection rate of CIN2+, the number of colposcopy needed per case of CIN2+, and the number of repeat test required in 12 months between co-test and primary HPV with 16/18 genotyping.

**Method**

This is a retrospective database analysis on women above 24 years old who had undertaken both liquid-based cytology and HPV test with partial genotyping for HPV 16/18/12HRHPV (Roche, USA). Women who had a history of cervical neoplasia or being followed up for abnormal cytology were excluded. The cytology and HPV DNA test were done in two independent laboratories on split aliquots of the same sample. The two screening strategies were: (1) co-testing in which abnormal results were defined by cytology showing CIN, ASCUS with 12hrHPV positive, and HPV16 and/or 18 positive; and (2) primary HPV screening with reflex LBC for 12hrHPV positives. The clinical outcomes were detection rate of CIN2+, number of colposcopy per case of CIN2+, and the number of repeat test needed by the strategy protocol.

**Results**

The mean age of the subjects was 45.1 (95% CI 22.2-68.0) years old. Of the 4912 evaluable subjects, 28 cases of CIN2+ were detected. The number of colposcopy per case of CIN2+ and number of repeat test required was 5.7 and 231 (5.11%) respectively for co-test and 6.5 and 261 (5.3%) respectively for the primary HPV strategy. None of these clinical outcomes showed a difference between the two strategies.

**Conclusion**

Primary HPV test with 16/18 partial genotyping is preferred to co-test in cervical cancer screening.
STAGING, AGE CHARACTERISTICS AND ACCOMPANYING ILLNESSES IN PATIENTS WITH GYNECOLOGICAL CANCER

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Aims

The aim of the study was to determine the stage, localization, age and accompanying illnesses in gynecological cancer patients.

Method

400 patients with oncogyneological cancer operated for the period 01.01.2014-27.04.2015. With malignant neoplasms of the uterus are 140 patients (92 in the I stage, 12 in the II stage, 35 in the III stage and 1 in the IV stage). With cervical cancer are 130 patients (52 in the I stage, 51 in the II stage, 25 in the III stage and 2 in the IV stage). Ovarian cancer and tube cancer are 82 patients (20 - I stage, 5 - II stage, 52 - III stage and 5 - IV stage). 48 patients with the vulva and the vagina cancer (12 in the I stages, 23 in the II stage, 12 in the III stage and 1 - IV stage). The patients are between 18 and 91 years of age (up to 30 years are 6 patients, from 31 to 50 years are 113, from 51 to 70 years are 206 and over 70 are 75). There are 94 patients with no accompanying diseases (23.5%). In 306 patients (76.5%) there are 707 accompanying diseases (Arterial hypertension - 202 patients, diabetes mellitus - 52, drug allergy - 47 obesity - 44, other - 362)

Results

The patients prevail in the first clinical stages, the most frequent localization is endometrial cancer, are over 50 years of age, the patients have more than one concomitant diseases.

Conclusion

With increasing age, the number of concomitant diseases increases.
DIAGNOSTICS AND PREINVASIVE DISEASE

ESGO7-1234

INTRAEPITHELIAL VULVAR NEOPLASIA ON IMMUNOSUPPRESSED PATIENTS: CLINICAL PRESENTATION, TREATMENT AND EVOLUTION ON A RISK POPULATION

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Aims

To evaluate basal characteristics and evolution of vulvar intraepithelial neoplasia (VIN) on immunocompetent (IC) and immunosuppressed (IS) patients in our setting.

Method

We evaluated 27 consecutive cases of vulvar HSIL (11 IS and 16 IC) diagnosed and treated in our Cervical Pathology Consults between 2008-2016. In our center all IS patients undergo yearly check-up on Cervical Pathology consultation with colposcopy, vaginoscopy and vulvoscopy.

Results

12.5% of IC patients had a history of HPV infection vs 91% on IS (all of which had prior conization or hysterectomy due to cervical affection). Most frequent consultation motive on IC was vulvar leucoplasia and condyloma whereas on IS diagnosis was made on routine follow-up performed on all IS patients at our center.

Mean age (standard deviation) at diagnosis on IC and IS was 59.1(6.6) vs. 41.9(2.3). Relapse was diagnosed on 25% vs. 91%, with a mean relapse free survival of 4.2(1.8) vs. 1.6(0.7) years respectively.

Initial treatment was surgical on all cases with 25% vs. 27% of occult invasion on IC and IS. On recurrences on IC imiquimod treatment was offered on 50% of cases with good results and 50% were offered surgical management with further recurrences. On IS patients they were managed with surgery except for two cases treated with laser and one with brachytherapy due to an associated VAIN lesion, both are disease free at the moment.

Conclusion

IS patients should be screened for VIN on specific consults as lesions present usually asymptomatic, earlier in life and have a higher recurrence rate.
DIAGNOSTICS AND PREINVASIVE DISEASE

PELVIC MASS ORIGINATING FROM THE RIGHT OVARY CAUSING HYDRONEPHROSIS AND IMPRESSION OF THE ILIAC VEINS - REMOVED WITH ROBOTIC-ASSISTED LAPAROSCOPY

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Aims

Pelvic masses causing hydronephrosis and insufficiency of the kidney is a severe complication. Early diagnosis and adequate surgery are mandatory to treat those patients.

Method

We present a 27 year old, otherwise healthy woman with unspecific pelvic pain on the right side. Sonography showed a severe hydronephrosis. Urethrocystoscopy was performed with insertion of ureteral splints. Three weeks later a scintigraphy of the kidneys showed a loss of function of the right kidney. MRI detected a cystic and solid pelvic mass, originating from the right ovary and impressing both the right iliac veins and the ureter. CA 125 was elevated, while other tumor-specific markers and several routine blood parameters were within the normal range. Differential diagnosis were endometriosis and ovarian masses as well as mesenchymal tumors.

Results

The surgery was performed by robotic-assisted laparoscopy. The pelvic mass was severely stucked on to the right pelvic side wall. Dissection started from cranial with exposing the ureter and freeing it out of the mass. The right uterosacral ligament was completely thickened and shortened. Dissection of the internal and external iliac vessels on the right pelvic side wall revealed the cystic and solid mass between the vessels. The tumor was freed to all sides and excised without injury of the vessels and the ureter. The final histological report confirmed the diagnosis of a deep infiltrating endometriotic nodule.

Conclusion

Robotic-assisted laparoscopy is save in a highly complex situs with pelvic masses causing hydronephrosis and compression of iliac veins.
LYMPH NODE RATIO AND OUTCOME IN OVARIAN CANCER – A RETROSPECTIVE SINGLE CENTER ANALYSIS

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Aims

Nodal stage is an important prognostic factor in ovarian cancer. However, limited data is available on the additional prognostic value of the lymph node ratio (LNR), defined as the ratio of the number of positive lymph nodes to the number of resected lymph nodes.

Method

We retrospectively analysed patients with operable ovarian cancer that underwent surgery with complete lymphadenectomy at the Department of Obstetrics and Gynaecology of the University Hospital Ulm between 2000 and 2012. The prognostic value of lymph node involvement and LNR on overall survival (OS) was analysed using Kaplan-Meier estimates and Cox regressions. Median follow up was 5 years.

Results

Of 280 patients included, 131 (46.8%) patients had positive lymph nodes (median 4, range 1 – 61). Lymph node involvement was a significant and strong prognostic factor for OS (hazard ratio [HR] 3.46, 95% confidence interval [CI] 2.39 – 5.01, p < 0.001). In patients with positive lymph nodes, a higher LNR (as continuous variable) was significantly associated with poor OS in univariate analysis (HR 2.20, 95% CI 1.13 – 4.26, p = 0.020). However, a multivariate cox regression adjusted for age, body mass index, histopathological grading, tumor histology, and residual disease showed no independent significant effect of LNR (HR 1.52, 95% CI 0.70 – 3.71, p = 0.296).

Conclusion

In patients with ovarian cancer and lymph node involvement, the LNR is discussed as a potentially useful additional prognostic factor; however, our study could not show a significant independent prognostic value of LNR with respect to OS.
THE VALUE OF NEUTROPHIL/LYMPHOCYTE RATIO, PLATELET/LYMPHOCYTE RATIO AND MEAN PLATELET VOLUME IN THE PREDICTION OF POSITIVE SURGICAL MARGINS AFTER COLD KNIFE CONIZATION

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Aims

To evaluate the utility of complete blood count to predict positive surgical margins after cold knife conization.

Method

Woman who underwent cold knife conization because of biopsy - proven high-grade squamous intraepithelial lesions (HSIL) between 2009 and 2013 were retrospectively analyzed. The relation between the positive surgical margins and age, height of cone, depth of cone, diameter of cone, complete blood count parameters was assessed. Standard statistical tests were used.

Results

Out of 231 woman in total, primarily referring 63 surgical margin positive women were included as the study group (Group 1), 168 surgical margin negative women were selected as the control group (Group 2). The mean age of the patients was 41.9 years. The conization results were microinvasive carcinoma, high-grade squamous lesion (HSIL), low-grade squamous lesion (LSIL) and no residual disease for 5, 107, 36 and 20 patients, respectively. 52 women in Group 1 underwent either repeat excisional procedure or simple hysterectomy and 24 of them showed residual disease. There was no statistically significant difference in regard to neutrophil/lymphocyte ratio, platelet/lymphocyte ratio and mean platelet volume (MPV) occurred between two groups (p=0.79, p=0.86 and p=0.51 respectively).

Conclusion

Neutrophil/lymphocyte ratio, platelet/lymphocyte ratio and mean platelet volume does not seem to be useful in predicting positive surgical margins after cold knife conization.
LA VAGE OF THE UTERINE CAVITY FOR OVARIAN CANCER DIAGNOSIS: A FEASIBILITY STUDY

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Aims

75% of ovarian cancer patients are diagnosed at an advanced stage. We previously introduced a new diagnostic concept, based on a lavage of the uterine cavity to collect shed cancer cells. After the design of a new catheter specifically for this purpose we conducted a feasibility study.

Method

In the course of the study the performance of the catheter (n=93), as well as the level of pain compared to the insertion of an intrauterine device (IUD) (n=18) which was placed four weeks afterwards were evaluated. 16 gynecologists of four centers performed the uterine lavage, using four different batches of the catheter.

Results

In 92/93 cases it was possible to collect a uterine lavage sample. Dilatation had to be applied in a lower proportion of pre-menopausal, compared to post-menopausal women (p=0.0088). Insertion of the catheter was more difficult in patients with cancer, than women with benign, or no gynecological diseases (p=0.009). The discomfort experienced during the uterine lavage was rated with a median VAS score of 1.6, the insertion of an IUD with 1.0, both using local anesthesia. No participant had to use medication, developed a fever or other symptoms requiring a doctor’s visit. Both procedures took 6.5 minutes on average.

Conclusion

The results of the feasibility study show that the catheter, together with the lavage protocol represents an easy and reliable way of collecting target cells present in the uterine cavity. The procedure is well tolerated. Therefore, it carries the potential to be used as a screening tool.
ENDOMETRIAL CANCER

ESGO7-0690

HE4 IS SUPERIOR TO CA125 IN THE DETECTION OF RECURRENT DISEASE IN THE FOLLOW-UP OF HIGH RISK ENDOMETRIAL CANCER PATIENTS

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Aims

To date, biomarkers are not routinely used in endometrial cancer diagnosis, prognosis and follow-up. The purpose of this study was to evaluate whether serum HE4 was related to clinicopathological risk factors and outcome. Secondly, the role of serum HE4 and CA125 was assessed as indicators of recurrent disease during follow-up.

Method

156 patients with endometrial cancer were included in this retrospective study between 1999 and 2009. Serum HE4 and CA125 were analyzed at primary diagnosis, during follow-up, and at the time of recurrence. The cut-off values for HE4 and CA125 were 70 pmol/l and 35 U/Ml, respectively. Correlations with clinicopathological factors were studied in univariate and multivariate survival analyses. Lead time was calculated to determine which marker was elevated prior to the detection of recurrent disease.

Results

Serum levels of HE4 and CA125 at diagnosis were significantly associated with: high tumor grade, LVSI, lymph node involvement and advanced stage. High HE4 was an independent prognostic factor for reduced disease-free, and overall survival: HR 3.11 and 3.11, respectively. Eighty-four (31%) patients experienced a recurrence; FIGO I/II N = 20 (41%) and III/IV N = 28 (59%). At time of recurrence, 75% of the patients had an elevated HE4, whereas only 54% had an elevated CA125. Elevated HE4 preceded recurrent disease with a mean of 131 days to elevated CA125.

Conclusion

High serum HE4 was an independent risk factor for reduced DFS and OS. HE4 is superior to CA125 in the detection of recurrent disease during follow-up of high risk endometrial cancer patients.
ENDOMETRIAL CANCER

ESGO7-0739

PREDICTIVE VALUE OF THE PLASMINOGEN ACTIVATOR SYSTEM IN PATIENTS WITH ENDOMETRIAL CANCER

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Aims

The plasminogen activator system (PAS) is involved in cancer invasion and metastasis of many carcinomas. The purpose of this study was to evaluate the performance of preoperative serum levels of the PAS (PAI-I, PAI-II, tPA and uPA) in the prediction of recurrent disease in endometrial cancer (EC).

Method

Preoperative sera was collected of 173 patients with a diagnosis of EC between 1999-2009. Serum concentrations PAI-I, PAI-II, tPA and uPA were assessed by an enzyme-linked immunosorbent assay (ELISA) and correlated with histopathological results. An area under the curve was performed.

Results

Fourty-eight patients (31%) had recurrent disease; FIGO I/II N = 20 (41%) and III/IV N = 28 (59%). Serum concentrations of PAI-I, PAI-II and tPA were higher in the recurrence group than in the group who remained disease free (median), 168,3 vs 77,2 ng/ml; p<0.001; 7,41 vs 4.52 ng/ml; p<0.001; and 12,6 vs 7,1 ng/ml; p<0.001, respectively. uPA levels were not significant. The area under the curve (AUC) was 0.72 for PAI-I, 0.71 for PAI-II, 0.78 for tPA and 0.51 for uPA.

Conclusion

Levels of PAI-I, PAI-II and tPA at primary diagnosis correlate with an increased risk of EC recurrence. Preoperative serum concentration of tPA seems the best predictor of recurrent disease compared to other determinants of the PAS and may have an additional value in the preoperative work-up and decision making on the treatment of EC.
ENDEOMETRIAL CANCER

ESGO7-0085

ENDEOMETRIAL PATHOLOGY IN ASYMPTOMATIC WOMEN RECEIVING TAMOXIFEN FOR BREAST CANCER

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Aims

To investigate the necessity of screening for endometrial pathology in asymptomatic women receiving tamoxifen for breast cancer.

Method

121 women who received tamoxifen 20 mg/day for at least one year as an adjuvant therapy for breast cancer underwent two-dimensional Transvaginal sonography (TVS). 21 postmenopausal asymptomatic women with thin endometrial thickness < 5mm were excluded. 100 women underwent hysteroscopy and directed endometrial biopsy. 36 were symptomatic and 64 were asymptomatic based on the presence or absence of abnormal uterine bleeding.

Results

Among the 100 women who were finally analyzed, endometrial thickness was significantly higher in symptomatic (18.58 + 7.82mm) compared with asymptomatic (12.95 + 5.48mm) patients. (p < 0.001). Endometrial pathologies were diagnosed in symptomatic group (26 cases, 72.22%) as well as in asymptomatic group (32 cases, 50%) (p = 0.031). Pathologic diagnoses were 3 cases well differentiated endometrioid adenocarcinoma, 23 cases endometrial hyperplasia (4 with atypia) and 32 cases polyps (14 hyperplastic). All cases of endometrial carcinoma were symptomatic. However, 60.9% (14 cases) of hyperplasia and 56.3% (18 cases) of polyps were asymptomatic.

Conclusion

Endometrial hyperplasia and hyperplastic polyps are frequently diagnosed in asymptomatic tamoxifen receiving women. These premalignant lesions worth screening and treatment. Screening using TVS is simple, noninvasive and informative. Hysteroscopy and directed endometrial biopsy are mandatory if endometrium is thickened.
ENDOMETRIAL CANCER

ESGO7-0579

CONSERVATIVE MANAGEMENT OF UTERINE TUMORS RESEMBLING OVARIAN SEX CORD TUMORS: A CASE REPORT

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Aims

A case of uterine tumor resembling ovarian sex cord tumor (UTROSCT) is presented in this paper. This is a very rare subtype of endometrial stromal sarcomas.

Method

A 30 y old nulligravid woman was referred with endometrial sampling histologically abnormal. She was obese and had past medical history of PCOD. She did undergo hysteroscopy and polypectomy four months ago. This was done following work up for infertility and a 15 mm endometrial polyp was found. Pathological examination of endometrial polyp revealed uterine tumor resembling ovarian sex cord tumor.

Uterine tumor resembling ovarian sex cord tumor, stromal sarcoma with sex cord like differentiation and endometrioid carcinoma with sertoliform differentiation were in pathological differential diagnosis.

On IHC staining Inhibin, calretinin and CD99 were positive and EMA, CK and desmin were negative. CD 10 was focally positive.

According to IHC results uterine tumor resembling ovarian sex cord tumor was the primary diagnosis.

Results

Conservative management was considered. Hysteroscopic evaluation was performed 6 months later and no pathology was found. She underwent ovarian stimulation and got pregnant. It was a normal twin dichorionic diamniotic pregnancy. At 20 weeks of pregnancy, due to premature preterm rupture of membranes, pregnancy was terminated.

The treatment schedule for this patient is hystroscopic evaluation every year to early detection of recurrent tumor.

Conclusion

According to literature review most of UTROSCT cases are treated by hysterectomy and just in few cases conservative management is considered.
ENDOMETRIAL CANCER

ESGO7-0141

ENDOMETRIAL STROMAL SARCOMA OF THE UTERUS: A CASE REPORT
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Aims

1. Present a rare case of uterine malignancy
2. Discuss endometrial stromal sarcoma, its incidence, pathology and clinical presentation
3. Review the management done in the case
4. Discuss its prognosis

Method

Adhesolysis, Bilateral salpingo-oophorectomy followed by extrafascial hysterectomy and omental biopsy

Results

A fractional curettage was done which showed Endometrial Stromal Sarcoma with extension to the endocervix. With this histopathologic diagnosis, laparotomy was done. There were multiple implants noted on the paracolic gutters, subdiaphragmatic area, posterior peritoneum, serosa of the rectosigmoid, and transverse colon. On extrafascial hysterectomy, there was an irregular nodular growth involving the endometrium with varying degrees of penetration to myometrium. Histopathologic diagnosis showed Metastatic Low Grade Endometrial Stromal Sarcoma.

Conclusion

Endometrial Stromal Sarcoma is a rare uterine tumor. A proper preoperative diagnosis is difficult and in most cases the diagnosis is confirmed after hysterectomy for a presumed benign disease. Endometrial sampling, ultrasound, magnetic resonance imaging and other diagnostic procedures can provide clues. Total abdominal hysterectomy with bilateral salpingo-oopherectomy is the main line of management. For early disease complete cure is achievable.

The case highlights the necessity for high degree of suspicion and proper preoperative diagnosis in this rare type of tumor.
HARMONISATION OF BIOBANKING STANDARDS IN ENDOMETRIAL CANCER RESEARCH (HASTEN): SURGICAL AND PATIENT DATA COLLECTION, STANDARD OPERATIVE PROCEDURE FOR TISSUE AND FLUID COLLECTION, PROCESSING AND STORAGE

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Aims

Endometrial cancer (EC) is the most common gynaecological cancer. Incidence of EC is predicted to escalate by a further 50 - 100% by 2025 with a parallel increase in associated mortality. Variations in the collection, processing and storage of bio-specimens can affect the internal and external validity and thus the generalisability of the scientific data. We aimed to harmonise the collection of bio-specimens and the associated essential clinical data relevant to EC and to develop standard operative procedures for the collection, processing and storage of EC-biospecimens.

Method

We designed EC research tools, which were evaluated and revised through three consensus rounds – to obtain local/regional, national and European consensus. Modified final tools were disseminated to a group of multi-disciplinary panel members (n=40) representing all stakeholders in EC research, and a modified Delphi technique was used to generate consensus.

Results

We devised three research tools: patient data collection tool, surgical data collection tool, biospecimen tool and a standard operating procedure. The final consensus demonstrated unanimous agreement with the minimal surgical and patient data collection tools. A high level of agreement was also observed for the standard tool.

Conclusion

We here present the final versions of the forms, which are freely available and easily accessible to all EC researchers. We believe that these tools will facilitate rapid progression in EC research; both in future collaborations and in large-scale multi-centre studies, in integrating data from various studies and finally, in uncomplicated clinical translation of new scientific discoveries for the benefit of EC patients.
Aims

Telomeres are transcribed into telomeric repeat containing RNA (TERRA). Transcriptional regulation and functions of TERRA in human cells are not well understood, yet TERRA is postulated to have a regulatory function in telomeres and telomerase activity. Endometrial cancer is a hormonally driven cancer with high telomerase activity. We examined the expression levels and hormonal regulation of TERRA in the context of endometrial cancer.

Method

The expression of 3 different TERRAs (chromosome 1, chromosome 16 and chromosome 20) and hTERC were examined with qRT-PCR in normal (proliferative, secretory, postmenopausal), endometrial hyperplasia and endometrial cancer tissue samples (total=45). The telomerase activity was assessed with TRAP assay and hormone regulation of TERRA was assessed in vitro using the endometrial cancer cell line Ishikawa.

Results

TERRA mRNA levels for chromosomes 20 were significantly lower in endometrial cancers (both endometrioid and type 2, P<0.05) and proliferating benign endometrial tissues compared with the quiescent postmenopausal endometrium and changed according to the cycle phase suggesting a hormonal regulation. Similar pattern of mRNA levels were seen with Chromosome 1 whilst the opposite was true for the Chromosome 16 TERRA and hTERC values.

Conclusion

Our preliminary data suggest a differential expression and hormone regulation of TERRA mRNA in proliferative endometrial tissue, warranting further study.
INCIDENTAL FINDING OF BENIGN METASTASIZING LEIOMYOMA WITH PULMONARY AND MULTIPLE LYMPH NODE METASTASES IN A PATIENT WITH ENDOMETRIAL CANCER

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Aims

Benign metastasizing leiomyoma (BML) is a rare benign smooth muscle proliferation located outside the uterus occurring in association with uterine leiomyoma. We aim to present a unique concomitant case of endometrial cancer and BML with pulmonary and lymph node involvement. To our knowledge there are no published cases of BML occurring synchronously with endometrial cancer.

Method

50 year-old premenopausal patient with a history of three cesarean sections and asthma was diagnosed with endometrial cancer on endometrial sampling performed due to abnormal uterine bleeding. Pulmonary nodules seen on chest CT were concerning for metastases. She underwent staging surgery for endometrial cancer. Final pathology report was consistent with a diagnosis of stage IA endometrioid adenocarcinoma of the uterus and multiple foci of BML involving the resected lymph nodes.

Results

BML involvement of lymph nodes is very rare. The disease mainly affects women before menopause and those with a history of uterine surgery as in this case. Due to an increase in number of uterine surgeries in past years, the incidence of BML might be higher than before. The inductive effect of estrogen on both type I endometrial cancer and BML as well as increase in uterine surgeries such as cesarean section may increase the coexistence of both disorders. The coexistence may be more common than thought.

Conclusion

Although histologically benign, BML can be mistaken for metastases in a patient with concomitant malignancy. Clinicians and pathologists should be alert about specific features of BML to avoid misdiagnosing BML as metastases when it coexists with endometrial cancer.
ENDOMETRIAL CANCER

ESGO7-0694

LOW GRADE NEUROENDOCRINE TUMOR OF THE ENDOMETRIUM; A CASE REPORT
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Aims
Endometrium is the least common gynecologic site for neuroendocrine (NE) tumors. The aim of the case report is to present and discuss a very rare NE tumor of the endometrium. A review of literature shows 94 cases of high grade uterine NE tumors. To our knowledge, only two cases of primary and one case of metastatic low grade (carcinoid) NE tumor of the endometrium have been described. Such tumors may present with postmenopausal bleeding and may require no further treatment after hysterectomy.

Method
71 year-old woman with postmenopausal bleeding underwent endometrial sampling with a presumptive diagnosis of carcinosarcoma. Blood work-up was normal and there was no manifestation of the carcinoid syndrome. The patient underwent a total abdominal hysterectomy with bilateral salpingoopherectomy and staging surgery. Definitive diagnosis was that of a low-grade NE tumor (carcinoid) arising from a polypoid growth within the endometrium. The patient was not placed on further treatment. No signs of recurrence were seen at postoperative 23 months.

Results
To our knowledge there are two other cases of primary low grade NE tumors of the endometrium, presented in the literature. In line with these cases, the age at presentation was past 70 and the presenting symptom appears to be postmenopausal bleeding. After resection of the tumor, patients may not need further treatment.

Conclusion
The rarity of such tumors naturally poses a diagnostic challenge and the initial endometrial sample may be misdiagnosed as a more aggressive tumor. However, after a hysterectomy, surveillance may be all that is necessary.
ENDOMETRIAL CANCER

ESGO7-1096

ANALYSIS OF BCL-2, PTEN, P53 AND KI-67 EXPRESSIONS IN ENDOMETRIAL CANCER ARISING FROM ENDOMETRIAL POLYP: PRELIMINARY RESULTS

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Aims

To compare expression of Ki-67, bcl-2, p53 and PTEN between endometrium cancer arising from endometrial polyp and benign endometrial polyps.

Method

The study was performed retrospectively on 40 patients treated at our institution between 2006-2011. Patients were postmenopausal women. The patients who have hormone replacement therapy, tamoxifen therapy, who didn't undergo full staging operation were excluded from study. Endometrial cancer arising from endometrial polyp was detected at %8 (26/323) of endometrial cancer cases. A total of 20 cases that have endometrial cancer arising from endometrial polyp that meet study criteria were included consecutively to study. For each malign case, one case that has benign endometrial polyp diagnosed at hysterectomy specimen was included to study.

Results

The Ki-67 score was significantly higher in endometrial cancer arising from endometrial polyp group in comparison to the benign polyps (p<0.05). However, the bcl-2 expression was significantly lower in the endometrial cancer arising from endometrial polyp when compared to the benign polyps (p<0.05). PTEN and p53 expressions were not different between groups (p>0.05).

In patients with endometrial cancer, Ki-67, Bcl-2, PTEN and p53 expressions were not different among histological type, stage, grade, myometrial invasion, polyp size and lymphovascular space invasion with an exception of p53. p53 expression was significantly increased in higher grade tumors (p<0.05).

Conclusion

There is an inhibition of apoptosis and a decrease in proliferation in benign endometrial polyps. Possibly, at carcinogenesis step of endometrial cancer developed from benign polyp, other additional mutations cause reverse effect and they increase proliferation and prevent the apoptosis inhibition.
ENDOMETRIAL CANCER

ESGO7-0377

REGIONAL RECURRENCE RATES OF STAGE I ENDOMETRIAL CARCINOMA PATIENTS TREATED WITH ADJUVANT BRACHYTHERAPY


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Aims

After the publication of PORTEC 2 in 2010, there had been an increasing use of brachytherapy in stage I medium risk and HIR (high intermediate risk) patients. Our aim is to investigate the relapse patterns in stage I endometrial carcinoma patients treated with adjuvant brachytherapy.

Method

189 patients who underwent brachytherapy between January 2011 and December 2015 were retrospectively reviewed. Brachytherapy was performed with Iridium 192 source as 3x 700 cGy in 5 mm periphery of vagina.

Results

All cases were endometrioid type endometrial adenocarcinoma. Stage and grade distribution is as follows IA G3 (1.1%), IB G2 (72.5%), IB G3 (1.6%), IC G1 (5.8%) and IC G2 (19%). Within a median of 32 months (range:12-72 m) of follow-up there was no local recurrence. Five patients had regional (pelvic /paraaortic) recurrence. Operation could not be performed due to the unresectability of the recurrent tumor,besides morbidity and mortality risks of the surgery therefore chemotherapy and /or radiotherapy was administered as salvage treatment. 3-year DFS was 96%. In univariate analysis, LVI (p: 0.06), high grade tumor histopathology (p: 0.008), tumor size ≥ 5 cm (p: 0.01) and the number of dissected median pelvic lymph nodes ≤ 15 (p: 0.05) were found to be negative prognostic factors for 3-year DFS.

Conclusion

In stage I endometrial cancer patients brachytherapy is a preferred adjuvant treatment method and provides high local control rates. However in case of regional recurrence cure rates are low. Determination of further molecular prognostic factors is required to better understand the tumor biology.
ROBOTIC SENTINEL LYMPH NODE MAPPING IN EARLY ENDOMETRIAL CANCER

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Aims

To demonstrate Step-by-step sentinel lymph node mapping in early stage endometrial cancer

Method

A 64-year-old lady presented with postmenopausal bleeding. Patient had endometrial biopsy. The histopathology was endometrioid adenocarcinoma FIGO Grade 1. Patient was planned for robotic sentinel lymph node mapping and surgical staging. For sentinel lymph node mapping 1 cc indocyanine green (ICG) applied at 3 and 9 o’clock of the cervix, after the anesthesia. Surgery started, two sentinel lymph nodes excised from bilateral internal iliac region. Then hysterectomy done. The specimens sent for frozen section. The result showed no metastasis in the sentinel lymph nodes by the myometrial invasion was more than 50%. Therefore, bilateral pelvic lymph nodes dissection done

Results

The patient was discharged on 2nd postoperative day. The final histopathology was endometrioid adenocarcinoma FIGO Grade II and myometrial invasion was 32%. No metastasis in pelvic lymph nodes were found

Conclusion

Minimal invasive surgery such robotic reduces postoperative morbidities. The sentinel lymph node mapping in endometrial cancer can prevent the complications that may be associated with complete pelvic lymph node dissection.
ENDOMETRIAL CANCER

ESGO7-0936

SENTINEL LYMPH NODE MAPPING ALGORITHM IN ENDOMETRIAL CANCER WITH NEAR-INFRARED FLUORESCENT IMAGING AND INDOCYANINE GREEN: A VALIDATION STUDY USING LAPAROSCOPIC SYSTEM

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Aims

To validate and evaluate feasibility of Memorial Sloan Kettering Cancer Center –Sentinel Lymph Node Algorithm (MSK-SLN algorithm) to detect lymph node metastasis (LNM) in clinical early stages endometrial cancer by using near-infrared fluorescent imaging and indocyanine green (NIR/ICG) integrated laparoscopic system.

Method

Clinically early stages endometrial cancer patients were included in this prospective study. ICG was injected to the uterine cervix and NIR/ICG integrated laparoscopic system was used during the operations. SLN and/or suspicious lymph nodes were resected. Side specific lymphadenectomy were done when mapping was not achieved. Systematic lymphadenectomy was completed following SLN algorithm steps. External validation was performed by evaluating histopathologic results of SLN algorithm steps. Comparison of SLN algorithm steps and systematic lymphadenectomy histopathologic results were used for internal validation.

Results

Seventy-one eligible patients were analyzed. There were 8 (11.2%) patients with LNM. One of them was isolated para-aortic node metastasis. SLN algorithm was able to detect all pelvic metastases. Negative predictive value, sensitivity and falsenegative rate were 98.4%, 87.5% and 1.5%, respectively. There was non-SLN involvement in addition to SLN metastasis in approximately half of the patients with pelvic LNM.

Conclusion

All pelvic node metastases could be detected by SLN algorithm using NIR/ICG integrated laparoscopic system. SLN algorithm may be incapable to diagnose isolated para-aortic metastasis. Using the whole algorithm, instead of removing only mapped nodes, increases detection rate and decreases false negative rate. SLN algorithm for clinical early stage uterine cancer can be used more prevalently with laparoscopic systems.
ENDEOMETRIAL CANCER

ESGO7-0704

EVALUATION OF THE QUALITY OF CARE (QOC) OF UTERINE CANCER IN BELGIUM - EFFECTIVENESS OF ENDOMETRIAL CANCER TREATMENT (EFFECT) PROJECT

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Aims

The EFFECT project is a multi-centric prospective observational registration project evaluating the quality and effectiveness of uterine cancer treatments in Belgium.

Method

41 quality indicators (QI) were selected based on literature and consensus of national experts. Data was collected through an online registration module (optional) developed by the Belgian Cancer Registry. All patients diagnosed with uterine cancer in the 2012-2016 period were eligible. QI descriptive statistics and funnel plots are reported here.

Results

3316 new diagnoses were registered by 58 hospitals. Median age was 69 years and main histology was endometrioid adenocarcinoma (71.7%). 98.1% of cases were discussed at a multidisciplinary team meeting (low variability between hospitals); 86.0% of surgical patients had a pre-operative biopsy (high variability, see figure QI 4); 78.4% of patients with clinical stage I underwent a TH/BSO (high variability); 52.6% of clinical stage I endometrial carcinoma patients had minimally invasive surgery (high variability). 74.4% of stage I grade III patients had lymphadenectomy (high variability). 30-day post-operative mortality was 0.4%.

Figure: Funnel plot showing the proportion of surgical patients who had a pre-operative biopsy (QI 4), showing all hospitals (dots) and Belgian average (86.0%, solid black line).
Conclusion

QoC of uterine cancer is heterogeneous in Belgium, with surgical management being particularly variable. Further analysis will assess whether QoC has improved over the study period.
ENDOMETRIAL CANCER

ESGO7-0226

LOSS OF C-MET EXPRESSION IN MALIGNANT ENDOMETRIAL TUMORS: AN IMMUNOHISTOCHEMISTRY STUDY

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Aims

This study portrays the immunostaining of c-Met in endometrial neoplasms, and assesses its value as diagnostic and prognostic marker.

Method

This study retrospectively recruited 102 cases that include 72 and 30 cases of malignant and benign endometrial tissues respectively.

Tissue microarrays and immunostaining were used to show the phenotype of c-met.

Results

A total number of 13 (18.05%) tumor cases were positive for c-met immunostaining. Yallow to brown cytoplasmic and/or membranous expression of c-met was detected in 2/9 (22.2%) of papillary serous endometrial carcinomas, 9/53 (17%) of endometrioid adenocarcinomas, and one case of each endometrial stromal sarcoma and malignant mixed Mullerian tumor. Twenty three (76.6%) control cases showed positive immunostaining. c-Met immunostaining was common in the cytoplasm more than membranes in malignant tumors while it was cytoplasmic and membranous in benign tissues. Significant different c-Met immunostaining distribution was observed between tumor cases and control group (P-Value = 0.0000). Furthermore, inverse odds ratio shows that tumor cases are 14.92 times less likely of having positive c-Met immunostaining (odds ratio 0.067 with 95% confidence interval 0.024-0.189). This study did not find relation between c-Met expression and disease recurrence, survival or any of the other clinicopathological parameters in endometrial tumors.

Conclusion

This study in favor of c-Met expression is not a valuable factor for tumor development, recurrence, and survival in endometrial tumors. Greater c-Met staining was seen in normal and benign endometrial tissue compared to endometrial carcinomas. Loss of c-Met expression gives an indication for endometrial tumors.
ENDOMETRIAL CANCER

ESGO7-0452

TRANSVAGINAL ULTRASOUND-GUIDED MYOMETRIAL INJECTION OF RADIOTRACER (TUMIR) FOR SENTINEL NODE DETECTION IN ENDOMETRIAL CANCER

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Aims

to determine accuracy of TUMIR for sentinel lymph node (SLN) detection in endometrial cancer (EC).

Method

during 2005-2017, 132 patients with high-risk EC were prospectively recruited. Twenty-four hours before surgery, 5-8ml of 99mTc-nanocolloid (92-148MBq) were injected into two spots (anterior and posterior myometrium) using an ultrasound-guided transvaginal puncture. SLN was localized preoperatively by lymphoscintigraphy and intraoperatively with gamma probe. After SLN biopsy, patients underwent pelvic and paraaortic lymphadenectomy. Performance of technique for detection of SLN and accuracy to predict Lymph Node (LN) status were analysed.

Results

TUMIR was achieved in all patients without serious adverse effects. SLN was identified in 96/132 (72.7%) patients. Drainage location is shown in Table 1. In 88/96 (91.7%) patients, SLN was resected during surgery, with a final detection rate of 66.7%. After lymphadenectomy, LN were positive in 12/88 (13.6%) patients, with paraaortic involvement in 5/88 (5.7%) cases. From 88 patients with SLN resected, 145 SLN were obtained. Table 2 shows histological diagnosis of SLN and corresponding lymphadenectomy. Sensibility and negative predictive value of TUMIR to diagnose LN metastasis were 84.2% (IC95%: 62.4-94.5) and 97.7% (IC95%: 93.4-99.2), respectively.

Conclusion

TUMIR has good accuracy for detecting SLN in high-risk EC.
OUTCOMES OF ROBOTIC SURGERY FOR HIGH RISK ENDOMETRIAL CANCER: A MULTICENTRIC STUDY.

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Aims

Endometrial cancers are the most common gynecological cancers in developed countries. High risk in ESMO guidelines require complete lymph node staging. This surgery is associated with an increased morbidity. The aim of this study is to evaluate the outcomes of robot-assisted management of high risk endometrial cancers.

Method

This is a retrospective, multicenter, descriptive study including patients with high risk endometrial cancer (ESMO high risk groups) surgically treated by robot-assisted laparoscopy between January 2010 and January 2017. All patients had a total hysterectomy with bilateral salpingo-oophorectomy, pelvic and para-aortic lymph node dissections. The primary endpoint for assessing the feasibility of the procedure was the conversion rate. The secondary endpoints were the rates of intra- and postoperative complications using the CLAVIEN-DINDO classification.

Results

Sixty-seven patients were included: serous carcinoma (42%), grade 3 endometrioid adenocarcinoma (33%), clear cell carcinoma (18%), carcinosarcoma (4%), and undifferentiated carcinoma (3%). Median age was 66.3 years [56.7-76.0] and median BMI was 26.1 kg/m² [20.1-32.2]. Five patients in 67 (7.5%) had conversion to laparotomy. The average operating time was 288.5 minutes [208.9-368.1]. No intraoperative complication was noted, and 28.4% of patients had at least one postoperative complication. There was no perioperative death. The median hospital stay was 6.1 days [3.20-9.01] and the rehospitalization rate was 6% within the first 30 days. With a median follow-up was 23.5 months [4.6-42.4], the recurrence rate was 16.4%.

Conclusion

Robotic-assisted surgical management appears feasible for us due to the low conversion rate, the absence of intraoperative complication and the occurrence of minor postoperative complications.
Aims

To analyze the biopsy of sentinel lymph node (SLN) in intermediate and high risk endometrioid endometrial cancer (EC) as a method to detect nodal disease and to compare it with systematic pelvic and aortic lymphadenectomy.

Method

A series of 49 consecutive cases with diagnosis of intermediate or high risk endometrioid EC following the ESMO criteria.

We inject the indocyanine green tracer in the uterine fundus transcelvicaly and in cervix (3-9h) to cover aortic and pelvic lymphatic drainage after creation of pneumoperitoneum. Then, we identify and biopsy the fluorescent SLN with a laparoscopic optical (NIR/ICG system KARL STORZ®). Finally, we complete the aortic and pelvic lymphadenectomy.

The anatomophatological study is benefited by ultra standing of the SLN, using fine sections and the inmunohistochemistry.

Results

The overall detection rate of SLN was 95.9%, 89.8% in pelvic area and 63.3% in aortic area. In 3 cases the detection was exclusively aortic and in 16 exclusively pelvic.

We found 5 cases with metastatic lymph nodes, 4 of them the SLN was positive, nevertheless the other case was a false negative.

In the other 44 cases lymphadenectomy was negative, 38 of them with SLN negative, but we found micro-disease in 6 cases (12.2%).

Conclusion

Lymph node involvement in endometrioid EC is low, even in intermediate or high risk cases. Systematic lymphadenectomy in these patients may involve overtreatment. The SLN technique reduces the number of systematic lymphadenectomies. Moreover it permits an exhaustive histological. To minimize the rate of false negatives with a standardized technique is a challenge for the future.
ENDOMETRIAL CANCER

ESGO7-1287

REFINEMENT OF HIGH-RISK ENDOMETRIAL-CANCER (HR-EC) CLASSIFICATION USING DNA DAMAGE RESPONSE (DDR) BIOMARKERS: A TRANSPORTEC INITIATIVE

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Aims

The TransPORTEC consortium previously classified HR-EC into 4 molecular subtypes POLE, MSI, P53 mutated (P53m+), and no specific molecular profile (NSMP). We evaluated whether DDR biomarkers could further refine this HR-EC classification, in particular the poor prognosis NSMP and P53m+ subsets.

Method

DDR biomarkers including proteins involved in DNA damage (g-H2AX), homologous recombination (RAD51), positive or negative regulators of error-prone NHEJ (DNA-PK or FANCD2, respectively), and PARP were evaluated in 116 HR-EC by IHC using an H-score. CD8 and PD1 expression by IHC and mutation analyses were previously performed. Disease free survival (DFS) was calculated using Kaplan-Meier and Log-rank test.

Results

None of the DDR biomarkers alone were prognostic. However markers were informative within molecular subsets. Among the NSMP subset, gH2AX+ was significantly predictive of poor DFS (HR=2.56; p=0.026), and among P53m+, a DNA-PK+/FANCD2-profile (favouring error-prone NHEJ) predicted worst DFS (HR=4.95; p=0.009) resulting in 5 distinct HR-EC prognostic subgroups (DFS from best to worst: "POLE/ MSI" > "NSMP with no DNA damage" > "P53m+/NHEJ-" > "NSMP with high DNA damage" > "P53m+/NHEJ+"; p=0.0002). Actionable targets were also different among subsets. The P53m+/NHEJ- subgroup had significantly higher infiltration of PD1+ immune cells (p=0.003), segregating with POLE and MSI. The NSMP/gH2AX- had frequent PI3K pathway mutations and ER positivity. While the P53m+/NHEJ+ with the worst prognosis had high DNA damage and PARP expression providing a rationale for PARP inhibition.

Conclusion

The integration of DDR biomarkers further refined the TransPORTEC prognostic classification of HR-EC into 5 distinct subgroups and identified molecular subtype-specific therapeutic strategies.
ENDOMETRIAL CANCER

ESGO7-1205

WHY DID WE REFRAIN FROM ROBOT-ASSISTED LAPAROSCOPIC SURGERY IN ENDOMETRIAL CANCER PATIENTS?

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Aims

To study why women with primary endometrial cancer underwent open laparotomy rather than robot-assisted laparoscopic surgery in the era of robotic surgery, and evaluate the surgical treatment.

Method

A retrospective study, including all women undergoing surgery for endometrial cancer from November 2012 through December 2015 at St.Olavs Hospital, a referral teaching hospital in Norway. Data were extracted from patient records.

Results

239 cases were identified. 137 (57%) underwent robot-assisted laparoscopic operation and 102 (43%) underwent open laparotomy. Suspected advanced disease was the most common reason for laparotomy (31%), followed by concomitant ovarian tumor (21%), large uterus (17%), and comorbidity (14%). Less frequent causes were previous pelvic/abdominal cancer (2%), planned concomitant gastrointestinal surgery (2%), lack of robotic capacity (2%), and previous abdominal surgery (1%). Six cases planned for robot-assisted surgery were converted to open operation, due to anesthesia complications or surgical challenges.

There was no difference in BMI or age between the laparotomy and robot-assisted laparoscopy group (median BMI 30 and 27, respectively, p=0.21, median age 67 years in both groups, p=0.32). The laparotomy group had more advanced stage disease (p=0.002). Lymph nodes were removed in 72% of laparotomy cases, and 93% of robotic cases (p<0.001). Number of nodes removed was significantly higher in the laparotomy group (median 12 vs 6 lymph nodes, p<0.001). The lymph node metastatic rate was 18% in the laparotomy group, compared to 12% in the robotic group (p=0.059).

Conclusion

Advanced stage disease was the main reason for laparotomy instead of robot-assisted laparoscopic operation.
A NOMOGRAM FOR DECISION MAKING OF COMPLETION SURGERY IN ENDOMETRIAL CANCER

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Aims

To develop a nomogram for decision making of completion surgery based on pathologic characteristics of the hysterectomy specimen in endometrial cancer (EC) patients treated with hysterectomy alone.

Method

Analyses were performed on the dataset of 336 patients. Age, grade, depth of myometrial invasion, lymphovascular space involvement, cervical involvement, positive peritoneal cytology, and histotype were assigned as potential covariates. To investigate associations between covariates and extrauterine disease, logistic regression analyses were performed. Several models were evaluated, and finally, three different models were developed. Accuracies of the models were internally validated in terms of their discrimination, calibration and overall performance. One of the models was selected, its clinical usefulness was quantified by decision curve analysis (DCA), and presented as a nomogram.

Results

Of the patients 67 (19.9%) had extrauterine disease. Performance values of the nomogram were as follows: area under the receiver operating characteristics curve, 0.870 (P<0.001); calibration slope β, 1.0; and Brier score, 0.101. Ten-fold cross-validation revealed a sensitivity of 50.7%, specificity of 95.5%, and positive predictive value of 73.9%. DCA revealed that a reasonable threshold probability for the presence of extrauterine disease that would indicate a completion surgery would be 2%. This cut-off value provided a net benefit of 18 true-positive results per 100 patients without an increase in the number of false-positive results. As compared with “treat all” strategy, it led to 10% fewer surgeries.
### Conclusion

Estimation of extrauterine disease and decision making for completion of surgery is possible with high predictive performance using a nomogram involving primary tumor characteristics.
TRANFORMATION OF ENDOMETRIOSIS INTO UTERINE CARCINSARCOMA IN POSTMENOPAUSAL WOMEN: A CASE REPORT

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Aims

Low-grade endometrial carcinosarcoma is very rare malignant tumor of the uterus with a poor prognosis.

Method

A 54 year old woman was referred to our Endometriosis center for interdisciplinary treatment of retroperitoneal tumor mass. Our patient underwent in 2004 abdominal hysterectomy and bilateral adnectomy by uterus myomatosus and fibroma of the left ovary, no malignancy. In December 2016 by upper abdominal pain, diagnostic surgery was performed in an outside institution. The obtained biopsy samples from vaginal stump were evaluated as fibromuscular tissue with elements of extragenital endometriosis. Afterwards, the old tissue from 2004 was reassessed and endometriosis focuses were exposed. The external CT images demonstrated 12 cm retroperitoneal tumor in upper abdomen with liver displacement and additionally, one solid tumor on left side of vaginal stump intraabdominal. Furthermore, we registered elevated serum markers of CA 125 539,4 kU/l. After these findings the explorative laparotomy and completion surgery was indicated.

Results

We have achieved macroscopic tumor clearance using multivisceral approach in right upper abdomen. After several inspection of samples, the final diagnosis was low-grade endometrial mixed Müllerian tumor. As treatment options we applied arimidex in off-label use for 3 months in combination with Vitamin D and bisphosphonate. One month later after treatment patient came with reduced tumor markers and tumor sizes in the vaginal stump from 7 to 2 cm in lower abdomen.

Conclusion

In this case we observed a 13 year transformation of endometriosis into neoplasms, emphasizing the necessity of improvement the tumor detectors such as biomarkers for the earlier recognition of carcinosarcomas.
THE EFFECTIVENESS OF DEBULKING SURGERY IN ADVANCED STAGE ENDOMETRIAL CANCER

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Aims

To demonstrate the effectiveness of debulking surgery for advanced stage endometrial cancer.

Method

We present a case series of three patients presenting disseminated lesions with endometrial origin in which the principles of debulking surgery were successfully applied.

Results

The mean age was 59 years and all patients presented disseminated lesions at the time of diagnostic. All patients were submitted to a total radical hysterectomy with bilateral adnexectomy, pelvic and para-aortic lymph node dissection. Other associated resections consisted in pelvic and bilateral peritonectomy in two cases, diaphragmatic peritonectomy in one case, total colectomy in two cases, sigmoidectomy in one case, atypical liver resection in one case and partial cystectomy in one case (Figures 1, 2) .

At one year follow up no sign of recurrent disease was found.

Conclusion

Debulking surgery for endometrial cancer is effective and might improve the long term outcomes.
ENDOMETRIAL CANCER

ESGO7-0786

TRANSVAGINAL ULTRASOUND EXAMINATION FOR PREOPERATIVE IDENTIFICATION OF HIGH-RISK ENDOMETRIAL CANCER: A PRELIMINARY EXPERIENCE.

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Aims

To evaluate the agreement between ultrasound evaluation performed by young examiners and definitive histology in identifying women with high risk of endometrial cancer.

Method

This was a single-center prospective observational cohort study from 2016 April to 2017 March comprising a consecutive series of women with a preoperative diagnosis of endometrial cancer with different histotypes. All women underwent transvaginal ultrasound examination by a two young examiners. According to the examiner's subjective impression, patients were considered high risk if myometrial infiltration was ≥ 50% and/or involvement of the cervix. According to definitive histological data women were classified as low risk (no myometrial infiltration, no cervical involvement) or high risk (myometrial infiltration ≥50% and/or cervical involvement). Sensitivity, specificity, PPV and NPV with 95% CIs, of transvaginal ultrasound for detecting stage >IB were calculated. Agreement between risk determined by transvaginal ultrasound and postoperative definitive histology was calculated.

Results

57 women were enrolled, 43 were included. Sensitivity, specificity, PPV and NPV of transvaginal ultrasound evaluating myometrial infiltration were 65.0% (95% CI, 44.0-85.9%), 60.8% (95% CI, 29.4-92.2%), 59% (95% CI, 49-69%) and 66.7% (95%CI, 57-67%), and cervical involvement were 60.0% (95% CI, 17-93%), 97.3% (95% CI, 95-99%), 75% (95% CI, 54-96%) and 94.8% (95%CI, 91.8-97.8%).

Conclusion

Preoperative transvaginal ultrasound may play an important role in identifying high-risk cases in young examiners’ hands, especially in detection of cervical involvement. The accuracy of ultrasound is reduced in cases of special histotypes (clear cell or mixed mullerian), miometrial pathology (adenomysis or myoma) or previous uterine surgery (D&C).
Aims

Correlate the size of metastatic sentinel node (SLN) with the risk of non-sentinel node (N-SLN) metastasis in endometrial cancer.

Method

We analyzed a series of 195 patients treated at AC Camargo Cancer Center from January 2013 to April 2017 that had SLN mapping with cervical injection of only blue dye (n=184) or indocyanine green (n=11). Eight-six (44.1%) patients had high-risk tumors (endometrioid grade 3, serous, clear cell, carcinosarcomas, deep myometrial invasion or lymphovascular space invasion). The SLNs were examined by immunohistochemistry when the hematoxylin-eosin was negative.

Results

The overall SLN detection rate was 85.6%, and bilateral of 60%. Median SLN detected was 2 per patient (range, 1-8). In low risk cases, there were only 2 (1.8%) patients with positive SLN – both with micrometastasis detected by immunohistochemistry (IHC). For high-risk group, there were 22 (25.6%) positive SLN cases. Five (5.8%) ITC, 7 (8.1%) micrometastasis, and 10 (11.6%) macrometastasis. 9/22 (40.9%) SLN metastasis was found only by IHC. Of the 24 patients with positive SLN, the median number of positive SLN was 1.5 (range, 1-8). Six (6/24, 25%) had positive N-SLN, with a median of 7 (range, 3-23) positive N-SLN. Regarding the size of SLN metastasis, presence of N-SLN were found in any (0/5) patient with ITC, 11% (1/9) with micrometastasis and in 50% (5/10) of patients with macrometastasis.

Conclusion

Our data suggest that size of metastasis in SLN correlates with the risk of N-SLN metastasis. Any patient with ITC in SLN had other metastatic lymph node.
ENDOMETRIAL CANCER

ESGO7-1158

SENTINEL NODE MAPPING AS AN ACCURATE TECHNIQUE FOR NODE STAGING IN ENDOMETRIAL CANCER: A BRAZILIAN CANCER CENTER EXPERIENCE

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Aims

To determine the detection rate, sensitivity and predictive negative value of SLN for low and high-risk endometrial cancer (endometrioid grade 3, serous, clear cell, carcinosarcomas, deep myometrial invasion or lymphovascular space invasion).

Method

We analyzed a series of 195 patients treated at AC Camargo Cancer Center from January 2013 to April 2017 that had SLN mapping with cervical injection of blue dye (n=184) or indocyanine green (n=11). Eight-six (44.1%) patients had high-risk and 109(55.9%) low-risk tumors.

Results

Sixty-two (31.8%) patients had pelvic lymph node dissection (LND), 65 (33.3%) pelvic+para-aortic LND, and 68(34.9%) had only SLN. The overall SLN detection rate was 85.6%, and bilateral of 60%. Median SLN detected was 2 per patient (range,1-8). In low risk cases, there were only 2 (1.8%) patients with positive SLN – both with micrometastasis detected by immunohistochemistry (IHC). For high-risk group, there were 22(25.6%) positive SLN cases. Five(5.8%) ITC, 7 (8.1%) micrometastasis, and 10 (11.6%) macrometastasis. 9/22(40.9%) SLN metastasis was found only by IHC. Only 2 patients had false negative SLN, with ipsilateral pelvic non-sentinel positive nodes. Of 164 patients with endometrioid histology, 17(11.3%) had positive SLN, and 8(47.1%) cases were found only after IHQ. We found an overall sensitivity was 92.3%, negative predictive value 98.6%, and false negative rate 7.6% (2/26).

Conclusion

Our data suggest SLN mapping as a safe and accurate technique for endometrial staging that increases metastatic nodal detection rates by 5.6% after IHC. In endometrioid tumors, 4.8% patients had nodal metastasis detected after IHC that clearly impacts the indication of adjuvant chemotherapy.
ENDOMETRIAL CANCER

ESGO7-1244

DOES SENTINEL NODE MAPPING IMPACT THE PREVALENCE OF ISOLATED PARA-AORTIC NODAL METASTASES IN ENDOMETRIAL CANCER?

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Aims

To determine the impact of sentinel node (SLN) mapping in staging high-risk endometrial cancer (grade 3 endometrioid, serous, clear cell, carcinosarcomas, deep myometrial invasion, or angiolymphatic invasion).

Method

Eighty-three patients that had SLN mapping with blue dye cervical injection (SLN group) and pelvic ± para-aortic lymph node (LN) dissection from June 2007 to June 2015, were compared to 142 patients that received pelvic + para-aortic lymph node dissection (LND group) from June 2007 to June 2015. Patients with adnexal, peritoneal or suspicious LN metastasis were excluded.

Results

SLN group patients had more minimally invasive surgeries (71.1% vs. 3.5% years;p<0.001), and more presence of angiolymphatic invasion (42.1% vs. 14.8%;p<0.001). There was no difference between SLN and LND groups regarding deep myometrial invasion (55.4% vs. 63.4%;p=0.23), and presence of non-endometrioid histologies (34.9% vs. 29.6%). The overall detection rate for SLN group was 86.7% and bilateral in 61.4% of cases. Eight in 19 (41%) positive SLN were detected only after immunohistochemistry. SLN group had more pelvic LN (PLN) metastasis detected compared to LND group (25.3% vs. 12.7%; p=0.016). However no difference were found regarding para-aortic LN (PALN) metastasis between SLN and LND groups (8.6% vs. 5.6%; p=0.38). In LND group, 5 (3.5%) patients had PALN without PLN. Conversely, in SLN group, 1 (1.2%) patient had isolated PALN. Although included in the SLN group, this patient had no SLN detected.

Conclusion

Our data suggest that SLN mapping identified more PLN metastasis compared to only LN dissection. Furthermore, we found no isolated PALN metastasis when SLN was detected.

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USE OF A NEW INSTRUMENT IN THE MANAGEMENT OF TOTAL LAPAROSCOPIC RADICAL HYSTERECTOMY (TLRH)

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Aims

Evaluating safety and efficacy of a modified tenaculum called SNAIL (Simple Nebs Arising Incision Landmark) for gynecological oncologic surgery.

Method

This invention origins by a reusable instrument named Uterine Tenaculum Forceps, model Schroder of Martin catalogue. This tenaculum is modified adding four nebs 1-2 cm from the tips of the instrument, two for each main branch of the tenaculum. The nebs are 1 cm each and widen with a 90 degrees angle between them. They can be perpendicular to main axis of instrument or forming with latter 45-60 degrees angle bent forward. In order to preserve the pneumoperitoneum during colpotomy a simple iodine gauze with gloves are placed in vagina.

Results

We used SNAIL Tenaculum in 32 patients for early endometrial and cervical cancer. During the procedure the nebs were always under vision also in obese patients. The average length of circular vagina removed with the uterus was 21 mm (range 10-40). None intraoperative complication were registered.

Conclusion

Risk of perforation, lympho-vascular spaces involvement (LVSi) and positive peritoneal cytology by uterine manipulation is still debated. We found SNAIL tenaculum to be a safe and efficient tool for TLRH since it eliminates risks of perforation, LVSi and positivization of peritoneal cytology, maintaining same chances of uterine mobility. Also the nebs allow surgeon to choose length of vaginal wall to remove modulating, proximally or distally, the incision line. Last must be said SNAIL tenaculum combines the ease of use of a familiar instrument to gynecologists, with the lowest cost so far recorded.
TOTAL LAPAROSCOPIC HYSTERECTOMY VERSUS LAPAROSCOPIC-ASSISTED VAGINAL HYSTERECTOMY FOR THE MANAGEMENT OF ENDOMETRIAL CANCER

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Aims

To analyse characteristics and outcomes of laparoscopic surgeries (laparoscopic-assisted vaginal hysterectomy (LAVH) and total laparoscopic hysterectomy (TLH)) due to a change of guidelines for treatment of endometrial cancer.

Method

A retrospective cohort study. The participants: women operated for endometrial cancer by laparoscopy in Lithuanian University of Health Sciences in 2012 and 2016. In 2012 there were 26 patients operated by TLH and 55 by LAVH, in 2016 - 79 operated by TLH and 16 by LAVH. Outcomes evaluated: duration of surgery, lymph node resection, hospital stay, intraoperative and postoperative complications. One-way ANOVA was performed to compare continuous variables and χ² tests to compare categorical variables, data was considered statistically significant if p<0.05.

Results

Significantly, in 2012 LAVH was performed more often than TLH (67.9% vs. 32.1%), vice versa in 2016 (16.7% vs. 83.3%). Hospital stay was different between years (average 8.4 and 5.8 days in 2012 and 2016 respectively, p=0.01), while duration of surgery and lymph node resection did not. The type of surgery had no significant effect on duration of surgery F(1,173)=1.548 (p=0.22), number of lymph nodes F(1,81)=0.159 (p=0.69) and hospital stay F(1,172)=0.357 (p=0.55) in both years. Intraoperative (2.8%) and postoperative (7.9%) complication rate did not depend on type of laparoscopy. Postoperative complication rate was higher in 2012 than 2016 (13.6% and 3.1%, p=0.01).

Conclusion

After laparoscopic approach in 2016 hospital stays were shorter and less postoperative complications occurred possibly due to improved surgical skills. The characteristics and safety of TLH and LAVH did not differ.
CHANGES OF THE THERAPEUTIC APPROACHES FOR ENDOMETRIAL CANCER PATIENTS IN GERMANY SINCE 2006

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Aims

The Arbeitsgemeinschaft Gynäkologische Onkologie has been describing the therapeutic approaches for endometrial cancer patients in Germany since 2006.

Method

In 2006, 2009, 2013 and 2015 a questionnaire was sent to all German gynecological departments. The results were compared to each other using the chi-square test.

Results

868 questionnaires were analyzed. 35.8%, 33.3%, 40.0% and 24.2% of the invited departments participated in 2006, 2009, 2013 and 2015, respectively. Since 2006 the pelvic and paraaortic lymphadenectomy have been less often performed in the low-risk stage pT1aG2 (38.6%, 22.9%, 16.3%, 10.0%, p<0.001 and 16.0%, 10.7%, 6.3%, 4.5%, p<0.001, respectively). However, the pelvic and paraaortic lymphadenectomy have been increasingly performed in the intermediate-risk stage pT1aG3 (88.0%, 93.9%, 98.0%, p<0.001 and 49.0%, 65.6%, 88.7%, 86.7%, p<0.001, respectively). During 2009 and 2015 vaginal brachytherapy has been rarely recommended in the low-risk stage FIGO IA G2 (16.0%, 13.3%, 14.0%, p=0.666, respectively). However, vaginal brachytherapy has been more often recommended in intermediate-risk stage FIGO IA G3 since 2009 (79.2%, 87.8%, 93.9%, p<0.001, respectively). During 2009 and 2015 external beam radiotherapy has been constantly recommended in stage FIGO II (53.5%, 49.2%, 56.6%, p=0.367, respectively) and in stage FIGO III (83.3%, 76.8%, 81.5%, p=0.194, respectively). Adjuvant chemotherapy has been increasingly offered since 2006 (48.8%, 63.7%, 90.4%, 97.3%, p<0.001, respectively). A combination of platinum and taxane was the preferred regime in 2015.

Conclusion

The detected changes in the therapeutic approaches of endometrial cancer patients in Germany reflect the alterations of the available literature during 2006 and 2015.
ENDOMETRIAL CANCER

ESGO7-0700

PREOPERATIVE BIOPSY IS A POSSIBLE MISLEADING TOOL IN OMITTING LYMPH NODE ASSESSMENT IN ENDOMETRIAL CANCER

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Aims

The necessity of lymph node assessment in endometrial cancer has been a topic of controversy for many years. Some tend to omit lymph-nodes assessment in low risk cases relying on tumor grade on preoperative biopsy. However, when a discrepancy is found between the grade at preoperative biopsy and grade at final histology, the decision is challenged. Our objective was to determine the correspondence between preoperative grade and the hysterectomy specimen grade in patients with preoperative diagnosis of grade 1 (G1) Endometrioid endometrial cancer and to assess the rate of lymph-nodes metastasis in these patients.

Method

A retrospective cohort study of 577 patients treated for endometrial cancer at our Gynecologic-Oncology department between 1999 and 2013. As a policy we performed lymph-nodes dissection in all endometrial cancer cases.

Results

Of the 205 patients with G1 Endometrioid adenocarcinoma on preoperative biopsies, the surgical pathology report confirmed the diagnosis in 107 (52%), whereas 76 (37%) were upgraded to G2, 6 (2.9%) to G3 and 4 (1.9%) to Non-Endometrioid High-Grade tumors. Twelve (5.8%) patients had no residual malignancy. Ninety percent (185/205) of the pre-op G1 patients had lymph-nodes dissection, of them 10 (5.4%) had pelvic lymph-nodes metastases.

Conclusion

When deciding whether to assess lymph-nodes in Endometrioid adenocarcinoma based on pre-op grade, one should consider the high rate of upgrading on final histology and the considerable option to miss lymph-nodes metastasis.
ENDOMETRIAL CANCER

ESGO7-1038

CONTRIBUTION OF MAGNETIC RESONANCE IMAGING FOR PRE-OPERATIVE ASSESSMENT OF MYOMETRIAL AND CERVICAL INVASION AND PELVIC LYMPH NODE IN ENDOMETRIAL CARCINOMA

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Aims

To evaluate the accuracy of preoperative magnetic resonance imaging (MRI) to detect deep myometrial invasion, cervical extension and pelvic lymph node metastasis in patients with endometrial cancer.

Method

We retrospectively reviewed 42 cases of women with endometrial cancer, who underwent preoperative MRI assessment and surgical staging between January 2000 and December 2015. The MRI findings were then compared with the post-operative histopathological findings that served as reference standards.

Results

The sensitivity, specificity, positive (PPV) and negative predictive values (NPV) of MRI for differentiation between superficial myometrial invasion and deep myometrial invasion were 86.6%, 40.9%, 50% and 81% respectively. The sensitivity, specificity, PPV and NPV were 60%, 96.2%, 90% and 81.25% for cervical invasion and 70%, 84.37%, 58.3 and 90% for pelvic lymph node metastasis, respectively. There were significant correlation between preoperative FIGO-MRI staging and FIGO-histological staging (p=0.047).

Conclusion

In patients with endometrial cancer, a preoperative MRI contributes to accurate staging, allowing planning for the scale of surgery and preoperative counseling.
ENDEMOTRIAL CANCER

ESGO7-1036

FDG PET/CT AS PROGNOSTIC TOOL IN THE PREOPERATIVE STAGING OF ENDEMOTRIAL CANCER
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Aims

To investigate the prognostic role of FDG PET/CT in the preoperative assessment of patients with endometrial carcinoma (EC)

Method

18F-FDG PET/CT was performed in 57 patients for EC preoperative staging. Maximum and mean standardized uptake values (SUVmax, mean), metabolic tumour volume (MTV) and total lesion glycolysis (TLG) of primary tumours, at different thresholds of 40%, 50%, 60% were compared with histopathological features. The diagnostic performance of PET parameters in discriminating low-risk disease from high-risk disease have been assessed.

Results

Categorized TLG40-50-60 were related to FIGO stage I versus FIGO Stage II-III-IV (P=0.003); the optimal cut-off values for risk stratification were 83.69, 61.81 and 41.32, respectively, with correspondent sensitivity and specificity of 60.00% and 71.43%. Categorized TLG40-50 were related to TNM stage with thresholds of 99.55 (P=0.03) and 77.58 (P=0.02), respectively. Categorized SUVmax, SUVmean40-50-60 and MTV40-50-60 were not related to FIGO stage. Categorized SUVmax and SUVmean40-50-60 could discriminate between endometrioid vs non endometrioid subtype with 14.35, 8.55, 9.8 and 10.9 threshold (P=0.01) for SUVmax and SUVmean50-60, P=0.0237 for SUVmean40). Correspondent sensitivity was 64.86% and 62.16% for SUVmax and SUVmean50-60 and 62.16% for SUVmean40; specificity was 70.00%. The mean OS rate was 79.77±3.34 and the mean DFS rate was 77.89±3.73. Tumour type was the only variable significantly associated with OS and TLG50 was the only variable significantly associated with DFS; specifically, TLG50>77.58 cc is associated with a higher risk of relapse according to logrank test.

Conclusion

TLG40-50-60 of primary EC can predict FIGO staging; TLG40-50 can predict pathological staging. These parameters, being able to discriminating between low and high risk disease, may be useful in the preoperative assessment of EC.
ENDOMETRIAL CANCER

ESGO7-1114

LONG-TERM COMPLICATIONS OF LYMPH NODE DISSECTION IN ENDOMETRIAL CANCER SURGERY

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Aims

To investigated the incidence and the potential causes of lymphadenectomy’s complications in primary surgery for endometrial cancer.

Method

Observational study in a tertiary care centre between January 2007 and March 2014. All women who underwent to pelvic and/or paraaortic lymphadenectomy for endometrial cancer were analyzed. Each patients were compared by age, comorbidity, cancer stage, BMI, surgical approach, number of resected pelvic and/or para-aortic lymph nodes and use of intraoperative devices.

Results

Of the 428 patients tested. 238 underwent to pelvic lymphadenectomy (55,6%), 36 (15,1%) of those underwent both pelvic and paraaortic lymphadenectomy. Among the 238 patients, a total of 38 (16%) developed lower-limb-lymphedema, while 10 of 238 (4,2%) lymphocele, 1 of 238 developed neurological complication due to nerve injury, none vessel injury.

The number of resected lymph nodes was found to be higher in patients with lymphedema and lymphoceles. To detect the independent developmental risk factors for lymphatic complications, we performed multivariate analysis with logistic regression for four variables (stage disease, intraoperative-haemostatic-devices, abdominal drains and number of dissected lymph nodes). Among these, we found a significant difference for only number of dissected lymph nodes.

Conclusion

lymphadenectomy continues to be an important part of the surgical staging for endometrial cancer as it can identify important prognostic information that may alter treatment decisions. Currently, it has been introduced the sentinel-lymph-node-mapping (SLNM) in endometrial cancer staging. This procedure upholds the effectiveness of standard lymphadenectomy allowing identifying node positive patients, minimizing the risk of lymphadenectomy-related morbidity.
ENDOMETRIAL CANCER

ESGO7-1115

THE PREDICTION OF MYOMETRIAL INFILTRATION BY TWO-DIMENSIONAL TRANSVAGINAL ULTRASONOGRAPHY IN PATIENTS WITH ENDOMETRIAL CARCINOMA.
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Aims

to predict the myometrial infiltration in patients with diagnosed endometrial cancer with two-dimensional (2D) ultrasonography by a previously described technique.

Method

retrospective study that involved 298 patients with endometrial cancer stage I (FIGO 2009) who underwent surgery in our U.D. between January 2001 and December 2015. The miometrial infiltration has been assessed by 2D ultrasound following Karlsson's criteria: in a sagittal plane of the uterus a ratio between maximal anterior-posterior diameter of the endometrial lesion and the uterine anterior-posterior diameter over 50% classifies the endometrial lesion as deep infiltrating (M2); ratio less than 50% stands for a not infiltrating cancer (M1). The pathological data were used as the reference standard of the study.

Results

the ultrasound investigation based on Karlsson's criteria permitted to correctly predict miometrial infiltration in 251 cases (concordance of 84%, Cohen's K 0.65, p<0.001) of which 171 (57%) were M1 lesions, 80 (27%) were M2. 19 cases of deep infiltrating cancer were underestimated from the ultrasound examination, while 28 patients with no deep infiltrating lesions were classified as M2 with the US investigation. Statistical analysis evidenced a sensibility of the US method in predicting deep infiltrating lesion of 81%, with a specificity of 86%, positive predictive value of 74% and negative predictive value of 90%.

Conclusion

our results confirms the 2D ultrasonography as a valuable tool for the preoperative evaluation of myometrial infiltration in patients with endometrial carcinoma, allowing to correctly address high and low risk patients to the proper surgery treatment.

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ENDOMETRIAL CANCER

ESGO7-1204

TUMOR SIZE: AN INDEPENDENT PREDICTOR OF LOCAL RECURRENT IN LOW RISK ENDOMETRIAL CANCER
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Aims

The purpose of this study was to analyze the correlation between tumor size (TS) and recurrence, in particular local recurrence,
in patients with endometrial cancer (EC), stratified according to the new ESMO-ESGO-ESTRO classification.

Method

Data of patients with histologically proven EC who received primary surgical treatment from November 1999 to November 2014,
were retrospectively retrieved from two institutions. Optimal TS cut-off was calculated using a Receiver Operating Characteristic
(ROC) curve. Site of recurrence as a function of TS and group of risk was calculated using the Chi-Square test. Local
recurrence-free survival (LRFS) and overall survival (OS) were calculated by Kaplan–Meier method.

Results

Data of 363 patients were analyzed. Among them 166 (45.7%) had low risk EC, 61 (16.8%) had intermediate risk EC, 37
(10.2%) had high-intermediate risk EC and 99 (27.3%) had high risk EC. A total of 47 women had (12.9%) recurrence: 13 of
them had local relapse and 34 had relapse at any other site. TS >25 mm emerged as the optimal threshold for a higher rate of
local recurrence (p=0.046, HR= 4.699, p= 0.032) and a lower 2-years LRFS (94% vs 100%, p=0.029) only in patients with low
risk EC. There was no statistically significant correlation between TS < or >25 mm and recurrence in the other risk groups.

Conclusion

Tumor size seems to be an independent prognostic factor of local recurrence in women with low-risk EC and could be a valuable
additional criterion to personalize the treatment approach to these patients.
ENDOMETRIAL CANCER

ESGO7-1306

CAN PREOPERATIVE MRI INFLUENCE SURGICAL MANAGEMENT OF ENDOMETRIAL HYPERPLASIA?
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Aims

Endometrial hyperplasia is a common entity. Management is guided by WHO classification. The diagnostic performance of pipelle and endometrial curettage techniques appear to be similar. The preoperative imaging is inaccurate even in women with higher degrees of hyperplasia-dysplasia.

Our study is designed to elucidate whether pre-operative magnetic resonance imaging (MRI) of the pelvis would influence the surgical management of women with atypical endometrial hyperplasia with or without stigmata of malignancy on histology.

Method

Patients who received definitive surgical treatment for atypical endometrial hyperplasia between 2006-2016 were included in this retrospective study.

Results

82 patients were analysed. Median age was 63 years. 16% of women were under 50 years. 80% women presented with post-menopausal bleeding (PMB). 14% presented with menstrual irregularities. Amongst those presenting with PMB, the median endometrial thickness was 12.5 mm. 43% were pipelle and 57% were curettage biopsies. In 69% of cases, the pre-operative diagnosis was confirmed on the hysterectomy specimen. When a cancer diagnosis was suspected (39/55), it was confirmed in 71% of cases. In an additional 13 cases a 'caveat of sampling error' was added to the report regarding the risk of cancer. 54 cases were confirmed as endometrial malignancy. Amongst this group 47 women had G1 (87%), 4 had G2 (7.4%) and 3 had G3 (5.6%) cancers. The stage subgroups were: stage 1A (74%), 1B (16.7%), 2 (5.6), 3 (3.7%).

Conclusion

Amongst 83 patients with a pre-operative diagnosis of atypical hyperplasia with suspicious features, a preoperative MRI scan may have influenced the surgical procedure in 26% of women.
ENDOMETRIAL CANCER

ESGO7-0591

PROGNOSIS OF THE PATIENTS TREATED FOR UTERINE CARCINOSARCOMA IN RURAL AND URBAN AREAS.
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Aims

The aim of this article was analysis of prognosis for residents of rural and urban areas who suffered from uterine carcinosarcoma.

Method

Material for analysis was 51 women treated in Gynecological Oncology Department Oncological Center – Institute of Oncology in Warsaw between 2004 – 2010. There are rural and urban residents – 23 and 28, respectively. The average age of patients at diagnosis was 62 years. The youngest patient diagnosed with carcinosarcoma of the uterus was 47 years old and the oldest 78. All patients were treated by surgery followed by chemotherapy (41 pts) or radiotherapy (10 pts).

Results

Mean time from diagnosis to surgery was 4,2 weeks (range 3 to 7 weeks). Mean time of adjuvant chemotherapy was 18,6 weeks (range 16 – 21 weeks). Among 23 of rural residents, 10 died (43,5%) and in urban subgroup there were 14 deaths out of 28 women (50%). The mean time to progression among urban and rural residents were as follows: 66 and 81 weeks. The mean time to death was 145 and 187 weeks, respectively. Two out of all patients from rural area have died due to cardiac infarction and cerebral stroke.

Strong correlation in Pearson test was observed between tumor size and lymph node metastasis. Tumor diameter more than 4,5 cm is correlated with high number of node metastases (p=0,015).

Conclusion

The environment may influence the course of the disease and the efficacy of treatment, that is suggested by tendency to longer OS as well as PFS in rural residents.
THE LONG TERM SURVIVAL AFTER LAPAROSCOPIC TREATMENT OF ENDOMETRIAL CANCER

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Aims

Laparoscopic surgery became a standard treatment in endometrial cancer however long term survival are rarely reported in the literature. The goal of our study was to analyse the long term survival after laparoscopic treatment in patients with endometrial cancer

Method

The analysed group consisted of 45 patients treated laparoscopically in our institution between 1994 and 2001. The routine follow-up in Oncologic Center continue up to 5 years. After this period all patients were contacted directly in 2016 and if it was not possible, their status was checked in Population Registry Office. Statistical analysis was performed with Kaplan-Meier method, the end point was overall survival.

Results

The analysed group consisted of 45 patients treated laparoscopically in our institution between 1994 and 2001. The median age was 54.6 years with median BMI 27.3. The distribution of FIGO stage: Ia 15 (33%), Ib 21 (46.5%), Ic 4 (9%), Ila 1 (2%), IIb 2 (4.5%), III 2 (4.5%). Grading: G1 15 (35%) G2 23 (54%) G3 4 (9%). Depth of invasion: <1/2: 29 (64%), >1/2: 16 (36%). The total complication rate was 23%, including urinary tract injury (4%), fever, hematoma. 18-year overall survival with 95%-CI: 0.842 (0.721, 0.964)

Conclusion

Laparoscopy according to ESGO guidelines (2015) may be recommended in the treatment of patients with endometrial cancer. The 18 year overall survival, as show our results, confirm the oncologic safety of this method in long term observation. Moreover the use of minimally invasive surgery completely eliminated some type of complications: wound dehiscence and postoperative hernia.
ICG-NIR FOR THE DETECTION OF SENTINEL LYMPH NODES IN EARLY STAGE CERVICAL AND ENDOMETRIAL CANCER

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Aims

Determination of the regional lymph node status by SLN biopsy for cervical and endometrial cancer has the potential to reduce surgical morbidity without compromising oncological outcome. Established techniques for SLN mapping and biopsy use a combination of blue dye (BD) and radiolabelled nanocolloid (Tc-99m) as lymphatic tracers. Here we present results from a case series of fifty women for whom the indocyanine green-near infrared (ICG-NIR) technique was used for mapping sentinel lymph nodes.

Method

50 Women with early stage cervical and endometrial cancer underwent SLN mapping. Intra-cervical injection of ICG was used in all cases. For patients in whom retroperitoneal lymphadenectomy was indicated as part of their standard treatment, this was undertaken following SLN excision. SLNs and lymphadenectomy specimens were submitted for examination separately.

Results

The SLN detection rate was 90%. The bilateral SLN detection rate was 74%. There was one false negative result in a patient with endometrial cancer in whom the pelvic sentinel lymph nodes were negative, but a positive node was identified in the para-aortic lymphadenectomy specimen.

Conclusion

Sentinel lymph node biopsy using ICG-NIR has a detection rate which appears at least as good as standard techniques and is a valid technique for the confident identification of pelvic SLNs. Given the complex lymphatic pathways associated with the uterine corpus and the relative ease of use of ICG-NIR compared to BD/Tc-99m, it may be time to re-evaluate the role of non-cervical tracer injection in further increasing the diagnostic accuracy of SLN biopsy for early endometrial cancer.
ENDOMETRIAL CANCER

ESGO7-1293

PREDICTIVE VALUE OF CA125, HE4 AND ROMA INDEX IN ENDOMETRIAL CANCER. PRELIMINARY RESULTS.

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Aims

To assess the potential prognostic value of HE4, Ca-125 and ROMA index in the preoperative workout of patients with estimated stage I endometrial cancer.

Method

Thirty-five patients with endometrial cancer over the last six months were included. Preoperative Ca125 and HE4 were measured. Final histology was used as reference. We evaluated the correlation of Ca-125, HE4 and ROMA index with identified pathological variables (histological type, stage, cervical involvement, peritoneal cytology and lymph nodes metastasis). Two-sample t test with assumption of equal variances and ANOVA test were applied for comparisons. ROC curves were constructed, and the areas under the curve (AUC) with binomial exact 95% confidence intervals (95% CIs) were calculated as accuracy measures.

Results

Statistically significant high levels of Ca-125 were found in patients with non endometrioid histological type, cervical involvement and stage >IB (p=0.001, p=0.002 and p=0.013 respectively). Patients with stage≥IB had statistically elevated HE4 serum levels (p=0.046). Furthermore, ROMA index was significantly elevated in cases with cervical involvement, stage≥IB and non-endometrioid type (p=0.004, p=0.007, p=0.015 respectively). The constructed ROC curves to correlate ROMA index with stage≥IB indicated an AUC of 0.847. No statistical significant elevation of any of the tumor markers was observed concerning lymph nodes metastasis and cytology. Tumor upgrading between the histological report of D&C and hysterectomy was noticed in 4 patients, one of whom was found to have elevated HE4 levels.

Conclusion

Although the sample size is small and the results preliminary, it seems that the addition of HE4 and ROMA index improves diagnostic accuracy of endometrial cancer aggressiveness.
ENDO METRIAL CANCER

ESGO7-1298

DIFFERENTIAL DIAGNOSIS OF BENIGN VERSUS MALIGNANT ENDOMETRIAL TUMORS BASED ON RATIOS OF BLOOD COUNT. A PRELIMINARY STUDY

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Aims

A variety of biomarkers have been used in the preoperative workout of endometrial pathologies, involving Ca-125 and HE4. Our purpose is to evaluate whether the use of NLR (neutrophil-to-lymphocyte ratio), NMR (neutrophil-to-monocyte ratio), LMR (lymphocyte-to-monocyte ratio), NPR (neutrophil-to-platelets ratio), LPR (lymphocyte-to-platelets ratio), MPR (monocyte-to-platelet ratio) can add in the diagnostic accuracy of endometrial malignancy.

Method

Our study includes 120 patients treated for endometrial pathology during the last year. Final histological report was used as reference. Preoperative total blood count was used to calculate the mentioned above biomarkers. Receiver operating characteristic (ROC) curves were constructed, and the areas under the curve (AUCs) with binomial exact 95% confidence intervals (95% CIs) were calculated as accuracy measures. Best cut points were obtained by using the Youden’s Index for optimal sensitivity and specificity values determined by the ROC curves.

Results

The median age of the patients was 55.5 years ranging from 43 to 86 years. Malignancy was identified in 35/120 cases. ROC-AUC for NLR was 0.623, while the rest of the biomarkers were not found to be reliable for discrimination. Sensitivity of NLR was found 0.51 and specificity 0.71. The optimal cut off point was calculated to be 2.37.

![ROC Curve](image)

Figure 1. ROC AUC for 6 tumor markers between patients with malignant and benign endometrial conditions.

Conclusion

Preliminary statistical analysis showed that NLR constitutes a simple marker that improves the preoperative diagnostic accuracy of patients with endometrial pathologies. However, no colleration was found between the other ratios and endometrial cancer.
THE INFLUENCE OF FUCOIDAN TREATMENT ON UTERINE SARCOMA CELL LINES VIABILITY

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Aims

Uterine sarcoma are malignant tumors, characterized by aggressive clinical course. Results of its treatment remain unsatisfactory. The need of new therapeutic agents and targets is widely postulated. Fucoidan is a group of sulfated heteropolysaccharide commonly found in brown seaweeds. Recent studies have demonstrated its various biological activities including anti-inflammatory, anticoagulant, and anti-cancer activities. It was proven to down-regulate the expression of VEGFR3. The aim of the study was to assess the expression of VEGFR3 in uterine leiomyosarcoma tissue and viability of uterine sarcomas cell lines treated with fucoidan.

Method

The expression of VEGFR3 was assessed in 50 uterine leiomyosarcoma tumor samples using immunochemical staining. Four uterine sarcoma cell lines: SK-UT 1, SK-UT 1B, MES-SA and ESS-1 were tested. HSF (human skin fibroblast) cell line was used as a control. All cell lines were treated with fucoidan, in concentration range 0.01-5 mg/ml. Cell viability was assessed using MTT test.

Results

High expression of VEGFR3 was detected in all of leiomyosarcoma tumors.

In MTT test IC₅₀ was achieved in all of sarcomas lines treated with fucoidan, except MES-SA. The IC₅₀ values were 0.8 mg/ml, 4.6 mg/ml, 3.6 mg/ml for SK-UT 1, SK-UT 1B, and ESS-1 respectively.

IC₅₀ was not achieved for MES-SA and HSF lines despite the dose escalation.

Conclusion

VEGFR3 is potential target for future therapy of uterine sarcomas. Fucoidan decreases cell viability in uterine sarcomas cell lines in dose dependent manner and has no impact on HSF in the same concentration range.
ENDOMETRIAL CANCER

ESGO7-0999

HOW TO IMPROVE SENTINEL LYMPH NODE MAPPING WITH INDOCYANINE GREEN (ICG) IN ENDOMETRIAL CANCER?
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Aims
To determine the validity of sentinel lymph node (SLN) biopsy with ICG in endometrial cancer and to evaluate the factors associated with poor mapping or false negative.

Method
We reviewed all patients who underwent primary surgery for endometrial carcinoma with SLN mapping using ICG followed by pelvic lymphadenectomy, from February 2014 to December 2015. SLNs were ultrastaged on final pathology. Patients' demographics, surgical approach, FIGO stage, cervical involvement, lymphovascular space invasion, histologic type and grade were prospectively collected. Detection rate, sensitivity and negative predictive value (NPV) were calculated and univariate analysis was performed to evaluate factors associated with failed bilateral detection of SLNs.

Results
A total of 119 patients were included in the study. The overall and bilateral detection rate were 93% (111/119) and 74% (89/119). Sensitivity and NPV were 100% in patients with bilateral detection; 95% and 99% respectively in cases with at least unilateral detection. Advanced FIGO stage (II or IV) was the only factor related to failed bilateral detection (p=0.01). In 14 hemi-pelvis, the specimen labelled as SLN did not contain nodal tissue on final pathology (only lymphatic channels), which represented 37% of the “failed detection” cases. One false negative occurred in a patient with ipsilateral suspicious enlarged lymph nodes.

Conclusion
ICG is an excellent tracer for SLN mapping in endometrial cancer. Advanced FIGO stage was correlated to failed bilateral detection (p=0.01). Care should be taken to ensure that SLN specimen actually contains nodal tissue and not swollen lymphatic channels; suspicious lymph nodes should be removed regardless of the mapping.
EXPRESSION OF MATRICELLULAR PROTEINS: TENASCIN C, SPARC AND THROMBOSPONDIN-1 IN ENDOMETRIOID ENDOMETRIAL CANCER - PRELIMINARY RESULTS

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Aims

Tenascin C (TNC), SPARC and thrombospondin-1 (TSP-1) are structurally unrelated matricellular proteins modulating cell-cell and cell-matrix interactions that play multiple role in tumorigenesis. The aim of the study was to assess their immunohistochemical expression in endometrioid endometrial cancer (EEC) and atypical endometrial hyperplasia (AEH).

Method

Material for the study were 43 samples of EEC: G1 (n=13), G3 (n=23), G3 (n=7) and 10 samples of AEH. Immunostaining was performed on paraffin-fixed sections with specific monoclonal antibodies using the avidin-biotin-peroxidase complex technique. Semi-quantitative assessment of expression: strong (S), moderate (M) and weak (W) was applied.

Results

A weak to strong expression of TNC, localized in epithelial cell membranes, was found in 60% of AEH samples but only in 2 (4.7%) cases of EEC. Stromal expression of SPARC was detected in all samples investigated. There was a tendency towards stronger SPARC expression in less differentiated cancers: G1 – S 23.1%/W 38.5%, G2 – S 34.7%/W 26.1%, G3 – S 57.1%/W14.2% with the lowest intensity in AEH – S 10%/W 50%. Likewise, stronger SPARC expression was associated with the depth of myometrial invasion: no invasion – S 14.3%/W 28.6%, <1/2 of the uterine wall – S 30.4%/W 30.4%, >1/2 of the uterine wall – 46.2%/W 15.4%. All but 3 EEC samples were negative for TSP-1.

Conclusion

Progression of AEH into EEC is characterized by the lost of TNC expression in epithelial cells. Invasiveness of EEC appears to be associated with stronger stromal SPARC expression. TSP-1 does not seem to play a role in the pathogenesis of EEC.
PRELIMINARY STUDY OF CORRELATION BETWEEN SERUM CA125 LEVELS AND INVASION DEPTH IN ENDOMETRIAL CARCINOMA

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Aims

Evaluate the clinical significance of preoperative sérum CA 125 levels in patients with Endometrial Carcinoma (EC)

Method

Retrospective study of all EC patients treated between 2015 and 2017 at the hospitals attended by Department of Obstetrics-Gynecology of Faculdade de Medicina do ABC. 85 patients were included in the present study, and their preoperative serum level of CA125 were evaluated in relation to various clinical and pathological variables and outcome.

Results

The preliminary results suggests a strong relation between serum CA 125 levels and miometral invasion depth in EC. The higher the serum CA 125 levels are, the more advanced the disease is and the greater are the chances of recurrence.

Conclusion

The present study suggests a significant meaning in measuring preoperative serum CA125. It can help in surgery planning and in the prognosis of patients with EC.
ENDOMETRIAL CANCER

ESGO7-0873

VALUE OF SENTINEL NODE BIOPSY IN NON-ENDOMETRIOID ENDOMETRIAL CARCINOMA
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Aims

Analyze the value of sentinel node biopsy in non-endometrioid endometrial carcinoma.

Method

Between 14th June 2014 and 31st October 2017, we operated 20 patients with non-endometrioid endometrial carcinoma (nEEC). In all of them, sentinel node biopsy was performed after injection of Green Indocianine tracer (ICG) in uterine fundus and cervix, followed by surgical staging. The sentinel nodes were processed by ultrastaging techniques.

Results

The overall detection rate was 80% (16 of 20), aortic 50%, one case with exclusive aortic SN, pelvic 75% and bilateral pelvic 35%.

6 cases (30%) presented lymph node macrometastasis (3 just in the aortic area and 3 in both areas); 1 patient SN was no detected, 3 were true positives and 2 presented microdisease in SN and macrodisease in no SN.

In the other 14 patients; in 3 cases no SN was found; 9 were true negative and in 2 cases, microdisease was found by ultrastaging in the SN with the rest of the lymph nodes negatives.

Conclusion

Patients with nEEC, the sentinel node detection rate is lower than our endometrioid EC series. The lymph node involvement is high, therefore the surgical staging is obligatory. SLN biopsy and ultrastaging increased the detection of lymph node involvement rate in 2 of 20 cases (10%).
SURVIVAL IMPACT OF RESTAGING BY INFRA RENAL PARA-AORTIC LYMPHADENECTOMY IN PATIENTS WITH INITIAL STAGE I ENDOMETRIAL CANCER

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Aims

A part of patients treated for a low or intermediate risk of recurrence endometrial cancer need a restaging by para-aortic lymphadenectomy (PAL) at the reception of final pathology in case of upstaging.

The objective of this study was to evaluate the Overall Survival (OS), the Specific Overall Survival (SOS) and the Relapse free Survival (RFS) at 3 years of this management.

Method

We included patients who need according to guidelines a second surgery by PAL treated from January 1, 2011, through September 31, 2015 for an initial low-intermediate risk of recurrence. Two groups were compared, the group "restaging" and the group "no restaging" composed by patients who had not restaging.

Results

31 patients were included in the group "restaging" and 22 in the group "no restaging" among 166 patients. There were no differences between the groups at the first surgery except for the age. Patients were older on average in the group "no restaging" (70.3 years ± 10.1 vs. 63.7 ± 4.6, p= 0.016). The 3-years SOS was higher in the group «restaging» 100% vs. 87.1% (95%CI, 56.1-96.8) (p=0.018). There were no difference in term of OS, RFS or in fonction of the localisation of metastasis (local vs. distant). The PAL were performed by laparoscopy in 27 cases whose 26 by extra-peritoneal laparoscopy and positive in 5 cases with 12.9% of grade 3 morbidity.

Conclusion

Our results confirm the importance of the restaging surgery to adapt the medical care in function of nodes status to increase the SOS.
ENDOMETRIAL CANCER

ESGO7-1261

COMPARISON OF MAYO AND MILWAUKEE RISK STRATIFICATION MODELS FOR PREDICTING LYMPH NODE METASTASIS IN ENDOMETRIAL CANCER

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Aims

To compare Mayo and Milwaukee risk stratification models for predicting lymphatic dissemination in patients with endometrioid cancer (EC).

Method

A total of 512 patients with stage I-III endometrioid EC who underwent staging surgery with systematic lymphadenectomy between 2004 and 2016 at Hacettepe University Hospital were identified. All slides of the cases were reviewed by the same gynecologic pathology subspecialist. After histological slide review, remaining 307 patients constituted our study group.

Results

Lymph node metastasis was detected in 28 (9.1%) subjects. Univariate analysis showed that primary tumor size, depth of myometrial invasion, lymphovascular space invasion (LVSI), cervical stromal and glandular involvement were associated with lymph node metastasis. Multivariate logistic regression analysis identified the independent risk factors associated with lymphatic involvement as LVSI (OR 4.59, 95% CI 1.66–12.68, p = 0.001), myometrial invasion (OR 4.01, 95% CI 1.17–13.76, p = 0.02) and cervical stromal invasion (OR 3.54, 95% CI 1.04–12.03, p= 0.043). The sensitivity, specificity, false negative and positive rates of Mayo and Milwaukee risk stratification models for predicting lymphatic dissemination among women endometrioid EC were 100%, 27.3%, 0%, 72.7%, and 89.3%, 61.3%, 10.7%, 38.7%, respectively.

Conclusion

Although Milwaukee risk model had a lower false-positive rate and can decrease the number of lymphadenectomies, false-negative rate of this new model was found as 10.7% in the present study. Furthermore, we found that Mayo model had a lower false negative rate and higher sensitivity. Therefore, Mayo model still looks more beneficial in order to predict lymph node metastasis in patients with endometrioid EC.
ASSESSMENT OF CURRENT PRACTICE OF SURGICAL STAGING OF LYMPH NODES IN ENDOMETRIAL CANCER.

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Aims

Objectives: Surgical staging of lymph nodes in endometrial cancer is controversial. In patients with uterine low risk factors (G1/G2, myometrial invasion <50%, no LVI) systematic lymph node dissection (LND) is not recommended. Patients with higher risk factors might benefit from LND. After implementation of sentinel lymph node dissection (SLND) at our hospital we tried to assess the current practice of surgical staging in our region.

Method

We analysed the current practice of lymph node assessment (LNA) in all patients with endometrial cancer registered at the Tumorregister München from 1998-2015 who have undergone surgery.

Results

8130 patients registered. In 5046 patients (62.1%), no lymph node assessment (LNA) was performed. In 3084 patients (37.9%), any lymph node assessment was performed (pelvic LND 40.9% (n= 1261), pelvic and paraaortic LND 46.4% (n=1431), SLND only 1.4% (n=44), not specified lymph node assessment 11.3% (n=348)). The number of LNA increased over time and the number of detected lymph node metastases increased continuously from 4.7 % in 1998 to 12.9 % in 2015. In 7203 patients, the tumor was confined to the uterus. In the low risk group (n=3614; 50.2%), 77.8% of the patients had no LNA. In the group of patients with intermediate/high intermediate and high risk factors (n=3589; 49.8%), LNA was performed in 47.8% compared to 52.2% without LNA.

Conclusion

The rate of patients without LNA is high, even in the group of patients with "higher than low risk"-features. Implementation of SLND might lead to a higher rate of LNA, however SLND is not common practice yet.
IDENTIFICATION OF MICRO-RNA EXPRESSION PROFILES RELATED TO RECURRENCE IN WOMEN WITH ESMO LOW RISK ENDOMETRIAL CANCER

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Aims

Introduction: Actual European pathological classification of early-stage endometrial cancer (EC) may show insufficient accuracy to precisely stratify recurrence risk, leading to potential over or under treatment. Micro-RNAs are post-transcriptional regulators involved in carcinogenic mechanisms, with some micro-RNA patterns of expression associated with EC characteristics and prognosis. We previously demonstrated that downregulation of micro-RNA-184 was associated with lymph node involvement in low-risk EC (LREC).

Objectives: The aim of this study was to evaluate whether micro-RNA signature in tumor tissues from LREC women can be correlated with the occurrence of recurrences.

Method

Methods: MicroRNA expression was assessed by chip analysis and qRT-PCR in 7 formalin-fixed paraffin-embedded (FFPE) LREC primary tumors from women whose follow up showed recurrences (R+) and in 14 FFPE LREC primary tumors from women whose follow up did not show any recurrence (R-), matched for grade and age. Various statistical analyses, including enrichment analysis and a minimum p-value approach, were performed.

Results

Results: The expression levels of micro-RNAs-184, -497-5p, and -196b-3p were significantly lower in R+ compared to R- women. Women with a micro-RNA-184 fold change <0.083 were more likely to show recurrence (n=6; 66%) compared to those with a micro-RNA-184 fold change >0.083 (n=1; 8%), p = 0.016. Women with a micro-RNA-196 fold change < 0.56 were more likely to show recurrence (n=5; 100%) compared to those with a micro-RNA-196 fold change > 0.56 (n=2; 13%), p=0.001.

Conclusion

Conclusion: These findings confirm the great interest of micro-RNA-184 as a prognostic tool to improve the management of LREC women.
ENDOMETRIAL CANCER

ESGO7-0643

FROZEN SECTION REVEALING THE ABSENCE OF LYMPHATIC TISSUE DURING SENTINEL LYMPH NODE BIOPSY IN ENDOMETRIAL CANCER STAGING.

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Aims

To assess the role of frozen section (FS) to identify the absence of lymphatic tissue (“empty node” (EN)) during sentinel lymph node (SLN) biopsies for apparent early stage endometrial cancer (eEC) to avoid potential understaging in patients at high-risk of metastasis.

Method

All eEC patients undergoing SLN removal using cervical injection with Indocyanine Green from 06/01/2014 to 06/30/2016 were analyzed. FS was used to examine all SLNs removed. EN was defined as SLN specimen without evidence of lymphatic tissue. The association of tumor and patient’s characteristics with EN was evaluated. Trend analysis to compare the rate of EN over calendar quarters was performed using Cochrane-Armitage test.

Results

ENs were easily identified in 24/300 (8%) patients (23 cases unilateral and 1 case bilateral). No association between age, stage, histology, BMI, prior abdominopelvic surgery and presence of EN was observed. Rate of EN revealed at FS did not change over time (p=0.68 for trend) (Table1).

| Table1. Consecutive patients who underwent sentinel lymph node (SLN) biopsies with at least unilateral SLN removal for endometrial cancer staging using cervical injection of Indocyanine Green (ICG) at Mayo Clinic from June 1, 2014 to June 30, 2016. |
|---|---|
| **Descriptive analysis on 300 patients with SLN(s) removed** | **Bilateral SLN removed** (254(88.7%)) |
| | One-side SLN removed | 49 (16.3%) |
| **Empty Lymph Node (EN)** | **14 (6.0%)** |
| | Unilateral EN | 13 (7.7%) |
| | Bilateral EN | 1 (0.3%) |
| **Analysis of patients with Empty Lymph Node over time** | **1st 12 months** (10/122 (8.3%)) |
| | 2nd 12 months | 14/129 (10.8%) |
| **Trend analysis stratified by calendar year quarters** | **p=0.68** |

Data are reported as absolute number and percentage (%).

*Cochran-Armitage test for trend (after stratification by quarters, from 2014-03 to 2016-02).

Conclusion

The presence of EN during SLN biopsies is not a rare event. The easy identification of absence of lymphatic tissue at FS is useful to reveal intraoperative EN and avoid the need of reoperation for appropriate staging in patients undergoing SLN biopsy at high-risk of lymph node metastasis. Individual institutions should examine their own EN rates and determine if this would assist them in their SLN practices for eEC.
ENDOMETRIAL CANCER

ESGO7-0247

THE PREGNANCY OUTCOME AFTER FERTILITY-SPARING TREATMENT OF EARLY ENDOMETRIAL CANCER

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¹Konkuk university medical center, Department of Obstetrics and Gynecology, Seoul, Republic of Korea

Aims

Incidence of endometrial cancer has been increasing among young women since 2000. It is difficult to make a decision between fertility sparing treatment and hysterectomy for early stage endometrial cancer patients in reproductive age. The aim of this study is to evaluate the fertility and pregnancy outcome of early stage endometrial cancer patients in reproductive age.

Method

Retrospective single center study was done from 1998 to 2017. Endometrial cancer patients with presumed FIGO stage 1 & 2 with grade 1 & 2 were included. Exclusion criteria were patients with age over 45, presumed FIGO stage over 3 and any stages with FIGO grade 3. Pregnant group and non-pregnant group of early stage endometrial cancer patients after fertility sparing treatment were compared.

Results

Total 117 endometrial cancer patients were enrolled in the study. Among 117 endometrial cancer patients, 48 patients wanted to be pregnant and 20 of them were successfully pregnant (41.6%). The number of endometrial curettage was not different between two groups. However, 18 patients (18%) had not got remission within 6 month and hysterectomy was done in these patients. The age factor was different between pregnant and non-pregnant endometrial cancer patients (34±3.9 vs 36±2.7, P ≤ .05). Moreover, basophil count was different between two groups (0.34±0.91 vs 0.69±0.43, P ≤ .05).

Conclusion

The pregnancy outcome was good after fertility sparing treatment in early stage endometrial cancer patients. Endometrial curettage does not affect the pregnancy outcome. Further study of large group should be done.
A CASE OF ENDOMETRIAL CANCER IN A PATIENT WITH FAMILIAL ADENOMATOUS POLYPOSIS

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²KK Women’s and Children’s Hospital, Department of Pathology and Laboratory Medicine, Singapore, Singapore

Aims

Lynch syndrome or hereditary non-polyposis colorectal cancer (HNPCC) is associated with colorectal and endometrial cancers, and accounts for the majority of inherited endometrial cancers. Comparatively, familial adenomatous polyposis (FAP), which is characterized by the presence of multiple colorectal adenomatous polyps, is associated with colorectal cancer but not known to have an association with endometrial cancer. We report a rare case of endometrial cancer diagnosed in a patient with FAP, and review the literature on similar cases, to highlight this rare entity.

Method

We report a rare case of endometrial cancer diagnosed in a patient with FAP, adenocarcinoma of the Ampulla of Vater and transverse colon. A review of the literature on similar cases was also performed.

Results

Endometrial cancer, although far less common than in Lynch syndrome, has been reported in cases of FAP. This may be a result of chance occurrence, improved survival of FAP patients with total colectomy, or may represent a rare and distinct genetic entity.

Conclusion

Inherited endometrial cancers may rarely be associated with FAP, as highlighted in this case report and review of the literature.
CIRCULATING CELL-FREE DNA IN ENDOMETRIAL CANCER.

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²Catholic University of Sacred Heart, Department of Obstetrics and Gynecology- Gynecologic Oncology Unit, Rome, Italy
³University of Rome “Tor Vergata”, Department of Biomedicine and Prevention- Obstetrics and Gynecology Unit, Rome, Italy
⁴“Regina Elena” National Cancer Institute, Department of Experimental Clinical Oncology- Gynecologic Oncology Unit, Rome, Italy
⁵“Regina Elena” National Cancer Institute-, Department of Research- Diagnosis and Innovative Technologies- Translational Research Area, Rome, Italy

Aims

To set up a simple test for circulating cell free DNA (cfDNA) quantification in endometrial cancer (EC) and correlate it with the individual metabolic syndrome factor and tumor aggressiveness to help clinical diagnosis and prognosis.

Method

The blood of cancer patients was obtained before surgery and before the beginning of any treatment. Information about patients was obtained by reviewing their medical charts.

Blood samples were collected in vacutainer tubes and leaved at room temperature to allow to clot. The clot was removed by centrifuging at 1,000–2,000 x g for 10 minutes in a refrigerated centrifuge and stored at –80°C.

For measurement of cfDNA levels SYBR Gold Nucleic Acid Gel Stain we followed the protocol described by Goldshtein et al (Ann Clin Biochem. 2009 Nov;46(Pt 6):488-94).

Results

Our data show that cfDNA levels are higher in G2 (n=30) and G3 (n=17) compared with G1 (n=12) EC sera, but this increase does not depend on cancer stage. Moreover, a significant increase on cfDNA amount was detected in sera from patients with BMI>30 compared with those with BMI<30, even if not related with EC grading. Interestingly, we observed a further and significant increase of cfDNA in hypertensive patients with G2-G3, but not with G1 EC.

Conclusion

cfDNA levels are indicative of EC occurrence and aggressiveness and further increase in hypertensive patients with high grade EC. Our data indicate that assessment of cfDNA levels in blood sera with direct SYBR gold assay may help in prediction of EC development and aggressiveness.
ENDOMETRIAL CANCER

ESGO7-0188

ELECTRONIC BRACHYTHERAPY AS ADJUVANT TREATMENT FOR ENDOMETRIAL CANCER: FIRST PRELIMINARY EXPERIENCE IN SWITZERLAND

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¹IOSI Oncology Institute of Southern Switzerland, Radiation Oncology, Bellinzona, Switzerland
²Ente Ospedaliero Cantonale, Medical Physics Unit, Bellinzona, Switzerland

Aims

To evaluate the feasibility and safety of high-dose rate electronic brachytherapy (EBT) with XOFT® Axxent System as monotherapy or after external beam radiation therapy (EBRT), in endometrial cancer patients.

Method

A total of 8 patients were treated from October 2016 to March 2017 in our Institute. The dose prescribed in monotherapy was 20 Gy in 4 fractions, the dose prescribed after EBRT was 15 Gy in 3 fractions. The doses were prescribed to a depth of 5 mm starting from the applicator surface and to the upper third of the vagina. The median EBRT dose was 45 Gy (range, 45-50.4 Gy). Adverse events and toxicity were collected using RTOG/EORTC score.

Results

The prescribed doses of EBT were successfully delivered in all patients. Of the 8 patients, one patient experienced Grade 2 gastrointestinal toxicity (12.5%); 2 patients experienced Grade 1 genitourinary toxicity (25%), no Grade 4 or 5 toxicity was registered. No Grade 2 or higher toxicities were registered in patients treated with EBT alone. The dosimetric parameters for organs at risk (OAR) are listed in Table 1.

Conclusion

XOFT® system provides a feasible and safety treatment option for adjuvant vaginal brachytherapy. Additional data is needed to further assess the clinical efficacy and late toxicity.
PAX2 AND BCL-2 EXPRESSION AS A PROGNOSTIC FACTOR IN ENDOMETRIAL ENDOMETRIOID ADENOCARCINOMA GRADE 1

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Aims

Our aim is to detect the influence of bcl2 and PAX2 expression on the prognosis of endometrial endometrioid adenocarcinoma grade 1.

Method

All endometrial endometrioid adenocarcinoma grade 1 patients detected in Kocaeli University Medical Faculty Hospital between 2009-2012 were analysed. Fiftyseven endometrium carcinoma patients were included in the study and control group was composed of 34 patients reported as benign hyperplasia. Immunoreactivity was scored half quantitatively based on bcl2 and PAX2 staining. Staining intensity of gland epitelim was scored from 0 to 3. The extensity of the stain was evaluated also, if the tissue did not stain 0 score was given, 1-33% staining was scored as 1, 34-66% staining was scored as 2, 67-100% staining was scored as 3. Total scores were between 0 and 6. Immunohistochemical staining scores of the patients and control group were compared by MannWhitney U test. Bcl2 and PAX2 were compared with other prognostic factors including myometrial invasion, tumor size lymphovascular invasion and MELF (microcytic elongated fragmented pattern) using Mann Whitney U and Kruskal Wallis tests.

Results

Mean age of the patients was 58±8.5 (38-80). Bcl2 and PAX2 expression decreases significantly in endometrium carcinoma (p<0.01) but is not associated with myometrial invasion, tumor size and lymphovascular invasion (Tables). Bcl2 and PAX2 scores were higher in microcytic elongated fragmented pattern (p=0.05 and p=0.007 respectively).
Conclusion

Immunohistochemical evaluation of transcription factors can be useful for establishing prognosis and identification of patients that need adjuvant treatment. Bcl-2 and PAX2 can differentiate carcinoma from normal tissue but further studies are needed.

Table  PAX2 expression compared with prognostic factors in endometrioid adenocarcinoma

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*LVSI: lymphovascular invasion, **MELF: microcytic elongated fragmented pattern

Table  Bcl2 expression compared with prognostic factors in endometrioid adenocarcinoma

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*LVSI: lymphovascular invasion, **MELF: microcytic elongated fragmented pattern
ENDOMETRIAL CANCER

ESGO7-0937

GENE PROMOTER METHYLATION IN THE DEVELOPMENT FROM NORMAL ENDOMETRIAL CANCER AND ITS RELATION TO K-RAS GENE MUTATION

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2Maastricht University Medical Center +, Pathology, Maastricht, The Netherlands
3Netherlands Cancer Institute, Diagnostic Oncology and Molecular Pathology, Amsterdam, The Netherlands
4Elisabeth Tweesteden Ziekenhuis, Pathology, Tilburg, The Netherlands
5Roadbed University Medical Center, Obstetrics and Gynecology, Nijmegen, The Netherlands

Aims

Up to 60% of untreated atypical hyperplastic endometrium will develop into endometrial carcinoma (EC), and for those who underwent a hysterectomy a coexisting EC is found in up to 20%. Gene promoter methylation might be related to the EC development.

The aim of this study is to determine changes in gene methylation profiles and K-Ras mutation in normal, atypical hyperplastic endometrium and EC.

Method

A retrospective study was conducted of patients diagnosed with hyperplasia based on endometrial sampling between 1996 and 2011. After hysterectomy promoter methylation was preformed for APC, hMLH1, O6-MGMT, P14, P16, RASSF1, RUNX3, SFRP1, CD01 and ER are related to final histological diagnosis. For each case K-Ras mutations were analysed.

Results

A total of 98 cases were analysed. For P16, promoter methylation was significantly increased from 10% in normal endometrium (n=1) to 7.7% in atypical hyperplasia (n=2) to 38% in EC (n=13). hMLH1 methylation gradually increased from 27.3% (n=3) in normal to 36.4% (n=12) in atypical hyperplasia to 38.0% (n=) in EC.

For O6-MGMT methylation it shows 8.3% (n=1), 18.2% (n=6) and 31.4% (n=16) respectively. K-Ras mutation was only observed in 12.1% (n=4) of atypical hyperplasia, and 19.6% (n=10) in EC. No relation between K-Ras mutations and gene promoter methylation was seen.

Conclusion

hMLH1 and O6-MGMT promoter methylation are early events and already seen in atypical endometrial hyperplasia, whereas P16 promoter methylation occurs later and is especially seen in EC. K-Ras mutations are more frequently seen in EC than in atypical hyperplasia.
ENDOMETRIAL CANCER

ESGO7-0799

PROJECT ALYSE: ASSESSING THE RISK OF LAPAROSCOPIC AORTIC LYMPHADENECTOMY USING SAGITTAL ABDOMINAL DIAMETER IN ENDOMETRIAL CANCER

A. Correa-París, V. Gorraiz Ochoa, A. Fernandez Oliva, L. Gomila Villalonga, B. Diaz-Feijoo, J.L. Sanchez Iglesias, A. Gil-Moreno

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2Hospital Vall d’Hebron, Obstetrics & Gynecology Dept., Barcelona, Spain
3Hospital Vall d’Hebron, Gynecologic Oncology Unit- Obstetrics & Gynecology Dept., Barcelona, Spain

Aims

to evaluate the usefulness of Sagittal Abdominal Diameter (SAD)-measured in a preoperative MRI, and other factors to assess the risk of surgical complications of laparoscopic para-aortic lymphadenectomy (L-PAL) for endometrial cancer staging.

Method

multivariate analysis of a cohort of patients with endometrial cancer randomized to transperitoneal or extraperitoneal technique (within another randomized controlled trial, the STELLA trial). A logistic regression analysis and ROC curves were performed. A composite outcome to assess risk was defined by: hospitalization >3 days, need for blood transfusion, hematocrit drop >12%, surgical time >90th percentile (>330min), L-PAL time >90th percentile (>130min), complication during L-PAL or surgical complication grade >Dindo III, L-PAL uncompleted or converted. Covariates analyzed were: SAD, BMI, Charlson’s age-adjusted comorbidity (AAC), cardiovascular disease, diabetes, previous surgeries.

Results

a total of 47 patients were included. The descriptive analysis is summarized in the following table. In the ROC curve we found an accuracy (AUC)=0.76 when using the SAD-AAC interaction (p=0.01). Interestingly, when applying the model only to the group of patients who underwent the transperitoneal approach AUC was 0.80 (p=0.08), whereas for the extraperitoneal group AUC=0.72 (p=0.11). Furthermore, when the model was restricted to the “conventional-laparoscopy, transperitoneal” group AUC=0.90 (p=0.09). In comparison, using the same model replacing SAD with BMI, AUC=0.63 (p=0.07).

<table>
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<tr>
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<td>L-PAL time-(min)</td>
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<tr>
<td>Hematocrit change-(%)</td>
</tr>
<tr>
<td>Hospital stay-(days)</td>
</tr>
<tr>
<td>AAC</td>
</tr>
<tr>
<td>SAD-(mm)</td>
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</table>
Conclusion

SAD and AAC, but not BMI, could be useful to assess the risk of L-PAL, an optimal cutoff value must be determined to help chose the best surgical approach.
ENDOMETRIAL CANCER

ESGO7-0127

ENDOMETRIAL CANCER PATIENTS LEVEL OF HE4 AND MMP2
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1Pomeranian Medical University, Department of Gynecological Surgery and Gynecological Oncology of Adults and Adolescents, Szczecin, Poland
2Pomeranian Medical University, General Pathology Department, Szczecin, Poland
3West Pomeranian University of Technology, Department of Statistics, Szczecin, Poland

Aims
Diagnostic potential of the serum levels of HE4 and MMP2 in patients with endometrial cancer and benign endometrial diseases. To assess the relationship between the serum levels of HE4 and MMP2 and the typical prognostic factors in endometrial cancer patients.

Method
Included in the study was a group of 112 patients presenting with bleeding abnormalities at the Pomeranian Medical University in years 2012-2016. Serum HE4 concentrations were measured using the Elecsys ECLIA assay from Roche. MMP2 concentrations were quantified in the serum using multiplex immunoassays (Luminex Corporation, Austin, TX, USA).

Results
The diagnostic potential of HE4 and MMP2 in differentiation of high (FIGO III i IV) vs. low (FIGO I and II) clinical stage of tumor and prediction of cellular differentiation grade (G1 vs. G3) on the basis of the analysis of the area under the curve is respectively 0.86 and 0.82 for HE4 and 0.82 and 0.74 for MMP2. The HE4 marker was significantly more specific than MMP2 in every study group and amounted to: 93% vs. 86% in all patients included in the analysis, 94% vs. 84% in pre-menopausal patients, and 84% vs. 79% in post-menopausal patients.

Conclusion
HE4 and MMP2 are characterized by high specificity and may be useful as biomarkers in the diagnostics of endometrial cancer. When determined preoperatively, HE4 is correlated with the prognostic factors of endometrial cancer and may be helpful in the planning of individual treatment of endometrial cancer patients.
A CASE OF EXTRA-UTERINE SPREAD IN NONINVASIVE SEROUS PAPILLARY ENDOMETRIAL CARCINOMA ARISING FROM A POLYP

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¹University Hospital for Tumors- University Hospital Centre Sestre Milosrdnice, Department of Gynecologic Oncology, Zagreb, Croatia
²General Hospital Scheibbs, Department of Gynecology and Obstetrics, Scheibbs, Austria
³University Hospital for Tumors- University Hospital Centre Sestre Milosrdnice, Department of Clinical Pathology, Zagreb, Croatia
⁴Clinical Hospital Centre Split, Department of Gynecology and Obstetrics, Split, Croatia
⁵Clinical Hospital Merkur, Department of Gynecology and Obstetrics, Zagreb, Croatia

Aims

To report a case of noninvasive serous papillary endometrial carcinoma with para-aortic lymph node metastases.

Method

A 61 years-old nulliparous woman, with history of breast carcinoma, was admitted to our department for postmenopausal bleeding. Transvaginal ultrasonography was performed and an endometrial thickness of 6 mm was found. She underwent hysteroscopy that showed small endometrial polyp arising from the anterior uterine wall. The endometrial polyp was resected and pathological examination revealed noninvasive serous papillary carcinoma arising from the polyp. The immunohistochemical staining analysis showed negative estrogen and progesterone receptors and strong p53 overexpression. She underwent hysterectomy, bilateral salpingo-oophorectomy, omentectomy and pelvic and para-aortic lymphadenectomy.

Results

The pathological finding revealed atrophic endometrium without lymphovascular space invasion and no omental or pelvic lymph node metastasis. Residual tumor was not found in the endometrium. Para-aortic lymph node metastases were present in 3 of 17 lymph nodes. Six cycles of adjuvant chemotherapy with carboplatin and paclitaxel were given. Patient is receiving radiation therapy.

Conclusion

The present case emphasizes the aggressive behavior of uterine serous papillary carcinoma, along with the need for complete surgical staging including para-aortic lymphadenectomy. Extra-uterine disease spread may frequently occur even with noninvasive disease. The performance of pelvic lymphadenectomy alone represents an incomplete surgical effort resulting in failure to identify patients who may benefit from adjuvant therapy.
FREQUENT HOMOLOGOUS RECOMBINATION DEFICIENCY IN HIGH-GRADE ENDOMETRIAL CANCER PROVIDES OPPORTUNITIES FOR NOVEL THERAPEUTIC STRATEGIES.

M. de Jonge1, A. Auguste2, P. Schouten3, C. de Kroon3, M. Meijers4, N. ter Haar1, J. van Eendenburg1, V. Smit1, A. Leary2, E. Rouleau6, M. Vreeswijk4, T. Bosse1

1Leiden University Medical Center, Pathology, Leiden, The Netherlands
2Gustave Roussy Medical Center, Genetics-Medical Oncology, Villejuif, France
3Leiden University Medical Center, Gynaecology, Leiden, The Netherlands
4Leiden University Medical Center, Human Genetics, Leiden, The Netherlands
5Gustave Roussy Cancer Center, Medical Oncology, Villejuif, France
6Gustave Roussy Cancer Center, Genetics, Villejuif, France

Aims

High grade endometrial cancer (EC) has a poor prognosis. By assessing the incidence and molecular basis of homologous recombination deficiency (HRD) in EC, we aimed to determine whether EC patients may benefit from treatments that target homologous recombination deficiency.

Method

Fresh tumour tissue of 28 ECs was prospectively collected in the LUMC between 2015-2017 (16 endometrioid (EEC) and 12 non-endometrioid endometrial cancers (NEEC). For functional analysis, the ability of replicating tumour cells to form RAD51-foci after ionizing radiation was used as a functional read out for HR-proficiency. Molecular analysis was done by copy number aberration analysis (CNA, genomic instability score, GIS) and sequencing of known HR-genes (BRCA1, BRCA2, ATM, PALB2, BRI1P1, RAD51D, RAD51C, BARD1, CHEK2). Immunohistochemical staining was performed to determine p53-status and mismatch-repair deficiency (MMRd). Independent validation was performed on TCGA-EC data (BRCA-like CNA-profile).

Results

Functional HR-analysis showed impairment of HR in 39% (n=11) of the 28 ECs. HRD was more frequently observed in NEECs (9/12, 75%) compared to EEC (2/16, 13%, p<0.01). 3 (27%) HRD cases were MMRd and 7 (64%) cases displayed a p53-mutant staining pattern. GIS derived from aCGH data showed concordant outcomes with RAD51-assay in 82%. In three HRD-EC we identified gene mutations that might explain the phenotype (two BRCA1, one BRI1P1). TCGA-data showed a BRCA-like profile in 42% (81/192) of NEEC and 8% (33/404) of EEC.

Conclusion

A significant proportion of EC, mainly NEEC, are defective for homologous recombination. Assessment of HR efficacy in EC might allow identification of patients that could benefit from treatments targeting HRD.
ENDOMETRIAL CANCER

ESGO7-1020

PROGESTERONE THERAPY FOR ENDOMETRIAL CANCER PROTECTION IN OBESE WOMEN: THE PROTEC TRIAL
A.E. Derbyshire1,2, M.L. Mackintosh1,2, R.J. McVey3, J. Bolton3, P.W. Pemberton4, M. Needham5, H.C. Kitchener6, E.J. Crosbie1,6
1Central Manchester University Hospital NHS Foundation Trust, Obstetrics and Gynaecology, Manchester, United Kingdom
2Manchester Academic Health Science Centre, Women and Children, Manchester, United Kingdom
3Central Manchester University Hospital NHS Foundation Trust, Histopathology, Manchester, United Kingdom
4Central Manchester University Hospital NHS Foundation Trust, Clinical Biochemistry, Manchester, United Kingdom
5Salford Royal Hospitals NHS Foundation Trust, Sleep Apnoea Service, Manchester, United Kingdom
6University of Manchester, Division of Molecular and Clinical Cancer Sciences- Faculty of Biology- Medicine and Health, Manchester, United Kingdom

Aims

Obesity is strongly associated with endometrial cancer (EC). The levonorgestrel intrauterine system (LNG-IUS) reduces the risk of EC and its precursor lesion, atypical hyperplasia (AH). We assessed the feasibility, acceptability and endometrial impact of the LNG-IUS for primary prevention of EC in obese women.

Method

Morbidly obese women (BMI>40kg/m²) with histologically normal endometrium were recruited to a clinical trial of the LNG-IUS for endometrial protection. Sequential blood and endometrial samples were obtained before and after LNG-IUS insertion. Quality of life and menstrual function questionnaires were completed. Endometrial samples underwent histological assessment and biomarkers of endometrial proliferation (Ki-67, pAKT) and hormone receptor status (ER, PR, AR) quantified by immunohistochemistry. Circulating biomarkers of insulin resistance and reproductive function were measured. Follow up for six months after LNG-IUS insertion will be completed in August 2017.

Results

In total, 25 women received an LNG-IUS. Their median age and BMI were 54 years (IQR 52, 57) and 46.7kg/m² (IQR 43.6, 50.8) respectively. Three women were ineligible due to EC/AH on their baseline biopsy. The LNG-IUS had a positive overall effect on bleeding patterns and quality of life. The LNG-IUS was associated with morphological, Ki-67 and PR expression changes in the endometrium but circulating biomarkers of proliferation and reproductive function were unchanged.

Conclusion

The incidence of occult endometrial neoplasia was high in morbidly obese women screened for participation (9%). The LNG-IUS was well tolerated and all completed patients chose to keep it for ongoing endometrial protection. Use of the LNG-IUS for this indication appears feasible.
Aims

The aim of study is to determine Survivin, Bcl-2, Bad, Bax and Caspase-9 gene expressions after metformin (M) and medroxyprogesterone acetate (MPA) treatment on endometrial hyperplasia rat model.

Method

Three groups created (E, E+P, E+M). We have applied 4mg/kg 17β Estradiol hemihydrates (E) for 20 days after oophorectomy operation to all groups. In the tenth day of E treatment 50 mg/kg metformin added for E+M group and 1mg/day MPA for E+Progesterone (P) group. Only 4mg/kg 17β estradiol hemihydrates was used for 20 days in group E. Hysterectomies were performed at 20. day of treatment. RNA isolation was performed from tissues for genetic analysis. cDNA was obtained using the reverse transcriptase enzyme. Real time PCR used for detected Survivin, Bcl-2, Caspase-9, Bad and Bax gene mRNA expressions. Endometrial histopathological samples were stained with hematoxylin eosin.

Results

Metformin and progesterone have significant and similar effect on endometrial hyperplasia. Survivin, Bcl-2, Caspase-9, Bad and Bax gene expressions were not statistical significant between the groups (p>0.05). Bcl-2/Bax ratio was significantly decreased in MPA and M group compared to the control group (E) (p: 0.020).

Conclusion

We conclude that metformin and progesterone have significant and similar effect on endometrial hyperplasia. These agents stimulate the apoptotic pathway of the endometrial cells and prevent the tissue from endometrial cancer.
ENDOMETRIAL CANCER

ESGO7-0425

PREDICTION OF ENDOMETRIAL CANCERS STAGE1A BY THE RISK OF INVASIVE ENDOMETRIAL CANCER SCORE - INVREC-SCORE

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Aims

To predict high risk or more than stage 1a endometrial cancer(EC) tumors by transvaginal ultrasound(TVS) with the use of the invREC-score system.

Method

Endometrial pattern in 239 consecutive women with EC were evaluated by residencies supervised by trained sonographers using the TVS REC-score system. Findings were related to histopathology at hysterectomy. Multivariate logistic regression was used to obtain most optimal parameters for the invREC-score.

Results

Endometrial tumors were as follows: Stage1a:135; high risk tumors: 64; LVI: 43. A total of 126 women had more than stage 1a tumors or high risk tumors.

Doppler parameters, endometrial thickness(ET) and age predicted high risk tumors or stage more than stage1a. Endometrium was scored according to the (invREC-score ) system by adding scores for: Age (65+ =score 1); ET(10-14=score 1); ET(15-19=score 1); ET(20-24=score 1); ET(25+ score=1); vascularity, but not a single/double dominant vessel (present =score 1); multiple vessels(present=score 1); large vessels(present=score 1); and splashed/densely packed vessels(present=score 1).

A high invREC score predicted: high risk tumors AUC: 0.68; presence of advanced stage more than stage1a AUC: 0.76; LVI AUC: 0.74; highrisk or more than stage1a tumors AUC: 0.75.

At a cut point of ≥6 and ≥7 respectively invREC-score had sensitivity(SE) 68% and 59% specificity(SP) 73% and 84% for identification of stage more than stage 1a tumors, and correctly classified 73% of all women

Conclusion

The invREC-score system could be used for selection of sentinel node. Thereby sentinel node is avoided in 84% of stage1a women. Combined with endometrial sampling and intraoperative gross examination additional lymphnode removal may be needed in only 13%.
Aims

Adherence to guidelines is an important indicator for quality of care. Compliance to adjuvant therapy guidelines for endometrial cancer patients was evaluated in the Netherlands, in a population-based cohort, over a period of 10 years.

Method

From the Netherlands Cancer Registry (NCR), data from all patients diagnosed with endometrial cancer between 2005 and 2014, without residual tumor after surgical treatment, were extracted. Patients were stratified into risk groups according to FIGO stage, grade, tumor type and age. Compliance to adjuvant therapy guidelines was assessed for each risk group. Variation in compliance in time and impact of compliance on survival was assessed.

Results

Data from 13568 patients were extracted from the NCR. Patients were stratified into low/low-intermediate (52%), high-intermediate (21%) and high (20%) risk groups. Overall compliance to guidelines was 85%. Compliance was 98% in patients with low/low-intermediate risk (no adjuvant therapy indicated), 78% in the high-intermediate risk (radiotherapy indicated) and 61% in patients with high risk (external beam radiotherapy with/without chemotherapy indicated). In high risk patients compliance decreased from 64% in 2005-2009 to 57% in 2010-2014. Patients that were treated according to guidelines had favorable survival outcomes compared to patients that were treated otherwise.

Conclusion

While compliance to adjuvant therapy guidelines is excellent in patients with low and low-intermediate risk, there is room for improvement in high risk endometrial cancer patients. Eagerly awaited results of ongoing randomized clinical trials may provide more definitive guidance regarding adjuvant therapy for high risk endometrial cancer patients.
ENDOMETRIAL CANCER

ESGO7-0792

SENTINEL NODE MAPPING USING INDOCYANINE GREEN AND NEAR-INFRARED FLUORESCENCE IMAGING TECHNOLOGY FOR UTERINE MALIGNANCIES: FIRST YEAR EXPERIENCE WITH THE DA VINCI XI SYSTEM

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Aims

Lymphadenectomy (LND) is essential when evaluating the stage and need for adjuvant treatment in endometrial cancer. However, its therapeutic value is still open. In cervical cancer, the role of LND in treatment selection is more established. In the surgical treatment of both cancers, the sentinel lymph node (SLN) procedure is gaining more interest. The aim of this study was to evaluate indocyanine green (ICG) and near-infrared (NIR) fluorescence mapping in endometrial and cervical cancer.

Method

This is a cohort study of patients with clinical stage I endometrial (n=58) and cervical (n=10) cancer undergoing robotic surgery (da Vinci Xi, Intuitive Surgery, Sunnyvale, CA, USA) in Kuopio University Hospital between March 2016 and 2017. ICG tracer was injected in the cervix at the 3 and 9 o’clock positions submucosally and stromally.

Results

SLN was detected bilaterally in 60.3% (41/68), and at least unilaterally in 92.6% (63/68) of cases. After 27 cases, at least unilateral SLN was detected reflecting the learning curve. In 17.6% of the patients, SLN harbored metastasis. Four patients (5.9%) had false-negative SLN. The SLN was the only metastatic node in six patients (8.8%). Of the patients, 17 had nodal metastases, and 12 of them had the metastasis in the SLN yielding a sensitivity of 81% (95% CI 58.09-94.55%) to detect node-positive disease and a negative predictive value of 90.2% (95% CI 79.2-95.74%).

Conclusion

SLN detection using ICG and da Vinci NIR technology proved to be easily taken into clinical practice and accurate. Our results correlate with previous results.
LOCAL EXCISION WITH ADJUVANT IRRADIATION FOR THE TREATMENT OF LOCAL RECURRENCES ENDOMETRIAL CANCER AFTER PRIMARY RADICAL HYSTERECTOMY – THE SERIES OF 41 PATIENTS

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Aims

The aim of the study was to evaluate the effectiveness of combined surgery and brachytherapy for the local recurrences of endometrial cancer after primary surgery.

Method

41 patients with microscopy proven local recurrences of endometrial cancer were treated in years 2010-2015. The treatment of recurrences consisted of adjuvant irradiation of the pelvis (mean dose 46Gy) plus intracavitary brachytherapy HDR with dose 20-25 Gy at 0.5 cm below the surface of the mucosa. Follow-up ranged from 12-60 months (median 18 months). Survival curve was calculated with Kaplan-Meier method. The long-rank test was used to evaluate the influence of the following prognostic factors on survival: clinical stage (Ia, Ib), histological type, grading, time from the completion of primary treatment to the diagnosis of recurrence, and localisation of the relapsing tumor.

Results

The probability of survival of 3 and 5 years was 0.33 and 0.21 respectively. Both analyses prognostic factors – time to the diagnosis and localisation of the recurrence had a statistically significant influence of survival. The risk of death from the disease was significantly higher with extravaginal spread of the tumor and time delay of less than 1 year after completion of primary treatment (p<0.05).

Conclusion

The results of treatment, confirmed a very serious prognosis in this particular group of patients, with the use of presently available methods of treatment. Better methods of early detection of relapses and more effective treatment may contribute to the better survival of these high risk patients.
A 34 year-old nulliparous woman was referred to our center due to infertility with a history of irregular menses. She had had a gastric bypass surgery due to obesity at 30 years. On physical examination, Body Mass Index was 25 Kg/m2.

Method

At Ultrasound examination showed up a thickened endometrium (25mm). A hysteroscopic exam was then decided and revealed an endometrial polyp with increased atypical vessels on its surface, the remaining endometrium showed a normal proliferative endometrial pattern. Complete hysteroscopic polypectomy was performed; pathological examination of the surgical specimen confirmed an endometrial endometrioid carcinoma (EC) grade 1.

Myometrium invasion or any extra uterine lesions were not identified at Ultrasound Examination and Magnetic Resonance Imaging. Pre-treatment serum CA-125 was negative.

Results

Given her decision to pursue fertility-sparing treatment, was treated with Megestrol Acetate 160 mg/day for 6 months. After that, hysteroscopy and endometrial biopsy were performed, which resulted negative showing complete remission of EC.

Patient became pregnant by in vitro fertilization. She delivered by elective cesarean at 33.1 weeks due to lymphedema for malabsorptive syndrome and inferior vena cava compression syndrome, getting a live born baby. The placenta showed no disease at histology. Four months after delivery, laparoscopic hysterectomy with bilateral salpingectomy was performed. Definitive histology was negative for malignancy. At one-year follow-up, no recurrence was found. Conclusion

The conservative approach of early endometrial cancer with high-dose progesterone therapy can be considered acceptable management in premenopausal women who wish to preserve their fertility. However, close follow-up is required and hysterectomy is the definitive treatment.
Aim of this study was to rate the misdiagnosis between preoperative endometrial biopsy, intra-operative frozen section and final pathology in endometrial cancers. Secondary objective was to evaluate whether the failure in preoperative recognition of non-endometrioid endometrial cancers (NE-EC) impacts the surgical planning and the oncological outcomes.

Method

A multicenter retrospective study was conducted in patients with histological diagnosis of endometrial cancer who underwent surgical staging between 2011 and 2016. The concordance rate and the Kappa Cohen coefficient were calculated to assess the correlation between endometrial biopsy or frozen section and final pathology concerning the histological type.

Results

295 patients were enrolled, 226 were endometrioid carcinomas and 61 non-endometrioid at final pathology. The concordance rate between pre-operative and final pathology for NE-EC and the Kappa Cohen coefficient were 83.33% and 0.6203 (IC 95% 0.5004-0.7402), respectively. 24 out of 61 (39.34%) NE-EC were preoperatively misdiagnosed. The frozen section was performed in 86 patients (29.15%). The concordance rate between frozen section and final pathology for NE-EC was 80% and the Kappa Cohen coefficient was 0.391 (IC 95% 0.267-0.456). In patients with non-corresponding and corresponding histology, the surgical procedures were similar, and the 5-year overall survival and the disease free survival were not statistically different, (73% vs. 63.8%; p=0.9) and (32% vs. 65%; p=0.18) respectively.

Conclusion

Pre-operative and intra-operative histotype assessment do not reliably forecast final pathology in endometrial cancers and therefore may not be the optimal determinant for surgical and therapeutic planning. In our study, the failure to identify preoperatively NE-EC did not affect oncological outcomes.
ENDOMETRIAL CANCER

ESGO7-0545

ULTRASOUND CHARACTERISTICS OF ENDOMETRIAL CANCER AS DEFINED BY THE INTERNATIONAL ENDOMETRIAL TUMOR ANALYSIS (IETA) CONSENSUS NOMENCLATURE- A PROSPECTIVE MULTICENTER STUDY


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Aims

To describe the sonographic features of endometrial cancer in relation to stage, grade, and histotype using the IETA terminology.

Method

Prospective multicenter study on 1714 women with endometrial cancer undergoing a standardized transvaginal grayscale and Doppler ultrasound examination by an experienced ultrasound examiner using a high-end ultrasound system. Clinical and sonographic data were entered into a web-based protocol. Sonographic characteristics according to IETA were compared with outcome of hysterectomy, i.e. tumor stage, grade, and histotype.

Results

After excluding 176 women (no or delayed hysterectomy, final diagnosis other than endometrial cancer, or incomplete data), 1538 women were included in our statistical analysis. Mean age was 65 years (SD, 10.5), and mean BMI 30 (SD 7.1), 1378 (89.7%) women were postmenopausal, and 1296 (84.2%) reported abnormal vaginal bleeding. Grayscale and color Doppler features changed with increasing grade and stage. High-risk tumors (stage 1A, grade 3 or non-endometrioid or > stage 1B) were less likely to have regular endometrial myometrial border (difference of -23%, 95% CI -27 to -18%), whilst they were larger (mean endometriatal thickness; difference of +9mm, 95% CI +8 to +11mm), more frequently had non-uniform echogenicity (difference of -10%, 95% CI -15 to -5%), the multiple, multifocal vessel pattern (difference of +21%, 95% CI +16 to +26%), and a moderate or high color score (difference of +22%, 95% CI +18 to +27%), than low-risk tumors.

Conclusion

Grayscale and color Doppler ultrasound features of endometrial tumors vary by grade and stage. This knowledge may improve preoperative ultrasound discrimination between low and high-risk cancer.
CLINICAL SIGNIFICANCE OF CLASSIFICATION BETWEEN G1 AND G2, IN UTERINE BODY ENDOMETRIOID ADENOCARCINOMA

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Aims

Although uterine body endometrioid adenocarcinoma (EMA) is usually classified into three grades by the degree of differentiation; high (G1), intermediate (G2), and low (G3), recommended management for G2 is the same as G1 in both Japanese and ESGO Guidelines. The aim of this study is to evaluate the necessity to distinguish G2 from G1 in EMA.

Method

We retrospectively reviewed medical records of 365 patients with EMA (G1: 281, G2: 84) treated at our hospital from 2005 to 2013. Clinicopathological features and prognosis were analyzed.

Results

Median age of G1/G2 patients was 55/59 years-old, and stage distribution was 235/15/30/1 and 55/10/17/2 in stage I/II/III/IV (FIGO 2008), respectively. G2 patients had higher risk for recurrence (high risk in Japanese Guideline or high/advanced/metastatic in ESGO Guideline) (34.5% vs. 16.4%, p=0.0006), and thus underwent adjuvant treatment more frequently (58.3% vs. 35.9%, p=0.0004) compared to G1. The median follow-up period of all patients was 61 months. Overall survival (OS) in G2 was significantly worse than G1 (p=0.0086, 5Y-OS: 89.9% vs. 97.1%). Among the pathological risk factors, significant differences in frequency between G2 and G1 were observed in deep muscular invasion (>1/2), lymphovascular space invasion, cervical involvement, and lymph node metastasis. On multivariate analysis, positive peritoneal cytology and to be high-risk for recurrence were the only independent predictors of unfavorable OS.

Conclusion

Although G2 had poor prognosis compared to G1, the grade itself may not be the cause of worse prognosis. We could not find the reason to distinguish G2 from G1 in management.
ENDOMETRIAL CANCER

ESGO7-1058

ACCURACY OF 2D AND 3D ULTRASOUND IMAGING IN THE ANATOMICAL EVALUATION OF TUMOR INVASION IN ENDOMETRIAL CANCER

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Aims

Prognosis in early stages endometrial cancer depends on histological type and grading, depth of myometrial invasion, cervical involvement and lymph-node metastases. Prognostic factors are acquired by surgical staging with hysterectomy and bilateral salpingo-oophorectomy. Pelvic and para-aortic lymphadenectomy are recommended for patients at risk for lymphatic dissemination on the basis of intraoperative findings, in particular the depth of myometrial invasion. Performing a lymphadenectomy has specific risks such as lymphedema, lymphocele or urinary complications. Thus the need of performing lymphadenectomy only when strictly necessary.

To evaluate if the use of a standardized diagnostic protocol adopting 2D and 3D ultrasound imaging could improve the accuracy of intraoperative frozen section of the uterine sampling detecting the depth of myometrial invasion

Method

2D ultrasound and frozen section performance was prospectively evaluated on 50 consecutive patients diagnosed with endometrial cancer (tumor dimension, depth of myometrial invasion and tumor free margin) Then 2D - 3D US examination performed by a gynecologic oncologist with expertise in ultrasounds was applied in a protocol designed to guide the anatomopathologist to the best cut on frozen section. This procedure aimed to improve the sensitivity and specificity of the pre and intraoperative examination

Results

A preoperative standardised protocol adopting 2D-3D US giving accurate information on anatomical localization of the tumour to anatomopathologist results in improving the performance of the intraoperative frozen section (sensitivity from 67% to 100%, specificity 93% to 100%, PPV from 83% to 100%, VPN from 83% to 100%)

Conclusion

This leads to a better management of patients with endometrial cancer.
ENDOMETRIAL CANCER

ESGO7-1297

ENDOMETRIAL CANCER: IS THERE A BETTER WAY TO EVALUATE MYOMETRIAL INVASION WITH TVUS 2D?

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Aims

to compare the diagnostic performance of four different TVUS 2D methods to study the myometrial invasion in endometrial cancer.

Method

This prospective single Institution study was performed on 42 endometrial cancer patients between Jan/2015 and Dec/2016. Myometrial invasion (<50% vs > or = 50%) was estimated in each patient, using four TVUS 2D different methods: IETA d/D, subjective assessment, endometrial thickness (considered positive if > or = 18 mm) and myometrial-endometrial junction (considered positive if interrupted or not defined). The concordance between the TVUS 2D and pathological findings has been calculated and reported as sensitivity, specificity, PPV, NPV and k Cohen’s.

Results

Median age was 66 years, 38 patients had EC, 4 had NEC; 13/42 patients had myometrial invasion > or = 50% at histopathology. The results are shown in Table 1.

Table 1: sensitivity, specificity, PPV, NPV and k Cohen’s of four different TVUS 2D methods

<table>
<thead>
<tr>
<th>Method</th>
<th>Sensitivity (95% C.I.)</th>
<th>Specificity (95% C.I.)</th>
<th>PPV (95% C.I.)</th>
<th>NPV (95% C.I.)</th>
<th>k Cohen’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>IETA d/D</td>
<td>67% (0.41-0.93)</td>
<td>66% (0.48-0.83)</td>
<td>44% (0.2-0.67)</td>
<td>83% (0.67-0.98)</td>
<td>0.29 (0.007-0.57)</td>
</tr>
<tr>
<td>Subjective assessment</td>
<td>69% (0.44-0.94)</td>
<td>69% (0.52-0.86)</td>
<td>50% (0.27-0.73)</td>
<td>83% (0.68-0.98)</td>
<td>0.34 (0.064-0.63)</td>
</tr>
<tr>
<td>Endometrial thickness</td>
<td>54% (0.27-0.81)</td>
<td>68% (0.51-0.85)</td>
<td>44% (0.19-0.68)</td>
<td>76% (0.59-0.93)</td>
<td>0.21 (0-0.51)</td>
</tr>
<tr>
<td>Myometrial-endometrial junction</td>
<td>80% (0.55-1)</td>
<td>71% (0.52-0.91)</td>
<td>57% (0.31-0.83)</td>
<td>88% (0.73-1)</td>
<td>0.46 (0.19-0.72)</td>
</tr>
</tbody>
</table>

the evaluation of the myometrial-endometrial junction interruption has shown the best diagnostic performance and could be an interesting modality to foresee the depth of myometrial invasion. The study is ongoing to increase the sample size and to substantiate this preliminary observation.
ENDOMETRIAL CANCER

ESGO7-0189

ENDOMETRIAL CARCINOMA IN A SINGLE HORN OF A BICORNUATE UTERUS: A CASE REPORT

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Aims

In the presence of bicornuate uterus, a bilateral endometrial biopsy should be performed in order to reduce the risk of delayed or missed diagnosis.

The possibility of existence of a separate uterine cavity should always be considered when endometrial cancer is clinically suspected but pathology fails to confirm the diagnosis.

Method

we discuss the diagnosis and the management of endometrial carcinoma in a single horn of bicornuate uterus in a 64 years old woman as a case report

Results

The gross examination of the uterus revealed a bicornuate uterus with a greater horn of 12x9x8 cm and a smaller horn of 10x3 cm (Figure 2). The cavity of the greater horn showed a neoplastic growth of 10 cm with infiltration of about 1,8 cm of the myometrium from whole thickness of thickness of 1.9 cm. while the other horn was free of tumor tissue.

The microscopic examination of the uterus revealed G2 endometrioid adenocarcinoma of the endometrium of the greater horn with infiltration of more than 50% of the myometrium.

Conclusion

The management of a case of bicornuate unicollis uterus with endometrial carcinoma in only one horn is the same as patients with endometrial cancer in single uterus and depends mainly on stage and histological grade of the tumor.

The possibility of existence of a separate uterine cavity should always be considered when endometrial cancer is clinically suspected but pathology fails to confirm the diagnosis. This points out the importance of a careful physical examination and radiographic evaluation in such cases.
Aims

The aim of study is to estimate the accuracy of hysteroscopy in predicting different endometrial histopathology.

Method

The study included 207 women aged 21 to 79 years (mean aged 41.06) with or without abnormal uterine bleeding. They underwent diagnostic hysteroscopy and endometrial biopsy. Endometrial polyps and hyperplasia were considered abnormal hysteroscopic findings. Sensitivity, specificity, and negative (NPV) and positive (PPV) predictive values of hysteroscopy were defined to assess hysteroscopic accuracy in estimating pathologic conditions. The hysteroscopy diagnosis was compared with histology at the end of the study.

Results

Histologically endometrial polyps were found in 170 (82%), and hyperplasia in 34 (16%) patients. Hysteroscopy showed sensitivity – 92.42%, specificity – 33.33%, NPV – 16.67%, and PPV – 96.83% in predicting abnormal histopathology of endometrium. Highest accuracy was in diagnosing endometrial polyps, with sensitivity, specificity, NPV, and PPV of 98.8%, 90.24%, 94.87%, and 97.62%, respectively; the worst result was in estimating hyperplasia, with respective figures of 59.38%, 98.86%, 93.01%, and 90.48%. All failures of hysteroscopic assessment resulted from poor visualization of the uterine cavity or from underestimation or overestimation of irregularly shaped endometrium.

Conclusion

Hysteroscopy is recommended for diagnosis and treatment of focal lesions like polyps or uterine fibroid. But endometrial sampling is mandatory in all hysteroscopies showing unevenly shaped and thick endometrial mucosa or an anatomically distorted uterine cavity, and when intrauterine visualization is less than optimal.
ENDOMETRIAL CANCER

ESGO7-0341

MALIGNANT POTENTIAL OF ENDOMETRIAL POLYPS IN PREMENOPAUSAL AND POSTMENOPAUSAL WOMEN

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Aims

The aim of this study is to evaluate the risk of premalignant and malignant changes in endometrial polyps with or without symptoms.

Method

The study is single-center retrospective (years 2014–2016) and enrolled 355 women with histologically diagnosed endometrial polyp. The patients are aged 20 to 80 years (mean age 45.16). All patients included in the study underwent diagnostic hysteroscopy and subsequent endometrial biopsy or dilation and curettage.

Results

Endometrial polyps with premalignant and malignant amendments were distributed as follows: atypical hyperplasia – 8 (2.25%); complex hyperplasia – 27 (7.6%), simple hyperplasia – 113 (31.83%) and endometrial carcinoma – 12 (3.4%). The average age of patients in group with premalignant changes in the endometrial polyps was 43.18 years, and that in the group with malignant changes was 60.8. Ten (10/83.33%) women with endometrial carcinoma were in menopausal status and in 9 (90%) of them there were symptoms like abnormal uterine bleeding.

Conclusion

The age and menopausal status are risk factors which increases the risk of malignant changes in endometrial polyps.
SENTINEL LYMPH NODE BIOPSY WITH DUAL LABELING TECHNIQUE IN SURGICAL MANAGEMENT OF EARLY-STAGE ENDOMETRIAL CARCINOMAS

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Aims

The aim of our study is to analyze the technique of sentinel lymph node (SLN) biopsy for node status evaluation in the management of early stage endometrial carcinoma in order to avoid unnecessary full lymphadenectomy and tailoring adjuvant therapy.

Method

An observational prospective single-center study was carried out between January 2015 and March 2017. Dual labeling mapping was performed in patients with early endometrial cancer diagnosis: lymph node mapping with lymphoscintigraphy after Tc99 cervical injection the day before surgery and isosulfan blue injected cervically on the day of surgery. SLN detection was performed intraoperatively with gammaprobe and direct visual inspection of blue dye. Intraoperative histological examination of myometrial invasion and SLNs was made and pelvic ± para-aortic lymphadenectomy was carried out according surgical indication. We made statistical analysis of detection rate and negative predictive value (NPV) of SLN biopsy.

Results

30 patients underwent surgery with total SLN rate detection of 90% (27 patients) and bilateral rate detection of 43,3% (13 patients). The mean number of SLN per patient was 2.47±1.6 and the most common location was external iliac vessels, 48,15% (13 patients), just one case (3,3%) was isolated in para-aortic area. 96,3% SLNs were negative for malignancy, with a NPV of 100%, only one case was positive. Finally, 90% of carcinomas were endometrioid types and 10% were serous papillary type with lymphovascular invasion in 6,7% of cases.

Conclusion

Sentinel lymph node biopsy seems to be a feasible alternative to systematic lymphadenectomy given its high NPV and detection rate.
ENDOMETRIAL CANCER

ESGO7-0191

FERTILITY-PRESERVING MANAGEMENT OF EARLY STAGE ENDOMETRIAL CANCER: ONCOLOGICAL AND REPRODUCTIVE OUTCOME

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Aims

Assess efficacy of progestins as fertility-sparing treatment of early endometrial cancer and to evaluate the oncological and reproductive outcome in a South East Asian population.

Method

This is a retrospective cohort study in a large tertiary institution in Singapore. We identified women below 40 years, with clinically presumed stage IA grade 1 and selected grade 2 endometrial cancer (The two patients were keen to try fertility preservation treatment and were adequately counseled) who were offered progestin therapy for fertility-sparing management at our center between 2010 and 2015. We retrieved their medical record and ran analyses for association of patient characteristics with treatment outcome.

Results

Forty-three patients with grade 1 tumors and two patients with grade 2 tumors were identified. Fourteen were either lost to follow up, sought treatment elsewhere, or requested for definitive treatment. Thirty-one were included in the analysis. Twenty-one (67%) achieved complete remission at median time of 5 months (2-25). Nine patients (29%) did not respond to treatment and underwent hysterectomy (median time: 9 months). Both patients with grade 2 tumors achieved remission. The overall probability of remission increases steeply for the first 9 months, then plateaus and gradually increases after 15 months. Three patients had subsequent pregnancies. Ten patients (45%) patients recurred at a median time of 17 months (6-64) after remission. Morbidly high BMI was associated with increased recurrence risk (p<0.05).

Conclusion

With aggressive monitoring, high dose progestin appears to be a safe therapy for early endometrial adenocarcinoma in women 40 years old or younger wishing to preserve fertility.
A COMPARATIVE STUDY OF TWO FOLLOW-UP STRATEGIES FOLLOWING TREATMENT OF ENDOMETRIAL CANCER BETWEEN AN ITALIAN AND A UK CENTRE

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Aims

To date there are no studies demonstrating survival advantage in endometrial cancer (EC) with intensity of follow-up (FU). The objective of this study was to compare PFS and OS in EC patients treated and followed-up in two European tertiary centers, each with markedly different FU protocols.

Method

This retrospective study included consecutive patients treated for EC 2005 to 2010, with 5-years of FU. FU in the Italian group (Genoa) included examination, vault cytology, CA125, CT and ultrasound scans at predefined intervals regardless of symptoms. In the UK group (Gateshead), FU included examination at decreasing time intervals with symptom-directed imaging.

Results

907 patients were surgically treated for EC 2005-2010. There were 61(10.9%) recurrences in the UK group and 24(8.0%) in the Italian group. In the UK group, 45(73.8%) recurrences were symptomatic with confirmation on examination in 14(22.9%) cases and radiologically in 31(50.8%). 16 cases were asymptomatic, of which 4(25.0%) were detected on examination and 12(75.0%) as an incidental finding on unrelated imaging. In the Italian group, 6(25.0%) cases were symptomatic. Of the 18(75.0%) asymptomatic cases, 2(11.1%) were detected following examination, and 7(38.9%) with pre-planned imaging. There was no survival advantage observed in the patients diagnosed using intensive FU in comparison to the less intense UK based FU.

Conclusion

This observational study suggests that early diagnosis of asymptomatic recurrence has no significant survival advantage. Structured FU interview and clinical assessment is likely to trigger appropriate and timely imaging. Initial evaluation suggests that there are significant health service costs associated with intensive FU.
ENDOMETRIAL CANCER

ESGO7-1361

ACCURACY OF PREOPERATIVE ASSESSMENT BY CT SCAN IN HIGH GRADE NON ENDOMETRIOID ENDOMETRIAL CANCERS

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³Asst Santi Paolo E Carlo, Obstetrics and Gynaecology, Milan, Italy

Aims

To analyse accuracy of the preoperative CT scan assessment in patients with high grade non endometrioid endometrial malignancy.

Method

From a prospective collected database, we retrieved clinical and histological data on patients undergone full surgical staging (hysterectomy, bilateral salpingo-oophorectomy, pelvic lymphadenectomy and infracolic omentectomy) between 2010 and 2016. Patients were included in the study if they had high grade endometrial serous and clear cell cancer and endometrial carcinosarcoma. Outcomes were accuracy, sensibility and specificity of preoperative CT scan for omental and nodal involvement.

Results

In the study period, among 55 patients with high grade non endometrioid malignancies of the endometrium 25 (45%) were serous, 12 (22%) were clear cell and 18 (33%) were carcinosarcoma histotypes. Patients and surgical characteristics are details in table 1 and 2. Surgical staging by CT scan assessment in table 3. Based on the final histology, 17 patients out of 55 (31%) were upstaged. One patient (1.8%) was found with microscopic (<2mm) omental implants among CT scan stage I cases. Ten patients (18%) were found with metastasis into the lymph-nodes. Accuracy of CT scan on nodal status was 80% while on omental status was 94%.

Conclusion

In patients with high grade non endometrioid malignancies of the endometrium CT scan shows a high accuracy on omental assessment and a low accuracy is confirmed on nodal status. The rate of omental disease is very low in patients with preoperative CT scan stage I and therefore omentectomy seems unnecessary. To the contrary, pelvic lymphadenectomy has a significant role.
ENDOMETRIAL CANCER

ESGO7-1103

MOLECULAR AND CLINICOPATHOLOGICAL CLASSIFICATION OF HIGH RISK ENDOMETRIAL CANCER (EC) TREATED WITH CONCURRENT CHEMORADIATION THERAPY (CCT)

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8Institut Català d’Oncologia. IDIBELL, Clinical investigation Unit, L’Hospitalet de Llobregat-Barcelona, Spain
9Institut Català d’Oncologia-Hospital Duran i Reynals. IDIBELL, Radiation Oncology, L’Hospitalet de Llobregat-Barcelona, Spain

Aims

To evaluate the outcome of high risk EC treated with CCT and its correlation with a surrogated molecular classification.

Method

Forty-nine patients (pts) treated from 2011 to 2016 were included in a prospective database. Pts were treated with cisplatin with pelvic external beam radiotherapy (RT), plus brachytherapy; followed by paclitaxel and carboplatin. The molecular classification into the 4 TCGA groups (POLE mut, MSI, CN-low, CN-high/serous-like) was performed in 38 pts using a surrogate classification: POLE mutations (detected by Sanger), and immunohistochemistry for p53 and MMR (as surrogate markers for TP53 mutations and MSI).

Results

Pts median age was 67yo; Endometrioid pathology in 59%, serous 20%; up to 73% grade 3; and FIGO Stage III in 82%. With a median follow-up of 39 months, 30% of pts experienced metastatic relapse. 3-year overall survival (OS) was 80%, and 3-year progression free survival was 74%.

Pts were molecularly classified as: 0% POLE mut, 13% CN-low, 37% MSI and 50% CN-high. CN-low present an 3-y OS of 100%, MSI of 82% and CN-high of 67%. No statistically significant differences were found (low number of events and pts). It is remarkable the survival difference between endometrioid and serous tumors in the CN-high group (86% vs 50%, respectively).

Conclusion

CCT followed by CT is an effective adjuvant therapy in high risk EC pts with an acceptable toxicity. Molecular prognostic classification has shown a big proportion of patients in MSI and CN-high groups, with known worse prognosis. Morphologic differentiation between endometrioid and serous carcinomas in CN-high hold prognostic implications.
ENDOMETRIAL CANCER

ESGO7-0996

ROBOT-ASSISTED MANAGEMENT OF APPARENT EARLY-STAGE ENDOMETRIAL CANCER: THE BELGIAN EXPERIENCE

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⁵AZ Klina, Department of Obstetrics and Gynecology, Brasschaat, Belgium

Aims

We report the Belgian experience of endometrial cancer management with robotic-assisted laparoscopy.

Method

A retrospective, multicenter, descriptive study including patients with presumed early stage endometrial cancer surgically treated by robot-assisted laparoscopy between 2007 and 2016. All patients were treated according to local policies and had a total hysterectomy with bilateral salpingo-oophorectomy with or without lymph node dissection. Operative and postoperative variables were measured to assess the feasibility and safety of the procedure. Follow-up data and oncological outcomes were collected.

Results

Four hundred sixty-five patients were included. The median age was 68 years and the median BMI was 30 kg/m2. Histology types were endometrioid (78%), serous (11%), carcinosarcoma (3%), mixed (6%) and mucinous (1%). Nodal staging was performed in 274 patients (58%). The median nodal counts were 21 for pelvic and 10 for para-aortic areas. The median estimated blood loss was 75 ml. Median operative times were 170 min (skin to skin) and 122 min (console time). We report 3 conversions to laparotomy (0.6%). Sixteen % of the patients developed at least one post-operative complication graded according to Clavien (Clavien I-II: 17%, Clavien III: 4.7%, Clavien IV-V: 0.8%). There was one perioperative death (necrotizing fasciitis). The median hospital stay was 3 days. After a median follow-up of 21 months, the disease-free survival was 88.8%.

Conclusion

This large series supports the feasibility and safety of robotic surgery in apparent early stage endometrial cancer patients. The low complication and conversion rates associated with the favorable oncological outcomes support its use in this indication.
Aims

To evaluate in routine practice ESMO-ESGO-ESTRO guidelines which recommended a second staging surgery (SSS) to perform a para-aortic (+/- pelvic) lymphadenectomy in case of high risk endometrial cancer operated by only a radical hysterectomy.

Method

At Gustave Roussy, from 2010 to 2014, 55 patients had a hysterectomy with a diagnosis of high risk endometrial cancer.

Results

Median age and BMI were respectively 63 years (53-74) and 26 kg/m² (23-30). Performance status was 0 (n=37), 1 (n=16), 2 (n=2). Twenty-four patients had a SSS with a number’s median of para-aortic nodes of 18 (12-14). Six (25%) patients had at least one metastatic node and received radiotherapy with extension field in para-aortic area and adjuvant chemotherapy. We used systematically a laparoscopic approach (extraperitoneal approach in 87%). One patient required a conversion by laparotomy for a vascular injury. No major postoperative morbidity occurred. Twenty-one patients didn’t have a second staging surgery for the following reasons: age> 70 years (n=7), comorbidities (n=3), initial surgery’s delay (n=1), previous abdominal surgery (n=4), poor medical status (n=2), patient’s choice (n=1), combined reasons (n=10). Adjuvant treatment consisted on radiotherapy (n=44), brachytherapy (n=48) and chemotherapy (n=19). Among the 24 patients with a SSS, 23 (96%) received the complete adjuvant treatment whilst 8 patients (26%) of the 31 patients without SSS stopped the adjuvant treatment due a toxicity (P=.03).

Conclusion

Due to change of management, SSS via a laparoscopic approach should be considered in high risk endometrial cancer in light of age, comorbidities, BMI, medical status and previous abdominal surgery.
ENDOMETRIAL CANCER

ESGO7-0376

ADJUVANT CHEMOTHERAPY MAY NOT BE NECESSARY FOR LOW-INTERMEDIATE RISK ENDOMETRIAL CANCER

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Aims

Adjuvant chemotherapy has been recommended for patients with intermediate-risk endometrial cancer (EC) according to the Japan Society of Gynecologic Oncology guidelines; however, this is controversial. The purpose of this study was to investigate the necessity of chemotherapy in patients with intermediate-risk EC in Japan.

Method

We performed a retrospective analysis of 546 EC patients surgically staged from 1A to 3C. Patients with intermediate risk were divided into low-intermediate risk (LIR) and high-intermediate risk (HIR) groups, as indicated in the table. Adjuvant chemotherapy was administered to the HIR and high-risk groups. The independent prognostic risk factors were investigated using multivariate analysis and the relapse rates between the LIR and low-risk groups were compared.

Results

Five (2.2%) out of 228 patients in the low-risk group, 8 (9.1%) out of 88 patients in the intermediate-risk group, and 60 (26.8%) out of 230 patients in the high-risk group relapsed. Lymph node metastasis, tissue type (type 2), muscle invasion (≥1/2), and positive cytology of ascites were revealed as independent prognostic factors. Two (5.9%) out of 34 patients in the LIR group and 6 (11.1%) out of 54 patients in the HIR group relapsed. There was no significant difference in relapse rates between the LIR and low-risk groups.

Conclusion

LIR EC patients may not require adjuvant chemotherapy.

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LIR | HIR | HIR | HIR | HIR
ENDOMETRIAL CANCER

ESGO7-0639

LOW GRADE ENDOMETRIAL STROMAL SARCOMA : REVIEW OF 10 CASES
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Aims

Endometrial stromal sarcoma (ESS) is a rare malignant tumor of the endometrium, occurring among premenopausal women. We conducted a retrospective study in order to evaluate the clinical behavior and management outcome of low-grade endometrial stromal sarcoma (LGESS).

Method

From October 2000, to March 2013, 10 patients with histologically proven LGESS in the department of surgical oncology of Salah Azaiez institution, Tunis-Tunisia, were included in this analysis. Demographics, pathology, treatment, time to recurrence, salvage therapy and survival information were reviewed retrospectively.

Results

The median age was 43 years. The most common presenting symptoms were pelvic pain and abnormal vaginal bleeding. Diagnosis was made through curettage in only one patient. Two patients were diagnosed after simple hysterectomy that took place in another department and they were sent to our institution for recurrent disease. Four patients were diagnosed at FIGO stage I. All the patient underwent surgical treatment. Adjuvant therapy was administrated in five cases. The median follow-up period was 48 months. Three patients had disease recurrence.

Conclusion

Surgical treatment not preserving ovarian function is mandatory to decrease the risk of recurrence compared with treatment sparing the ovaries.
ENDOMETRIAL CANCER

ESGO7-0728

CANCER OF THE ENDOMETER UTERUS LOCALLY ADVANCED EXPERIMENT OF MEDICAL ONCOLOGY ALGIERS

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¹center pierre marie curie algiers, medical oncology, algiers, Algeria

Aims

the goal of this work for watch that the effective head end in the cancer of the endometer, remains the surgery and the radiotherapy the chemotherapy used in the advanced stages but its effectiveness is poor

Method

we used the data of the files of our patients, attacks of cancer of the endometer, we use the parameters (old, standard histological, stage, treatment received initially)

We bring back a series of 39 patients treated for cancer of endometer during period (2011-2016)

The number of patients diagnosed with a cancer of the endometer during this period is of 54 but only 39 files could exploited either 72%, the median age is 57 years (28-79), and majority was at the stage IVB 48% (19/39)

Results

The majority of our patients profited from a surgical treatment, Colpo-hysterectomy extended to the distal parameter with pelvic and lomboaortic lymphadenectomy soit 79%

The histological type most frequent is the adenocarcinominist epidermoïde, 51% (20/39). With a majority of Rank 2.

The radiotherapy has was indicated only at 28%, The patients treated by chemotherapy 41% (16/39), with Paclitaxel + Carboplatine

A complete answer to the treatments atonly 30% of the patients is (12/39).

41%(16/39), alive patients in remission, the average of survival : 25 months.

Conclusion

Our study shows that the cancer of the endometer uterus is diagnosed at a late stage, the surgical assumption of responsibility is satisfactory, the multidisciplinary access of the treatment enable us to have an acceptable average survival however an earlier diagnosis would make it possible to improve survival.
ENDOMETRIAL CANCER

ESGO7-1174

CHARACTERIZATION OF TUMOR INFILTRATING LYMPHOCYTES IN ENDOMETRIAL CANCER

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³Institut paoli calmettes, Anatomopathology, Marseille, France

Aims

There is a host immune response to the tumor cells by tumor infiltrating lymphocytes (TILs). These cells infiltrate many solid tumors like in melanoma or lung cancer, with different prognosis impact and development of new therapies. The aim of this study was to describe the TILs in endometrial cancer (EC) from a quantitative and functional point of view.

Method

We studied a prospective cohort of patients with endometrial cancer. All FIGO stage and histological type were included. Tumoral and normal endometrium was sampled from surgical hysterectomy, prior to any treatment. A peripheral blood was also obtained for each patient and mononuclear cells were extracted (PBMC). All samples were analyzed in flow cytometry.

Results

The CD45+ cells infiltrate significantly higher tumor tissue than in normal endometrium (p=0.0195). The tumor immune microenvironment presents more Treg cells (p=0.002), but less Natural Killer (NK) cells (p<0.001) than normal endometrium. In comparison to PBMC from the same patients, TILs have a different activation profile with higher PD1, TIM3 and OX40 surface expression.

Conclusion

Our study highlights more TILs in EC than in normal endometrial tissue. In term of functional activity, the immune response of TILs against tumor cells appears to decrease. An inversion of the TILs function, by immunotherapy, could be a new treatment for EC.
ENDOMETRIAL CANCER

ESGO7-0605

ANALYSIS OF ENDOMETRIAL CELLS OBTAINED BY VAGINAL TAMPONS DURING ANNUAL GYNAECOLOGICAL SURVEILLANCE IN WOMEN WITH LYNCH SYNDROME

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⁴University Medical Center Groningen, Gynecologic Oncology, Groningen, The Netherlands

Aims

Endometrial sampling is a common approach to screen women with Lynch syndrome (LS) for endometrial cancer. As this is an invasive and painful procedure, the aim of our study was to search for a less invasive alternative.

Objective: To analyse if endometrial sampling collected by a vaginal tampon in women with LS is of good quality and comparable to endometrial sampling as obtained by invasive endometrial sampling, during annual surveillance.

Method

In this prospective feasibility study, 25 women with LS or first degree relatives (FDR) who underwent repetitive annual gynaecological surveillance, including endometrial sampling, in the University Medical Center Groningen and in the Martini Hospital Groningen from January 2017 until now were included. Women were asked to insert a vaginal tampon 2-4 hours before surveillance. After removing the tampon, standard gynaecological surveillance including endometrial sampling was performed. Both samples were send to the Pathology department and evaluated independently by two pathologists. The quality of the endometrial sampling obtained by the tampon and by endometrial sampling were compared.

Results

At this moment, the preliminary pathology results of 13 women are available; we expect to have all the results of 25 women within three months. In the 13 collected procedures, all samples obtained with tampons were of good quality, although none contained endometrial cells.

Conclusion

Collection of endometrial cells using tampons in women with LS might not be possible, as these asymptomatic women are not shedding endometrial cells.
DIFFERENTIATING LOW-GRADE ENDOMETRIAL STROMAL SARCOMA AND UNDIFFERENTIATED ENDOMETRIAL SARCOMA BY USING MAGNETIC RESONANCE IMAGING

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²Chang Gung Memorial Hospital and Chang Gung University- Linkou Medical Center, Department of Pathology, Taoyuan City, Taiwan R.O.C.
³Chang Gung Memorial Hospital and Chang Gung University- Linkou Medical Center, Department of Obstetrics and Gynecology- Gynecology Oncology Research Center, Taoyuan City, Taiwan R.O.C.
⁴Chang Gung Memorial Hospital and Chang Gung University- Linkou Medical Center, Clinical Trial Center, Taoyuan City, Taiwan R.O.C.

Aims

Endometrial stromal sarcoma (ESS) is a rare uterine malignancy, with distinct prognosis between different subtypes. This study aimed to analyze the diagnostic value of magnetic resonance imaging (MRI) in staging and differentiating low-grade ESS (LGESS) from undifferentiated endometrial sarcoma (UES).

Method

We retrospectively reviewed 18 ESS patients who had pre-operative pelvic MRI in our institute from 2000 to 2016, including eight low-grade ESS (LGESS) and ten UES. Two radiologists independently evaluated imaging characteristics based on T1-, T2-, diffusion-weighted and contrast enhanced MRI. Statistic analysis included Chi-square and Mann-Whitney tests.

Results

T2 hypointense bands, marginal nodules, intratumoral nodules and worm-like intramyometrial nodules were found in both LGESS and UES. UES demonstrated significantly more extensive necrosis and feather like enhancement, as compared with LGESS (P < 0.05). MRI yielded good radiologic-pathologic correlation in terms of tumor size, necrosis, hemorrhage and extrauterine involvement (P < 0.05). Both LGESS and UES demonstrated diffusion restriction, but no statistic difference of apparent diffusion coefficients (ADC) value existed between the two subtypes.

Conclusion

Extensive necrosis and feather like enhancement on MRI aided in differentiating LGESS from UES.
ENDOMETRIAL CANCER

ESGO7-0969

SEARCH FOR RISK FACTORS FOR RECURRENCE IN INITIALLY LOW RISK ENDOMETRIAL CANCER: SOMATIC MUTATIONS AND HISTOPATHOLOGICAL CHANGES

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²University Bern, Institute of Pathology, Bern, Switzerland
³University Bern, DFKE, Bern, Switzerland

Aims

State of art for identifying patients at risk for recurrence is with the FIGO Staging and histopathological classifications. Evidence indicates that genetic mutations are involved in the development of endometrial cancer (EMCA) with approximately 90%. Whether any of these mutations are specifically related to recurrence of endometrial carcinomas is however not yet clear.

Method

The internal database of the University Hospital of Bern from 2002 to 2014 was reviewed retrospectively for patients with recurrent EMCA that was initially diagnosed as low risk. The histopathology was re-evaluated to confirm the low risk nature of the tumor and LVI, lower uterine segment involvement (LUI) and microcystic, elongated, and fragmented (MELF) were analyzed. Then laser capture microdissection was performed for DNA extraction. Somatic mutational assessment was performed using the qBiomarker Somatic Mutation PCR Array, endometrial cancer plate (Qiagen), which includes 84 sequence mutations.

Results

The combined presence of LVI and LUI indicates a highly significant risk for recurrence in a group of initially low-risk EMCA cases. The most common mutations occur in the CTNNB1, PTEN and the PIK3CA genes. These mutations are more present in tumor tissue with histopathological changes such as MELF and LVI. Only in one patient the same mutation were present in the primary tumor and recurrence.

Conclusion

LVI combined with LUI risk factors for recurrence in low risk EMCA. Mutations in CTNNB1, PTEN and PIK3CA could be detected, no correlation with the recurrence could be identified. However, they seem to be in correlation with histopathological changes.
ENDOMETRIAL CANCER

ESGO7-0075

EFFICACY OF ADJUVANT TREATMENT FOR STAGE IIIC ENDOMETRIAL CANCER: A SINGLE-INSTITUTION RETROSPECTIVE STUDY
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¹Kitasato University School of Medicine, Obstetrics and Gynecology, Sagamihara, Japan

Aims

Although chemotherapy has become generally used as an adjuvant treatment for stage IIIC endometrial cancer in Japan, the efficacy is not yet well evaluated. The aim of this study is to reveal the clinicopathological features of the patients with positive lymph nodes (LN+) and the efficacy of adjuvant treatment.

Method

Medical records of 349 patients with stage I to III endometrial cancer who underwent primary surgery with regional lymph nodes dissection at our hospital between 2005 and 2013 were retrospectively reviewed. Clinicopathological factors and prognosis of these patients, especially 50 LN+ patients, were analyzed.

Results

Median age was 58 years and number of stage IIIC1/IIIC2 patient was 33/17, respectively. Average number of removed pelvic and para-aortic lymph nodes was 19.4(2-44) and 7.5(1-26), respectively. Average number of positive nodes was 4.1(1-25). Forty-nine patients received adjuvant chemotherapy and 29 patients recurred. Sixteen patients recurred within one year from the completion of primary treatment. The major recurrence sites were regional LNs (N=17) and distant sites (N=15) (including multisite recurrence). Five-year overall survival (OS) was very poor in LN+ (48.8%) and the prognosis became worse as the number of LN+ is increased. Overall Survival was significantly worse in patients with positive cytology (p=0.0413, 5y-OS: 28.1% vs 55.6%) and with high risk factor for recurrence other than LN+ (p=0.0070, 5y-OS: 36.9% vs 90%).

Conclusion

Irrespective of adjuvant treatment, LN+ patients had poor prognosis. More effective adjuvant treatment may be necessary, especially for patients with positive cytology and/or high risk factor other than LN+. 
ENDOMETRIAL CANCER

ESGO7-1388

ENDOTHELIAL PROGENITOR CELLS (EPCS) AND CIRCULATING ENDOTHELIAL CELLS (CECS) IN PERIPHERAL BLOOD OF WOMEN WITH ENDOMETRIAL CANCER

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²Wroclaw Medical University, Oncology, Wrocław, Poland
³Polish Academy of Sciences, Institute of Immunology and Experimental Therapy, Wrocław, Poland

Aims

To analyze the number of endothelial progenitor cells (EPCs) and circulating endothelial cells (CECs) – as potential new markers of neoangiogenesis – in peripheral blood from endometrial carcinoma patients regarding the stage and grade of the malignancy.

Method

We studied 30 patients with endometrial cancer compared to control group of 28 women with non malignant diseases. The blood samples were taken perioperatively and labeled with monoclonal antibodies: anti CD31, anti CD45 for CECs and anti CD34, anti VEGFR2/KDR for EPCs. After incubation with fluorescent CytoCount beads all samples were calculated by flow cytometry. Analysis was supported by CellQuest software with the use of debris gates.

Results

The CECs numbers (CD31⁺, CD45⁻) were similar in both groups but EPCs numbers (CD34⁺, VEGFR2/KDR⁺) in the peripheral blood of women with endometrial carcinoma were significantly augmented as compared with those of control healthy women (Fig. 1). When patients were divided, according the grading, into G1 and G2 groups it appeared that augmented EPC numbers may be demonstrated only in G1 stage patients (Fig.2). When patients were divided, according to the stage into FIGO I and FIGO II groups difference in EPC number was found in patients with FIGO I (Fig.3).

Conclusion

We demonstrated that the general number of EPCs is significantly increased in peripheral blood from women with endometrial cancer what may be related with tumor neoangiogenesis. However we could not show such result referring to CECs and the correlation with tumor stage and grade. Further studies could clarify the subject.
THE EFFECT OF PATIENT-INITIATED FOLLOW-UP ON FEAR OF RECURRENCE AND HEALTH CARE USE: A RANDOMIZED TRIAL IN EARLY-STAGE ENDOMETRIAL CANCER

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Aims

To compare hospital-based follow-up with patient-initiated follow-up with regard to fear of recurrence (FCR) and health care use.

Method

Women treated for FIGO stage I low-intermediate risk endometrial cancer were included in this pragmatic randomized trial from four Danish departments of gynecology between 2013-2016. Participants allocated to the intervention had no schedule of follow-up visits, but were instructed in alarm symptoms that required examination and had direct access to the department of gynecology. FCR was measured using the Fear of Cancer Recurrence Inventory at 1, 3, 6 and 10 months follow-up. Difference in change in FCR was compared between the two groups using linear regression analysis. Number of cancer-related visits to general practitioner, private practicing gynecologist, and telephone contacts, and examinations at the department of gynecology were compared using Mann-Whitney U test.

Results

In total, 212 (69.1 %) women were randomized, and complete datasets were obtained for 156 (73.6 %) women. FCR improved in both groups from baseline to 10 months follow-up, though significantly more in the control group (difference 5.9, 95% CI: [-10.9; 0.9]). No differences in use of general practitioner, private practicing gynecologist, and telephone contacts were found between the two groups. Women in the intervention had significantly fewer examinations at the department of gynecology compared to the control group (19 vs. 139 visits, p < 0.01).

Conclusion

Hospital-based follow-up alleviates FCR more effectively than patient-initiated follow-up, though the estimated difference may not be of clinical importance. Patient-initiated follow-up is a relevant cost-reducing alternative to traditional follow-up.
ENDOMETRIAL CANCER

ESGO7-0595

PELVIC LYMPHADENECTOMY IN THE MANAGEMENT OF ENDOMETRIAL CANCER: A SERVICE REVIEW OF WALES' LARGEST TERTIARY CENTRE

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Aims

The 2015 Cochrane review which concluded the role of Pelvic lymphadenectomy (PLA) in intermediate & high risk early stage endometrial cancer (EC) is unclear means PLA in the management of endometrial cancer remains controversial. Standard practice includes external beam radiotherapy (EBRT) +/- brachytherapy (BT) in these cases. The South East Wales Gynaecological Oncology Centre (SEWGOC) guidelines include PLA for high risk EC, avoiding EBRT if nodes negative. Our aim was to undertake a service evaluation of PLA in high risk EC patients and whether EBRT was avoided in node negative patients.

Method

We conducted a retrospective review of patients referred to the SEWGOC whose treatment included surgery from 01/04/2013-31/03/2015 with SEWGOC guidelines on patient selection for PLA as the standard.

Results

292 patients had surgery for EC, 123 had PLA indicated, 113 underwent PLA. 2 year disease free survival was 76% with 2 year mortality 15%.

Post-operatively 77 patients had ≤ stage 2 disease and 36 ≥ stage 3 disease. Following PLA, 16 patients were up-staged & 9 were down-staged altering their management accordingly.

After PLA, 68 patients were intermediate/high risk of recurrence; 7 received EBRT & BT, 59 BT alone & 2 were not fit for adjuvant therapy. In the follow-up period there were no recurrences in the EBRT & BT group, 6 in the BT group & 1 in the patients who were unfit for adjuvant treatment group.

Conclusion

Adherence to the local SEWGOC guidelines is high and 90% of patients avoided EBRT as a result of having PLA.
ENDOMETRIAL CANCER

ESGO7-0185

CLINICOPATHOLOGIC CHARACTERISTICS OF DOUBLE PRIMARY ENDOMETRIAL AND COLORECTAL CANCERS IN SINGLE INSTITUTION

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Aims

To investigate clinicopathologic and genetic correlation between double primary endometrial and colorectal cancer related to Lynch syndrome in Korea, and to analyze the germline mutation in the DNA MMR genes of endometrial cancer.

Method

Thirteen patients who were pathologically proven endometrial and colorectal cancer between January 2005 and November 2016 in a single institution were enrolled. The medical records of these patients were retrospectively analyzed.

Results

Patients diagnosed with endometrial cancer precedent to colorectal cancer were 62%, and median interval between diagnosis of endometrial cancer and colorectal cancer was 5.3 years. Endometrioid adenocarcinoma was reported in 77% endometrial cancer patients and Non-endometrioid types were 3 cases. Endometrial and colorectal cancer was found at low uterine segment and right side colon in 3 and 2, respectively. The incidence of defined Lynch syndrome by clinical criteria based on family history(4/13) or MSI and IHC(6/13) was 77%. Three of them underwent genetic testing, and all revealed positive for pathologic germline mutation. Also, possible founder mutations in the DNA MMR genes of endometrial cancer in Korea were assessed among 21 germline mutation information from the present study and previous studies reviews. c.1757_1758insC mutation in MLH1 was found three times.

Conclusion

The present study suggests the clinicopathologic data for appropriate diagnosis for double primary cancer patients associated Lynch syndrome, and supports that double primary endometrial and colorectal cancer patients should be needed close genetic approach for Lynch syndrome. Moreover, possible founder mutations in Korean endometrial cancer patients were identified.
VENOUS THROMBOEMBOLIC COMPLICATIONS IN PATIENTS WITH CANCER CORPUS UTERI
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8Aalborg University Hospital, Department of Cardiology and Epidemiology/Biostatistics, Aalborg, Denmark

Aims

To estimate the risk of venous thromboembolism (VTE) in uterine cancer considering possible risk factors. We aim to clarify if minimally invasive surgery (MIS) is correlated with a lower risk of VTE compared to open surgery which thromboprophylactic recommendations are mainly based on.

Method

In a registry based nationwide cohort study data on patients with uterine cancer was retrieved from the nationwide Danish Gynaecological Cancer Database (DGCD). Data on VTE was extracted from the Danish National Patient Register. The National Population Register and the National Causes of Death Register hold information on vital status, date of birth and death including cause of death. Time to VTE was examined with cox proportional hazard models.

Results

We identified 7,067 patients with uterine cancer in DGCD diagnosed in the period 2005-2014.

Focusing on patients undergoing surgical treatment for uterine cancer (n=6330) we found a 30-day VTE incidence of 0.49% with open surgery (23/4651) and 0.48% (8/1679) with MIS (P=0.918). In a multivariable cox regression model we identified advanced disease and previous VTE as significant predictors of 30-day VTE risk. The 30-day hazard ratio for VTE following MIS did not show any significant difference compared to open surgery (HR 0.92, CI 0.41-2.05, P= 0.833).

Conclusion

The 30-day incidence of venous thromboembolism after surgery for uterine cancer was low overall (0.49%) and there was no difference in hazard ratios between MIS and open surgery.
Endometrial Cancer

ESGO7-1212

The MSKCC Nomogram is More Accurate in the Prediction of Overall Survival in a German Endometrial Cancer Patient Population Than the FIGO Staging System.

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²University Clinic of Mainz, Obstetrics and Gynaecology, Mainz, Germany
³University of Adelaide, Gynaecological Oncology, Adelaide, Australia

Aims

Nomograms have shown better discrimination and calibration values to predict overall survival (OS) compared to conventional staging systems for a number of tumours. We tested the Memorial Sloan Kettering Cancer Center (MSKCC) nomogram for the prediction of OS in endometrial cancer (EC) patients in our patient cancer population.

Method

493 (322 type I and 171 type II) EC patients who received primary surgical treatment at the Universitaetsfrauenklinik Freiburg between 1991 and 2011 were included and a dataset of 50 covariates was created. Cox regression analyses were performed to identify independent predictors of survival. Predicted survival was calculated using the nomogram calculator on https://www.mskcc.org/nomograms. Receiver operating characteristic (ROC) curves were created for the FIGO 1988, FIGO 2009 staging classification and for the MSKCC 1, 3 and 5 year-survival prediction models. The calculated area under the curve (AUC) values of predicted versus actual OS were compared.

Results

After a mean follow-up time of 100 months, 232 patients were reported dead (47 %). Independent predictors of survival in our population of EC patients were FIGO stage (1988 and 2009), positive cytology and positive resection margins (p < .01). The AUC values of the ROC curves were 0.66 (FIGO 1988), 0.64 (FIGO 2009), 0.79 (predicted 1-year OS), 0.79 (predicted 3-year OS) and 0.8 (predicted 5-year OS).

Conclusion

In this external validation, the FIGO classification showed a moderate and the MSKCC models showed a good accuracy in predicting OS in endometrial cancer patients. The MSKCC nomogram may be useful for a better patient stratification in clinical trials.
ENDOMETRIAL CANCER

ESGO7-0908

L1CAM AS RISK FACTOR FOR RECURRENCE IN STAGE I ENDOMETRIAL CANCER PATIENTS

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²University Hospital Ostrava, Dept. of Pathology, Ostrava, Czech Republic

Aims

Endometrial cancer is the most common gynecologic cancer in developed countries and the second most common gynecologic cancer worldwide. From clinical and epidemiological studies, a dualistic classification of endometrial cancers was proposed, namely type I and type II tumors, which have different patterns of molecular alterations that underlie their pathogenesis and clinical outcome. In general, prognosis of early-stage type I endometrial cancer is excellent, with a 10-year overall survival rate exceeding 80%. L1 cell adhesion molecule (L1CAM) expression has been implicated as risk factor for disease recurrence and risk of death in endometrial cancer type I.

Method

We conducted a retrospective single center study to determine expression of L1CAM by immunohistochemistry in 273 FIGO stage I endometrial cancer patients. All tumor specimens were endometroid adenocarcinoma.

Results

Total number of 273 patients with endometroid adenocarcinomas were included in the study. 84 women (30.8%) were rated as L1CAM-positive and 189 women (69.2%) were related a L1CAM-negative. Of these L1CAM-positive cancer patients 11.9 % recurred during follow-up compared with 4.23 % L1CAM-negative cancers (p-value = 0.03632).

Conclusion

L1CAM has been shown to be strong prognostic factor in FIGO stage I endometrial adenocarcinoma for disease recurrence.
ENDOMETRIAL CANCER

ESGO7-1229

ENDOMETRIAL STROMAL NODULE IN A WOMAN WITH ABNORMAL UTERINE BLEEDING AND ABDOMINAL PAIN: A CASE REPORT

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Aims

The endometrial stromal nodule constitutes a particularly rare tumor in pre- or postmenopausal women, who have undergone hysterectomy, due to intense symptoms, namely the abdominal pain and abnormal uterine bleeding. A case of a patient with endometrial stromal nodule is presented, emphasizing on the therapeutic strategy and the dilemmas regarding the management and her follow-up.

Method

The immunoprofile of endometrial stromal nodule practically matches that of an endometrial stromal sarcoma. [3,4,5] However, the need for precise identification and diagnosis is critical, since outcomes in patients with stromal sarcomas are significantly worse, compared to the often-excellent outcomes in patients presenting with stromal nodule.[18,19] This fact is evident when looking at the survival statistics; there is a 90% five year survival rate for stages I and II while the corresponding figures for stages III and IV, significantly decrease, reaching 50%.

Results

The diagnosis of endometrial stromal nodule is an exotic but realistic pathology for the female patient who presents with severe vaginal bleeding and abdominal pain. The therapeutic strategy is surgical. The most critical point, is the histopathology diagnosis, which has its pitfalls

Conclusion

Following surgery and diagnosis, a frequent follow-up including imaging assessments, is necessary. It is clear that patients diagnosed with endometrial stromal nodule have an excellent prognosis.
NOVEL ALGORITHM FOR DIAGNOSIS OF ENDOMETRIAL CANCER

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4National Institute of Biology, Department of Organisms and Ecosystems Research, Ljubljana, Slovenia
5Department of Pathology - Division of Obstetrics and Gynecology, University Medical Centre, Ljubljana, Slovenia

Aims

To evaluate the diagnostic and prognostic potential of preoperative serum levels of CA-125 and HE4 in endometrial cancer patients and control group of patients.

Method

Prospective case-control study of 133 women that underwent surgical treatment at the University Medical Centre Ljubljana (64 endometrial cancer patients, 69 control patients with prolapsed uterus or myoma). Serum levels of CA-125 and HE4 were determined with electrochemiluminescent specific assays.

Results

Concentrations of CA-125 and HE4 were significantly increased in case compared to control groups with p values of $2.67 \times 10^{-4}$ and $1.36 \times 10^{-7}$, respectively. With logistic regression analysis we built a diagnostic model that combines CA-125, HE4 and BMI with an AUC of 0.804, sensitivity of 66.7% and specificity of 84.6%. Serum levels of HE4 significantly differed when patients were stratified according to presence/ absence of deep myometrial invasion ($p = 0.001$, $AUC = 0.776$) or lymphovascular invasion ($p = 0.003$, $AUC = 0.810$). According to ESMO-ESGO-ESTRO guidelines we evaluated the prognostic value of CA-125 and HE4 in patients with grade 1 and 2 endometrioid endometrial cancer in whom lymphadenectomy can be omitted. HE4 significantly differed when these patients were stratified according to deep myometrial invasion (yes/ no) ($p = 3.39 \times 10^{-4}$). The median values of HE4 were higher in patients with lymphovascular invasion ($p = 0.06$) but this difference was not significant.

Conclusion

A model including preoperative levels of CA-125, HE4 and BMI has good diagnostic characteristics, while serum levels of HE4 have prognostic potential to stratify patients according to myometrial and lymphovascular invasion.
Aims

Since 66.8 % of patients with leiomyosarcoma (LMS) receive an inadequate surgery, the development of a preoperative LMS-risk-score is an imperative.

Method

We calculated the LMS-risk in presumed LM by a logistic regression model for a binary response variable based on clinical findings from 670 LM and 231 LM\textsubscript{S} from the German Clinical Competence Centre for Genital Sarcomas and Mixed Tumours and cooperating departments.

Results

Table 1. LMS-risk-points calculated by a logistic regression model

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Points</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional bleeding premenopause</td>
<td>1</td>
<td>1.19</td>
</tr>
<tr>
<td>Postmenopause</td>
<td>5</td>
<td>4.70</td>
</tr>
<tr>
<td>Suspicious sonography</td>
<td>3</td>
<td>3.07</td>
</tr>
<tr>
<td>Rapid growth of uterus/tumor</td>
<td>1</td>
<td>0.83</td>
</tr>
<tr>
<td>Tumor Ø ≥ 5 - &lt; 7 cm</td>
<td>2</td>
<td>1.01</td>
</tr>
<tr>
<td>Tumor Ø ≥ 7 - &lt; 9 cm</td>
<td>2</td>
<td>1.85</td>
</tr>
<tr>
<td>Tumor Ø ≥ 9 - &lt; 11 cm</td>
<td>3</td>
<td>2.17</td>
</tr>
<tr>
<td>Tumor Ø ≥ 11</td>
<td>3</td>
<td>3.21</td>
</tr>
<tr>
<td>Postmenopause ≥ 52 - &lt; 62 years</td>
<td>-1</td>
<td>-1.40</td>
</tr>
<tr>
<td>Tumor related symptoms without bleeding disturbances</td>
<td>-1</td>
<td>-0.58</td>
</tr>
</tbody>
</table>

The presence of sonographic examination is essential for the score. Maximum of 12 points can be reached.

Table 2. Cumulative risk-points and LMS risk.

<table>
<thead>
<tr>
<th>LMS-risk-points</th>
<th>LMS-risk %</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>1</td>
<td>1.8</td>
</tr>
<tr>
<td>2</td>
<td>4.7</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>27</td>
</tr>
<tr>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>6</td>
<td>73</td>
</tr>
<tr>
<td>7</td>
<td>88</td>
</tr>
<tr>
<td>8</td>
<td>95</td>
</tr>
<tr>
<td>9</td>
<td>98</td>
</tr>
<tr>
<td>&gt;9</td>
<td>&gt;99</td>
</tr>
</tbody>
</table>

The AUC in the Receiver−Operating−Characteristic Curve was 0.962, giving an excellent result.

Conclusion
Based on just six clinical criteria an easy-to-use preoperative LMS-risk-score for prevention of inadequate LMS-surgery was established and should be used prior of LM-surgery. Our score provides a personalized decision working tool.
ENDOMETRIAL CANCER

ESGO7-0223

IMPACT OF CONSERVATIVE MANAGEMENTS IN YOUNG WOMEN WITH GRADE 2 OR 3 ENDOMETRIAL ADENOCARCINOMA CONFINED TO ENDOMETRIUM

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Aims

To evaluate the impact of ovarian and/or uterine preservation in young patients with grade 2 or 3 endometrial adenocarcinoma confined to endometrium.

Method

A population-based analysis was conducted. The SEER’17 Database was used to identify women younger than 45 years of age with grade 2 or 3 endometrial adenocarcinoma confined to endometrium from 1983 to 2012. A cohort of 1106 women was included: 849 underwent hysterectomy with bilateral adnexectomy, 96 underwent hysterectomy with ovarian preservation and 49 underwent uterine preservation. The demographics and survival rates according to the type of treatment administered were compared.

Results

The five-year overall survival probabilities were 94.8% (95%CI [92.8-96.2], 93.8% (95%CI [85.8-97.4]), and 78.2% (95%CI [62.1-88.1]) for patients who underwent hysterectomy with bilateral adnexectomy, ovarian preservation and uterine preservation, respectively (p<0.001).

The five-year cancer-related survival probabilities were 99.3% (95%CI [98.6-99.9], 98.9% (95%CI [96.9-99.9]), and 86.2% (95%CI [75.7-98.2]) for patients who underwent hysterectomy with bilateral adnexectomy, ovarian preservation and uterine preservation, respectively (p<0.001).

Patients who received uterine conservation had lower disease-specific (aHR=15.8 95%CI [5.5-45.2]) and overall survival probabilities (aHR=6.6 95%CI [3.3-13.4]) than did patients who underwent hysterectomy with or without oophorectomy. Ovarian conservation was not associated with decreased disease-specific (aHR=1.45 95%CI [0.31-6.71]) or overall survival (aHR=0.58 95% IC [0.17-1.90]).

Conclusion

Ovarian preservation has no impact on survival probability in patients with grade 2 or 3 endometrial cancer confined to endometrium. On the contrary, physicians and patients should be aware of the worse prognosis associated with uterine preservation.
EVALUATION AND SELECTION OF QUALITY INDICATORS FOR THE MANAGEMENT OF ENDOMETRIAL CANCER
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Aims
To evaluate 36 quality indicators (QI) for monitoring the quality of care of uterine cancer to be implemented in the EFFECT (EFFectiveness of Endometrial Cancer Treatment) project.

Method
The 36 QI were evaluated in the first ten patients diagnosed with endometrial cancer and managed in fourteen French hospitals in 2011. To assess the status of each QI, a questionnaire detailing the 36 QI was sent to each hospital, and the information was cross-checked with information from the multidisciplinary staff meeting, surgical and pathological reports. The QI were evaluated in terms of measurability and improvability. The remaining QI were evaluated with a multiple correspondence analysis (MCA) to highlight the interrelationships between qualitative variables describing a population.

Results
Thirteen of the 14 institutions responded to the survey for a total of 130 patients. Twenty-five of the 36 QI affected less than 80% of the patients. Thirteen QI were found not to be improvable because they reached >95% of the theoretical target. Finally, five QI concerning more than 80% of the patients were found to be improvable. The MCA finally identified three dimensions—outcome, safety and perioperative management—that included the five QI.

Conclusion
In the present study, five of the 36 QI suggested by the EFFECT project appear to be sufficient to report on the quality of endometrial cancer management. Further studies are needed to correlate the information provided by those five questions and the relevant outcomes reflecting quality of care in endometrial cancer.
ENDOMETRIAL CANCER

ESGO7-0604

ADHERENCE TO GUIDELINES FOR FOLLOW UP OF PATIENTS OPERATED ON FOR ENDOMETRIAL CANCER: ANALYSIS OF THE FRENCH HEALTH INSURANCE DATABASE
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²René huguenin, Gynecology, Saint Cloud, France

Aims

The objectives of our study were to examine adherence to follow up guidelines in patients operated on for EC and to identify associated explanatory variables.

Method

Patients operated on for EC between January 2005 and December 2014 were identified among the Echantillon Généraliste des Bénéficiaires (EGB), a 1/97th random sampling of the French population covered by the national healthcare insurance system. Patients with associated cancer or EC recurrence were excluded. Adherence to guidelines was defined by fewer than two complementary examinations performed during the two postoperative years among vaginal smear, CA 125 dosage and imaging. The research for explanatory variables used a multilevel model.

Results

314 women who underwent surgery were included. A gap between recommendations and practices was found in 48.1% of patients. This gap was more frequent in patients operated on before 2011, in private institutions or in institutions performing less than 20 hysterectomies for EC per year, and among patients with Long Duration Disease declaration for EC.

Conclusion

The gap between recommendations and practices for follow-up in EC represents almost half of the cases. Updating the recommendations in 2010 may have improved compliance with the recommendations. However, improvements are still needed.
COMPLICATIONS AND EXTRA HOSPITAL DRUG CONSUMPTION AFTER LAPAROSCOPY COMPARED WITH
LAPAROTOMY FOR ENDOMETRIAL CANCER STAGING: THE FRENCH REGISTRY ANALYSIS

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Aims

The aim of this study was to compare laparoscopic and laparotomic staging considering complications and extra hospital drug consumption.

Method

Data concerning 405 patients operated on for EC between 2005 and 2014 were abstracted from the Echantillon Généraliste des Bénéficiaires (EGB) database, a 1/97th random sample of the French population covered by the national healthcare insurance system. End points were hospital length stay, complications rate and extra hospital drug consumption of anticoagulant and antibiotics during the first post-operative month.

Results

335 (82.7%) patients underwent laparotomy and 70 (17.3%) patients underwent laparoscopy. The proportion of laparoscopy increased from 2005 to 2014 (9.3% before 2010 and 20.2% after). Patients from the two groups were comparable for age and comorbidity. Women who underwent laparoscopy had lymphadenectomy (p=0.05) and external adjuvant radiation (p=0.01) more frequently. Laparoscopy was associated with a shorter length of hospital stay (5.8 days vs. 8.8 days, p<0.01) and a non-significant lower complication rate (14.3% vs. 21.8%, p=0.2). Laparoscopy was not associated with decreased antibiotics and anticoagulants consumption.

Conclusion

Over the last decade, laparoscopy has been used more frequently for the surgical staging of patients with EC but remains underused in France. Laparoscopy is associated with a shorter length of hospital stay. However, laparoscopy has no measurable impact on antibiotics or anticoagulants extra hospital consumption.
ENDOMETRIAL CANCER

ESGO7-0215

LAPAROSCOPIC SURGERY FOR LOW, INTERMEDIATE AND HIGH-RISK ENDOMETRIAL CANCER: A RETROSPECTIVE ANALYSIS OF LONG-TERM OUTCOMES

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\textsuperscript{1}Cukurova University School of Medicine, Obstetrics and Gynecology, Adana, Turkey
\textsuperscript{2}Cukurova University School of Medicine, Pathology, Adana, Turkey
\textsuperscript{3}Cukurova University School of Medicine, Biostatistics, Adana, Turkey

Aims

The aim of the present study was to compare the long-term outcomes of laparoscopic and laparotomic surgeries and to evaluate the results according to low, intermediate, and high-risk groups of endometrial cancer.

Method

Data of endometrial cancers were collected retrospectively from a single gynecologic oncology department between the January 2005 and January 2016. Patients were divided into 2 groups as laparotomic surgery (group 1, n=515) and laparoscopic surgery (group 2, n=286) groups. Patients' demographics, clinical characteristics such as stage, grade, histopathologic type, lymphovascular space invasion (LVSI), myometrial invasion, lymph node involvement, and risk groups, peri- and post-operative outcomes, and survival outcomes were compared between the groups.

Results

The demographic characteristics of both groups were similar except age. Shorter hospital stay and fewer complications were observed in group 2. The overall survival (OS) was similar in the low and intermediate risk groups but higher in the high-risk patients for laparoscopy compared to laparotomy. The covariate analysis revealed that the death and recurrence risks were approximately twice higher in the laparotomy group than in the laparoscopy group (OR: 1.9, 95%CI: 1.2-3.1 for overall survival; OR: 2.95%CI: 1.2-3.3 for disease-free survival). Age, stage, histopathological type, and operation type were determined as independent prognostic factors in the multivariate analysis for both of DFS and OS.

Conclusion

The results of our study support the well known positive aspects of laparoscopy as well as safe and effective use in cases of intermediate and high risk endometrial cancer.
IS IT REALLY UTERINE GRADE 3 ENDOMETRIOID ADENOCARCINOMA AND CARCINOSARCOMA CLINICALLY SIMILAR?

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Aims

Was to compare the clinical characteristics and outcomes of the cases with uterine high grade (grade 3) endometrioid adenocarcinoma (HGEAC) and uterine carcinosarcoma (CS).

Method

A total of 141 patients recruited from the Gynecologic Oncology Unit of Cukurova University, Faculty of Medicine were included in this study; 61 cases with uterine HGEAC (group 1) and 80 cases with CS (group 2) followed between January 1996-2016. Clinical and pathological characteristics including age, stage, initial symptom, operation type, myometrial invasion, lymphovascular invasion, lymph node invasion, adjuvant therapy and survival were compared between the groups.

Results

There are no statistically significant differences between the groups according to age, nulliparty, menopausal status, medical history of patients, family history of cancer, complication rate. PPALND was performed 85% of the group 2 and 67% of the group 1 (p<0.001). Stage, myometrial invasion degree, lymph node metastasis were similar between the groups. Lymphovascular space invasion was more present in group 1 than group 2 (p=0.032). But positive cytology was more common in group 2 (p=0.008). Adjuvant RT was given more in group 1 (p<0.001) and KT was applied more in group 2 than 1 (p=0.008). There is no difference between the group according to DFS (p=0.316) but OS was found better in group 1 (p=0.02).

Conclusion

Patients in both groups had similar stage. KT was used more frequently in patients with carcinosarcoma, RT was used more in patients with HGEAC for the main adjuvant therapy modality. The survival was found better in patients with HGEAC.
The Effect of Preoperative Hematological Parameters to Prognosis in Cases with Endometrium Cancer

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Aims

We investigated that if the preoperative rate of neutrophile to lymphocyte (NLR), mean thrombocyte volume (MPV), rate of platelet to lymphocyte (PLR), monocyte count, rate of mean thrombocyte volume to thrombocyte count (MPV/PR) are related with prognosis in endometrium cancer or not.

Method

We evaluated 763 patient with endometrium cancer who operated and followed at Cukurova University Faculty of Medicine Obstetric and Gynecology Department. We evaluated clinical and pathological parameters like preoperative hematological parameters, histopathological type, cervical involvement, degree of myometrial invasion, lymph node metastasis, surgical stage, characteristics of operation in a retrospective way. The effects of these factors to prognosis analysed by Kaplan Meier and Cox regression analysis.

Results

Five year survival chance was %86. Mean OS was significant for NLR value (p=0.017); but there was not statistically significance for monocyte count (p=0.670), for MPVPR (P=0.122) and MPV (P=0.452). The patients with high NLR had short survival. NLR was associated with stage, metastatic lymph node, myometrial invasion, cervical invasion, lymphovascular invasion, adnexial involvement, positive cytology and status. PLR was associated with stage, metastatic lymph node, myometrial invasion, cervical invasion, lymphovascular invasion, adnexial involvement. Monocyte count was associated with stage, metastatic lymph node, grade and status. MPV/PR was associated with stage and metastatic lymph node.

Conclusion

We detected that age, co-morbidity, histopathological type, stage, grade, lymphovascular invasion, NLR were prognostic factors in endometrium cancer. Age, stage, co-morbidity, cervical invasion were independent prognostic factors for endometrial cancer in multivariant analysis.
ENDOMETRIAL CANCER

ESGO7-0285

CLINICAL AND PROGNOSTIC EFFECTS OF OBESITY ON ENDOMETRIAL CANCER

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Aims

To determine the association of body mass index (BMI) on operative outcomes, clinicopathologic characteristics and prognosis in endometrial cancer.

Method

Three hundred ninety two patients with endometrial carcinoma who were operated and followed up in our clinic were evaluated according to the BMI groups. Patients' demographics, clinical characteristics such as stage, grade, histopathologic type, lymphovascular space invasion (LVSI), myometrial invasion, lymph node involvement, and risk groups, peri- and post-operative outcomes, and survival outcomes were compared according to BMI stratifications.

Results

BMI groups were <30 (n=104, 26.5%), 30–34 (n=85, 21.7%), 35–39 (n=96, 24.5%), and≥40 (n=107, 27.3%). Laparotomy was performed to 186 cases, and laparoscopy to 206 cases. The medians of age, comorbidity status, surgical type (laparotomy or laparoscopy) were not different among the groups (p=0.057, 0.065, 0.263, respectively). The medians of operation time (p=0.224), postoperative hospitalization time (p=0.212), estimated blood loss (p=0.077), drop in hb level (p=0.387) were similar. High BMI increased intra- and postoperative complication rates (p=0.049). Stage (p=0.481), grade (p=0.756), myometrial invasion (p=0.190), risk groups (low, moderate and high: p=0.638), nodal involvement (p=0.334) and histologic type (p=0.919) were not differed according to groups of BMI. Median of overall survival and disease free survival were found similar (p=0.551, 0.534, respectively).

Conclusion

We demonstrated that BMI did not alter the patient's clinicopathologic characteristics and did not affect the prognosis negatively but increased the operative complications.
PROGRAMMED DEATH (PD-1), PROGRAMMED DEATH-LIGAND 1 (PD-L1) EXPRESSION IN UTERINE CARCINOSARCOMAS

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Aims

Programmed death-1 (PD-1) and programmed death-ligand 1 (PD-L1) are new targets in cancer immunotherapy. PD-1 protein is an immune checkpoint expressed in many tumors. The aim of this study is to evaluate the clinical and prognostic importance of PD-1 and/ or PD-L1 in uterine carcinosarcomas (UCS).

Method

Formalin fixed, paraffin-embedded tissue samples from 59 cases with UCS were analyzed in this study. Immunohistochemical staining was performed to detect the PD-1 and PD-L1 expressions in tumor tissue and microenvironment, separately.

Results

PD-1 expression in tumor tissue and microenvironment was detected in 15 (25 %) and 18 (30 %) cases, respectively. PD-L1 expression in tumor tissue and microenvironment was detected in 15 (25 %) and 12 cases (20 %), respectively. It has been found that expression of PD-L1 in tumor was associated with longer survival although PD-1 expressions were not found to be related with survival. Median survival in cases with and without PD-L1 expression were 38 and 15 months, respectively (p=0.019). Lymphovascular space invasion (LVSI) (p=0.014), myometrial invasion (p=0.008) and PD-L1 expression were found prognostic factors. Cox regression analysis showed that expression of PD-L1 was found to be an independent risk factor for prognosis (OR 3.9; 95 % CI 1.4–11.0).

Conclusion

Targeting PD-1 and/or PD-L1 meaningful due to the 25 % expression of each in UCS, and we found an important association between PD-L1 expression and prognosis in UCS. Programmed death pathway is involved in UCS development/biology and larger studies will be more informative for targeted treatment and/or checkpoint blocking therapies.
ENDOMETRIAL CANCER

ESGO7-1350

PROGRAMMED DEATH-1 (PD-1), PROGRAMMED DEATH-LIGAND 1 (PD-L1) EXPRESSION IN UTERINE GRADE 3 ENDOMETRIOID ADENOCANCER

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Aims

The aim of this study was to evaluate the clinical and prognostic importance of PD-1 and/or PD-L1 in grade 3 endometrioid adenocancer (EAC).

Method

Formalin fixed, paraffin-embedded tissue samples from 53 cases with grade 3 EAC were analyzed in this study. Immunohistochemical staining was performed to detect the PD-1 and PD-L1 expressions in tumor tissue and microenvironment, separately.

Results

PD-1 expression in tumor tissue and microenvironment was detected in 18 (34%) and 22 (42%) cases, respectively. PD-L1 expression in tumor tissue and microenvironment was detected in 12 (23%) and 18 cases (34%), respectively. It has been found that expression of PD-1 in tumor and PD-L1 expression in tumor and microenvironment were associated with shorter survival although PD-1 expressions in microenvironment was not found to be related with survival. Median survival in cases with and without PD-1 expression were 55 and 30 months, respectively (p=0.025). Median survival in cases with and without PD-L1 expression were 50 and 27 months, respectively (p=0.001). Lymphovascular space invasion (LVSI) (p=0.033), myometrial invasion (p=0.043), PD-1 expression and PD-L1 expression were found to be prognostic factors. Cox regression analysis showed that expression of PD-1 and PD-L1 were found to be an independent risk factors for prognosis (OR 3.0; 95% CI 1.3–7.1 - OR 3.3; 95% CI 1.3–8.4, respectively).

Conclusion

PD-1 and/or PD-L1 expressions were meaningful due to the 34% and 23%, respectively in grade 3 EAC. Our study results demonstrated an important association between PD-1, PD-L1 expressions and prognosis in grade 3 EAC.
Aims

Programmed death-1 (PD-1) and programmed death-ligand 1 (PD-L1) are new targets in cancer immunotherapy. PD-1 protein is an immune checkpoint expressed in many tumors. The aim of this study is to evaluate the clinical and prognostic importance of PD-1 and/or PD-L1 in type 2 endometrial cancer.

Method

Formalin fixed, paraffin-embedded tissue samples from 67 cases with type 2 endometrial cancer were analyzed in this study. Serous adenocancer (n=21, 31%), clear cell (n=14, 21%) and mixed type adenocancer (n=32, 48%) were consisted the study cohort. Immunohistochemical staining was performed to detect the PD-1 and PD-L1 expressions in tumor tissue and microenvironment, separately.

Results

PD-1 expression in tumor tissue and microenvironment was detected in 26 (39 %) and 34 (51 %) cases, respectively. PD-L1 expression in tumor tissue and microenvironment was detected in 11 (16 %) and 19 cases (28 %), respectively. It has been found that expression of PD-1 and PD-L1 in tumor was associated with shorter survival although PD-1 and PD-L1 in microenvironment expressions were not found to be related with survival. Median survival in cases with and without PD-1 expression were 48 and 21 months, respectively (p=0.004). Median survival in cases with and without PD-L1 expression were 48 and 15 months, respectively (p=0.0001).

Conclusion

This study demonstrated an important association between PD-1 and PD-L1 expression and prognosis in type 2 endometrial cancers. Larger studies will be more informative for targeted treatment and/or checkpoint blocking therapies in type 2 endometrial cancer.
ENDOMETRIAL CANCER

ESGO7-0777

A CASE OF SUCCESSFUL DELIVERY AFTER UTERUS-CONSERVING TREATMENT FOR EARLY STAGE ENDOMETRIAL CANCER: HYSTEROSCOPIC RESECTION WITH BILATERAL TUBAL LIGATION

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Aims

Conventional treatment of early stage endometrial cancer is total abdominal hysterectomy and bilateral salpingo-oophorectomy with lymph node assessment. However, in young patients who desire future fertility, conservative management could be considered. The aim of study is to present successful cases of conservative surgical treatment of women with early endometrial cancer who desire to have fertility.

Method

A 32-year-old nulligravid woman had stage IA endometrial cancer which was a 1.5 cm sized lesion confined to the left fundal side of the uterus. The patient underwent laparoscopic tubal ligation with clips. In the peritoneal cavity, there was no lesion suspicious for extrauterine disease. After that, hysteroscopic resection was performed using a Storz (Tuttlingen, Germany) 26F unipolar resectoscope with a 24F loop electrode. A resectoscopic approach was performed three times until a clear resection margin had been confirmed by a pathologist. The surrounding endometrium including myometrium were resected. The other side of the endometrial tissue was saved for preserving the implantation capacity. Then, a levonorgestrel-releasing uterine device (LNG-IUS, Mirena®, Bayer, Germany) was inserted into the uterus. The intrauterine device was kept in place for 1 year and then removed.

Results

Six months after removal of LNG-IUS, follow-up biopsy showed no evidence of malignancy. The patient got pregnant by in vitro fertilization, and she delivered a male, 3140g at 39wks of gestation without complication such as uterine rupture or placenta accreta.

Conclusion

Hysteroscopic resection followed by insertion of a progesterone-releasing intrauterine device can be the option for early endometrial cancer patients who want to preserve their fertility.
ENDOMETRIAL CANCER

ESGO7-0099

PATTERNS OF CARE AND THE SURVIVAL OF ELDERLY PATIENTS WITH HIGH-RISK ENDOMETRIAL CANCER: A CASE-CONTROL STUDY FROM THE FRANCOGYN GROUP

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6CRLC Dijon, Surgery department, Dijon, France
7CHU Reims, Gynecologic surgery, Reims, France
8CHI Créteil, Gynecologic Department, Créteil, France
9CHU Lille, Gynecologic department, Lille, France
10CHU Jean Verdier, Gynecologic department, Seine Saint Denis, France
11CHI Poissy, Gynecologic department, Poissy, France
12CHU de Rennes, Gynecologic department, Rennes, France
13CHU Tenon, Gynecologic department, Paris, France
14CHU Tenon, Gynecologic department, Rennes, France

Aims

BACKGROUND: The standard of care of endometrial cancer involves complex procedures such as pelvic and para-aortic lymphadenectomy and omentectomy, particularly for high-risk endometrial cancer. Few data are available about these complex surgical procedures and adjuvant therapy in elderly women. We aim to examine treatment and survival of elderly women diagnosed with high-risk endometrial cancer.

Method

STUDY DESIGN: We performed a case-control study of women diagnosed between 2001 and 2012 with high-risk endometrial cancers. Women older than 70 years (n=198) were compared with patients <70 years (n=198) after matching on high-risk for recurrence and LVSI status.

Results

RESULTS: Elderly patients had lymphadenectomies less frequently compared with younger patients (76% vs 96%, p<0.001) and no adjuvant treatment more frequently (17% vs 8%, p=0.005) due to less chemotherapy being administered (23% vs 46%, p<0.001). The 3-year DFS, CSS and OS of patients ≥ 70 years was 52% (43-61), 81% (74-88) and 61% (53-70), respectively. These were significantly lower than the 3-year DFS, CSS, and OS of younger patients, which was 75% (68-82) (p<0.001), 92% (87-96) (p<0.008) and 75% (69-82) (p=0.018), respectively. Cox proportional hazard models found that elderly women had 57% increased risk of recurrence (hazard ratio 1.57, 95% CI 1.04-2.39) compared with younger patients.

Conclusion

CONCLUSION: Although we found an independently significant lower DFS in elderly patients with high-risk endometrial cancer when compared with young patients, elderly women are less likely to be treated with lymphadenectomy and chemotherapy. Specific guidelines for management of elderly patients with high-risk endometrial cancer are required to improve their prognosis.
IMPACT OF GYNECOLOGIC SCREENING IN LYNCH SYNDROME

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Aims

Lifetime risk of developing endometrial cancer in Lynch syndrome is higher than in the general population and gynecologic screen appears interesting, although unproven until now. The aim of our study was to determine the diagnostic value of gynecologic screening for the diagnostic of endometrial cancer in patients with Lynch syndrome.

Method

We conducted a prospective study in patients with Lynch syndrome and identified mutation from 1998 to 2016 at the European Georges-Pompidou Hospital in Paris. All patients had an annual screening including clinical examination, pelvic ultrasound, endometrial biopsy, and hysteroscopy. Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of each test and of the global screening strategy were described.

Results

One hundred and ninety one patients, with 620 surveillance visits, were included in the study. The median age of patients was 51 years. Identified mutation were MLH1 (49.4%), MSH2 (48.4%), MSH6 (23.17%), and PMS2 (4.7%). Sensitivity, specificity, PPV, and NPV of pelvic ultrasound were respectively 84.6%, 92.8%, 40.7%, and 99.0%. For endometrial biopsy, they were respectively 89.5%, 99.8%, 94.4%, and 99.5%, and for hysteroscopy, they were 84.6%, 99.7%, 88.9% and 98.8% in all cases. Sensitivity of the global screening strategy was 100%. Five cases of endometrial cancers (ECs) were diagnosed through the screening. One case of EC was associated with an ovarian cancer (endometrioid carcinoma), which was detected by pelvic ultrasound.

Conclusion

A screening strategy including pelvic ultrasonound, endometrial biopsy, and hysteroscopy appears efficient for the diagnosis of gynecologic cancers in Lynch syndrome.
Aims

Our study aimed to assess the accuracy of pre-operative grading and histology of endometrial cancer by Pipelle endometrial sampling and dilatation and curettage (D&C).

Method

Patients with endometrial cancer treated by hysterectomy in the Prince of Wales Hospital in Hong Kong from January 2007 to December 2016 were identified retrospectively and those with pre-operative Pipelle endometrial sampling or D&C were included. Patients' records were reviewed for demographic and pathology findings. The accuracy of pre-operative grading and histology are compared with final histology.

Results

A total of 414 patients with pre-operative Pipelle endometrial sampling and 79 patients with D&C were included. The accuracy of pre-operative histology assessment is higher for D&C than Pipelle (94.9% VS 86.2%, p=0.049). The accuracy of grading with Pipelle and D&C are comparable (65.7% VS 66.2%, p=1.0). The strength of agreement for grade 1, 2 and 3 tumors are moderate, fair and moderate respectively (Table 2). The accuracy of pre-operative grading is higher for grade 1 tumors (79.5%) than grade 2/3 tumors (45.5%) (p=0.00). Myometrial invasion of <50% and lymph node negativity are related to higher accuracy of pre-operative grading (p=0.01, p=0.04) (Table 3). Cervical invasion, lymphovascular space invasion and age did not affect accuracy of pre-operative grading (Table 3).
### Table 1

<table>
<thead>
<tr>
<th></th>
<th>Pipelle endometrial sampling</th>
<th>Dilatation and Curettage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;15</td>
<td>82 (39.0%)</td>
<td>30 (38%)</td>
</tr>
<tr>
<td>15-55</td>
<td>103 (44.8%)</td>
<td>27 (48.2%)</td>
</tr>
<tr>
<td>56-75</td>
<td>95 (28.6%)</td>
<td>13 (46.5%)</td>
</tr>
<tr>
<td>&gt;75</td>
<td>114 (27.3%)</td>
<td>9 (31.8%)</td>
</tr>
<tr>
<td><strong>Parity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>74 (27.8%)</td>
<td>45 (66.9%)</td>
</tr>
<tr>
<td>1</td>
<td>70 (25.6%)</td>
<td>7 (10.3%)</td>
</tr>
<tr>
<td>2</td>
<td>137 (48.4%)</td>
<td>7 (10.3%)</td>
</tr>
<tr>
<td>&gt;2</td>
<td>96 (34.2%)</td>
<td>9 (31.8%)</td>
</tr>
<tr>
<td><strong>Stage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IA</td>
<td>262 (65.9%)</td>
<td>53 (97.1%)</td>
</tr>
<tr>
<td>IB</td>
<td>54 (13.9%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>II</td>
<td>30 (7.3%)</td>
<td>6 (7.6%)</td>
</tr>
<tr>
<td>III</td>
<td>53 (15.3%)</td>
<td>11 (14.2%)</td>
</tr>
<tr>
<td>IV</td>
<td>7 (2.7%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>Grade</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>229 (59.3%)</td>
<td>47 (62.8%)</td>
</tr>
<tr>
<td>2</td>
<td>100 (25.9%)</td>
<td>23 (30.7%)</td>
</tr>
<tr>
<td>3</td>
<td>49 (12.8%)</td>
<td>5 (6.7%)</td>
</tr>
<tr>
<td>High grade</td>
<td>3 (0.8%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>Histology</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endometroid</td>
<td>367 (88.3%)</td>
<td>74 (93.7%)</td>
</tr>
<tr>
<td>Serous adenocarcinoma</td>
<td>14 (3.4%)</td>
<td>1 (1.3%)</td>
</tr>
<tr>
<td>Clear cell carcinoma</td>
<td>8 (1.9%)</td>
<td>1 (1.3%)</td>
</tr>
<tr>
<td>Sarcoma</td>
<td>2 (0.5%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Undifferentiated adenocarcinoma</td>
<td>3 (0.8%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>MMMT</td>
<td>10 (2.4%)</td>
<td>3 (3.9%)</td>
</tr>
<tr>
<td>Others</td>
<td>7 (1.7%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>Lymph node involved</strong></td>
<td>21.1% (33/156)</td>
<td>21.1% (33/156)</td>
</tr>
<tr>
<td>Lymphovascular space invasion present</td>
<td>23.5% (7/30)</td>
<td>23.5% (7/30)</td>
</tr>
</tbody>
</table>

### Table 2

<table>
<thead>
<tr>
<th>Pipelle Endometrial Sampling</th>
<th>Final grade 1</th>
<th>Final grade 2</th>
<th>Final grade 3/ high grade</th>
<th>Accuracy</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>PPV</th>
<th>NPV</th>
<th>Kappa/ Strength of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-operation grade 1 (n=100)</td>
<td>150</td>
<td>42</td>
<td>8</td>
<td>72%</td>
<td>69.9%</td>
<td>75%</td>
<td>77.5%</td>
<td>95.5%</td>
<td>0.42/ Moderate</td>
</tr>
<tr>
<td>Pre-operation grade 2 (n=40)</td>
<td>35</td>
<td>35</td>
<td>14</td>
<td>41.7%</td>
<td>78.8%</td>
<td>43.7%</td>
<td>78.3%</td>
<td>91.5%</td>
<td>0.15/ Fair</td>
</tr>
<tr>
<td>Pre-operation grade 3/ high grade (n=31)</td>
<td>2</td>
<td>7</td>
<td>22</td>
<td>71%</td>
<td>54.7%</td>
<td>72%</td>
<td>93.2%</td>
<td>96.5%</td>
<td>0.93/ Moderate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dilatation and Curettage</th>
<th>Final grade 1</th>
<th>Final grade 2</th>
<th>Final grade 3/ high grade</th>
<th>Accuracy</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>PPV</th>
<th>NPV</th>
<th>Kappa/ Strength of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-operation grade 1 (n=49)</td>
<td>32</td>
<td>7</td>
<td>1</td>
<td>60%</td>
<td>69.2%</td>
<td>80%</td>
<td>54.3%</td>
<td>94.3%</td>
<td>0.44/ Moderate</td>
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<tr>
<td>Pre-operation grade 2 (n=38)</td>
<td>20</td>
<td>10</td>
<td>1</td>
<td>47.1%</td>
<td>76.0%</td>
<td>47.1%</td>
<td>76.0%</td>
<td>94.5%</td>
<td>0.24/ Fair</td>
</tr>
<tr>
<td>Pre-operation grade 3/ high grade (n=9)</td>
<td>0</td>
<td>4</td>
<td>3</td>
<td>42.3%</td>
<td>90.1%</td>
<td>42.3%</td>
<td>90.1%</td>
<td>96.6%</td>
<td>0.45/ Moderate</td>
</tr>
</tbody>
</table>
Conclusion

Pre-operative histology assessment is better with D&C than Pipelle. Pre-operative grading with Pipelle and D&C is comparable. The accuracy is higher for grade 1 than grade 2/3 tumors. However, the accuracy and strength of agreement to final pathology is only fair to moderate.
PROGNOSTIC FACTORS FOR DISEASE RECURRENT IN EARLY ENDOMETRIAL CANCER

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Aims

The purpose of this study is to evaluate the clinicopathologic factors of early (International Federation of Gynecology and Obstetrics (FIGO) I-II stage) endometrioid endometrial adenocarcinoma (EMCA) in single institution and to identify factors affecting recurrence and prognosis.

Method

A single-center retrospective study of FIGO stage IA-IIB 102 EMCA patients who underwent comprehensive surgical staging from June 1995 to August 2016 was conducted. Non-endometrioid type and double primary cancer were excluded. We selected several clinicopathologic factors including age, CA-125, depth of myometrial invasion (DMI), tumor grade, lymphovascular space invasion (LVSI), and status of estrogen receptor/progesterone receptor (ER/PR). Univariate and multivariate Cox proportional hazard model and Kaplan-Meier estimates were used for analyzing all clinicopathologic factors related to the risk of disease recurrence.

Results

The median age was 55.05 years (range, 35 to 81 year). And the median follow-up time was 35 month (range, 2 to 155). Fifteen patients (10.78%) showed disease recurrence. Three patients, distant and 12 patients, locoregional metastasis were included. In univariate analysis, tumor grade (P=0.0045) and LVSI (P=0.0374) were associated with disease recurrence. Mutivariate analysis demonstrated an association between any type of recurrence and LVSI (hazard ratio [HR], 6.308; 95% confidence interval [CI], 1.851-11.484).

Conclusion

LVSI is highly associated with disease recurrence in early EMCA. As such, the presence of LVSI may indicate the need for adjuvant systemic therapy in patients with early stage disease.
ENDOMETRIAL CANCER

ESGO7-1022

SURGICAL OUTCOME OF FLUORESCENT IMAGE GUIDED SENTINEL LYMPH NODE (SLN) DISSECTION WITH INDOCYANINE GREEN (ICG) IN ENDOMETRIAL CANCER PATIENTS

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Aims

The purpose of this study was to review the current performance of sentinel lymph node biopsy (SLNB) in terms of success rate, bilateral detection rate, location, and number of nodes per level. Through subgroup analyses of node positive patients, the clinical pre-operative risk factors that warrant full lymphadenectomy are outlined.

Method

We performed a retrospective review of 112 endometrial cancer patients who underwent laparoscopic or robotic lymphadenectomy after fluorescent SLNB with ICG from May 2014 to March 2017.

Results

SLN detection rate was 94.6% (106/112 patients) and bilateral detection rate was 74.6% (88/112 patients). The median number of harvested SLN was 5 (ranging from 1 to 24) and harvested total lymph node was 20 (ranging from 1 to 94). SLN metastasis was found in 6.25% (7/112 patients). Out of seven patients who were positive for SLN metastasis (3 with SLN only, 4 with both SLN and non-SLN metastasis). One patient 0.94% (1/106) had isolated non-SLN metastasis in para-aortic lymph node. This patient had serous carcinoma, r/o carcinosarcoma with >5cm tumor size and suspicious para-aortic lymph node on PET-CT. There was no pelvic non-SLN metastasis. Percentage of metastatic node of all harvested node was 1.86% (12/645) for SLN and 0.73% (16/2220) of non-SLN. Sensitivity for SLN detection was 87.5% and negative predictive value was 99.1%.

Conclusion

SLN detection with ICG was feasible and useful for its high specificity and negative predictive value. However, in high risk endometrial cancer patients, full lymphadenectomy should be done.
ENDOMETRIAL CANCER

ESGO7-0119

AN UNUSUAL PRESENTATION OF CARCINOSARCOMA AND PERIPHERAL TYPE PRIMITIVE NEUROECTODERMAL TUMOUR OF THE UTERUS AND A REVIEW OF LITERATURE

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Aims

Primitive neuroectodermal tumours (PNETs) are uncommon tumours that usually occur in bone and soft tissue. They have been found in the female genital tract, with primary ovarian PNETs being the most common, followed by uterine PNETs. However, a mixed pathology of carcinosarcoma and PNET is extremely rare with only a few cases described in medical literature.

We present an unusual case of a 59 year old lady who was found to have a mixed pathology of carcinosarcoma and PNET of uterine origin. In this report, we discuss about the clinical presentation as well as the pathological diagnosis. We will also discuss briefly about the management of this uncommon case.

Method

case report

Results

NA

Conclusion

NA
OUTCOMES OF WOMEN WITH STAGE 3 ENDOMETRIOID ADENOCARCINOMA OF THE UTERUS TREATED WITH ADJUVANT CHEMOTHERAPY AND RADIOTHERAPY

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Aims

Adjuvant chemotherapy followed by radiotherapy (RT) was offered as standard treatment at KKH for Stage 3 uterine cancer since 2005. We aim to analyse the survival outcomes in this group of patients comparing with the historical group of patients who received RT only.

Method

This study is a retrospective analysis of all patients in KKH diagnosed with Stage 3 endometrioid adenocarcinoma of the uterus from Year 2000 to 2010. SPSS program was used to analyse the data.

Results

A total of 121 patients had histology of endometrioid adenocarcinoma (EAC) only. Out of these patients, 48 patients received chemotherapy and RT whereas 55 patients received RT alone. The mean age of patients was 54 with no significant difference. The median duration of follow up was 56 months. The 2 groups were well balanced for age, stage of disease (3A, 3B, 3C), residual disease, depth of invasion, lymphovascular invasion and tumour size. Nearly all of our patients (99.3%) were surgically staged. The mean overall survival, cancer specific survival, disease free survival were 129 months, 137 months and 126 months respectively. The median was not reached. There was no significant difference for overall survival, cancer specific survival and disease free survival for the 2 groups of patients.

Conclusion

In our local population, patients with advanced endometrioid adenocarcinoma of the uterus who have full surgical staging have no difference in overall survival, cancer specific survival and disease free survival whether they receive chemotherapy and radiotherapy or radiotherapy only post operatively.
ENDOMETRIAL CANCER

ESGO7-0365

THE OUTCOMES OF FERTILITY SPARING TREATMENT FOR EARLY STAGE WELL-DIFFERENTIATION ENDOMETRIAL ENDOMETRIOID ADENOCARCINOMA

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Aims

The purpose of present study is to evaluate the outcomes of oral progestin treatment in women diagnosed with early stage grade 1 endometrial endometrioid cancer (G1EEC), who wish to preserve their fertility, in a single institute.

Method

We reviewed the medical records of patients that had been treated using oral progestin between 2010 and 2016. Women with disease limited to endometrium and no evidence of metastasis on pelvic magnetic resonance imaging scans were included. Endometrial biopsies were taken at follow-up periods.

Results

We identified 24 young women with G1EEC. The median age was 33 years old (range, 23 to 42), and the median treatment duration was 9 months (range, 3 to 24). Eighteen patients (75.0%) achieved complete remission (CR; median time to CR was 6 months; range, 3 to 12), only 1 patient (5.6%) with CR had recurrence at 40 months. Five patients with CR had subsequent levonorgestrel intrauterine device insertion due to no fertility desired yet. A total of 8 patients finally received surgery (4 non-responders, 2 after childbearing, 1 recurrence, 1 after ART failure). Eight of 16 CR patients attempted conception and 4 (50%) became pregnant with 5 live births. The proportion achieving pregnancy in our study cohort was 16.7% (4 of 24). Till now, all patients are alive with a median follow-up period of 37 months (range, 12 to 81).

Conclusion

We demonstrated high efficacy of fertility-sparing treatment with oral progestin. Low recurrent rate may be related to prolonged use of levonorgestrel intrauterine device. Further studies are necessary for clarification.
IMPORTANCE OF ULTRASOUND MARKERS IN THE RISK ASSESSMENT OF LYMPH NODE INVOLVEMENT IN ENDOMETRIAL CANCER

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Aims

To evaluate ultrasonographic tumor and invasion markers (myometrial invasion [uMI; ≥ 0.5 myometrium], tumor area [AREA, cm²], tumor volume [SPE-VOL, cm³], tumor free distance [uTFD, mm]) and endomyometrial irregularity [EMIR] as predictors of lymph nodes involvement (LNI) in epithelial endometrial cancer (EC).

Method

One hundred and sixteen consecutive EC patients were included into this prospective study between January 2011 and November 2012. 2D transvaginal ultrasound and surgical treatment according to Mayo Clinic algorithm was applied in all patients. The study group and 86 G1-G2 endometrioid low risk (LR) as well as G3 endometrioid and serous type (high risk, HR) subgroups underwent separate statistical analyses regarding accuracy of ultrasound markers in predicting LNI. P value of <0.05 was statistically significant.

Results

LNI was found in 20/116 (17%) patients. In univariate analysis, only uMI, EMIR and uTFD were significant variables with accuracy of 70.7% (p<0.003), 67.2% (p<0.001) and 63.8% (p<0.02) in predicting LNI, respectively. The model combining ≥ 2 any of the factors did not increase accuracy. For LR tumors significant variables were uMI and EMIR with accuracy of 74.4% (p<0.001) and 70.9% (p<0.02), whereas for HR no of the factors were significant in univariate analysis.

Conclusion

uMI and EMIR may be useful predictive ultrasound markers, especially in LR tumors. The preoperative histology defining HR EC prevails over informative value of ultrasound. It would be of interest whether histologic counterparts of ultrasound factors (i.e. depth of invasion, type of growth) are of independent predictive or prognostic value in LR and HR tumors.
ENDOMETRIAL CANCER

ESGO7-0609

BRCA AND GENETIC BREAST/OVARIAN CANCER (GBOC) SUSCEPTIBILITY GENE MUTATIONS IN TYPE II ENDOMETRIAL CANCER – IMPLICATIONS FOR PROPHYLACTIC HYSTERECTOMY

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Aims

To determine the incidence of germline BRCA and genetic/familial high-risk breast and/or ovarian (GBOC) mutations in endometrial cancer (EC) subtypes.

Method

Germline DNA was extracted from whole blood collected from consenting patients undergoing primary surgery for EC between 5/2005-11/2016. DNA samples were evaluated by sequencing of products from a Qiaseq targeted multiplex PCR panel including 37 known or suspected cancer predisposition genes. Variants were classified as pathogenic/likely pathogenic based on allele frequency (<0.003), effects on protein function, and ClinVar assertions. Comparisons were evaluated using Fisher’s exact test.

Results

Germline panel testing was performed on 1177 cases of EC; 852 (72.4%) were type I, and 325 (27.6%) were type II EC, including 136 uterine serous cancers (USC, 11.6%). The incidence of BRCA1/2 mutations was low in both type I EC and USC (0.35% (3/852) vs. 0.74% (1/136); p=0.45). BRCA1 mutations were present in none of the type I EC vs. 3 patients (0.9%) with type II EC (p=0.02). Lynch Syndrome (LS) mutations were identified in 2.1% of type I and 1.8% of type II EC (p=1.00), including 1.5% in USC. Non-LS GBOC mutations were present in 3.3% of type I and 4.0% of type II EC (p=0.59), as well as 5.1% of patients with USC.

Conclusion

BRCA mutations were rare in this cohort of unselected patients with USC. However, BRCA1 mutations were significantly more common in patients with type II compared to type I EC. The role of hysterectomy in risk reducing surgery for patients with HBOC mutations remains unclear.
ENDOMETRIAL CANCER

ESGO7-0386

THE GREAT UNKNOWN: TWO CASES OF UNDIFFERENTIATED ENDOMETRIAL SARCOMA

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Aims

Undifferentiated endometrial sarcoma (UES) is a very rare subtype of uterine sarcoma with an aggressive behavior. We would like to present the treatment and the clinical evolution of two patients.

Method

Descriptive, retrospective study about UES in the last year at our hospital.

Results

The first patient was 42 years old. She approaches the gynecology department at our hospital because of hypermenorhea two months ago. Ultrasound and Magnetic Resonance (MR) showed a myoma of 10 cm. She had anemia due to hysterectomy and bilateral salpingectomy by laparotomy was decided. The histology results confirmed UES (image 1a). The extension study reported lung metastases. The patient received two cycles of Gemcitabine-Docetaxel and radiotherapy. Two months later the diagnosis she died. The second patient was 49 years old. In August she was derived for acute metrorrhagia to the hospital. At the revision impress myoma through the Ultrasound and MR showed a myoma of 9 cm and multiple nodular images in vagina. Hemodynamic instability, it was decided to perform total hysterectomy and bilateral anexectomy by laparotomy. The histology results confirmed UES (image 1b). The extension study reported multiples metastases in lymph nodes and bones. Treatment with Carboplatin-Taxol and radiotherapy. In October the patient died.

Conclusion

UES has devastating consequence in a short period of time. There is not yet consensus on the treatment of this disease.
ENDOMETRIAL CANCER

ESGO7-0068

MRI IN THE PREOPERATIVE EVALUATION OF WOMEN WITH ENDOMETRIAL CANCER IN CHUH

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Aims

The presence and/or depth of myometrial invasion of endometrial adenoma carcinoma has important prognostic and therapeutic implications. So our task is to assess the accuracy of MRI (Magnetic resonance Imaging) in determining the presence and depth of myometrial invasion.

Method

Retrospective study of 145 patients diagnosed with adenocarcinoma of the endometrium since 2010 to 2016. The results were compared with those obtained after total hysterectomy and bilateral salpingo-oophorectomy.

Results

MRI was made and was able to discriminate the degree of invasion (superficial or deep) in 72.4% of them. According to the criteria of greater or equal to 50% involvement to the myometrial wall invasion as the representation of depth and less than 50% as superficial invasion.

Conclusion

Based on the results, it conlute that MRI appears to be an excellent technique to determine the invasion of the myometrium and can play an important role in the preoperative planning a thorough of the invasion of the myometrium, but in our population the vaginal ultrasound could be considered as a useful alternative to determinate the invasion grade. This was planning to future studies in our Hospital.
ENDOMETRIAL CANCER

ESGO7-0069

ENDOMETRIAL CANCER PATHOLOGY OF ENDOMETRIAL CANCER IN OUR AREA: CHUH

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Aims

Evaluate the different histologic subtypes of endometrial cancer diagnosed in Hospital Juan Ramón Jimenez’s Hospital in the last six years since 2010.

Method

Retrospective study of pathological anatomy in women diagnosed endometrial cancer since 2010.

Macroscopically, endometrial cancer can develop in uterus with normal or small size, in menopause women with atrophic uterus or in premenopause women with normal or higher uterus.

Microscopically, there are different histological subtypes: endometrioid adenocarcinoma, serous papillary adenocarcinoma, clear cells adenocarcinoma, mucinous adenocarcinoma, scads adenocarcinoma, mixed cancer, undifferentiated cancer and endometrioid adenocarcinoma with scads differentiation.

Results

Of the 208 cases of endometrial cancer, it is observed in the majority of cases (145 cases = 69%) corresponds to the subtype histology endometrioid carcinoma; 15 corresponds to STUMP (= 7.2%), 9 cases (= 4.3%) corresponds to serous papillary; 5 cases (2.4%) clear cell subtype and 18 cases with sarcomatous component (8.6%).

Conclusion

It has been shown that endometrioid subtype is the most common and is related to the hiperestronismo and endometrial hyperplasia. The aggressiveness of endometrioid carcinoma is variable and is related to their degree of differentiation. Endometrial cancers in which has not been shown hiperestronismo and relationship with or that are developed from a hyperplastic endometrium, have a poor prognosis.
ENDOMETRIAL CANCER

ESGO7-0071

PRIMARY DIFFUSE LARGE B-CELL LYMPHOMA OF THE ENDOMETRIUM.

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Aims

To know the incidence of non-Hodkking lymphoma in the uterine tissue to can get an early diagnosis and multidisciplinary management. large-cell diffuse B-cell non-Hodkkin's lymphoma (LNHDGB) of the uterine is a rare entity.

Method

Bibliographic review through the PubMed database.

Results

Case: A 42-years-old woman presented a refractory metrorrhagia with anemia. Cervical cytology was negative. No endometrial pathology evaluable ultrasonographically. Anatomopathological study was performed through endometrial aspiration, due to the lack of response to hormonal treatment. Result: LNHDGB infiltrated endometrial with Ki-67 greater than 80% . Result of Abdominal-pelvic CT: lymphadenopathy distributed from the gastroesplenic ligament, gastrohepatic to retroperitoneal region. The patient was treated with three courses of Rituximab(R) + CHOP (Cyclophosphamid, Doxorubicin, Vincristin and Prednisolon). After completion of chemotherapy the patient underwent abdominal hysterectomy with bilateral salpingectomy. Histology revealed complete remission .

Conclusion

The 25% of the lymphomas have an extraganglionic origin, and reach 40% in diffuse large cell lymphomas, although only 1% develops at the gynecological level. The ovary is the most frequent location and only 1 out of 175 extraganglionic lymphomas in women originate in the uterus or vagina. The average age of presentation is in the fifth decade of life. The most common histology is LNHDGB. The reason why patients usually consult is abnormal vaginal bleeding. The treatment for the disease used include a treatment with chemotherapy and radiotherapy, and there is a good response in the early stages of the disease. Endometrial biopsy is a reliable and easy method, which provides essential information.
THE LAPAROSCOPIC APPROACH IN ENDOMETRIAL CARCINOMA OF THE CORPUS UTERI: SHORT- AND MEDIUM-TERM RESULTS

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Aims

To evaluate the effectiveness of the laparoscopic approach in cases of endometrial carcinoma.

Method

Retrospective observational study using the records of endometrial carcinoma cases diagnosed in our hospital between January 2010 and December 2016 and treated with laparoscopic surgery.

Results

In the analyzed period, 208 were diagnosed; 145 endometrioid adenocarcinomas (69%). The mean age of the patients at the time of diagnosis was 63 years (range: 30-87) of 208 patients rejected the intervention. 193 were initially treated by surgery and all of them the laparoscopic approach was used as the first option but in 19 (10.7%) was necessary to convert a laparotomy pathway. In 106 (55%) of the surgical procedures a pelvic lymphadenectomy was performed: all of them laparoscopically. In addition, paraaortic lymphadenectomy was performed in 101 cases. We obtained a mean of 12 lymph pelvic nodes (range: 8-16) and 10.2 aortic nodes (7-13) per patient. Only in one case, there was intraoperative complications that consisted of an bladder lesion that was repaired in the same surgical act. During the immediate postoperative period, one patient presented a lymphedema in the left lower limb. Of the 208 women diagnosed with endometrial carcinoma, 4 had died during the follow-up period, 5 had relapsed, while the remaining 199 (95.67%) continued to live, free of Disease, at the time of the study.

Conclusion

The laparoscopic approach of endometrioid endometrial adenocarcinoma surgery is feasible, safe, and has success rates similar to the classic abdominal pathway and less morbidity.
VALUE OF FOLLOW-UP PROCEDURES IN ENDOMETRIAL CANCER PATIENTS: A STUDY OF RELAPSES IN OUR INSTITUTION

Aims

The aim of this retrospective study was to examine the recurrence rates and patterns in patients with endometrial cancer in our hospital and evaluate the usefulness of routine follow-up procedures for the detection of recurrent disease following treatment of endometrial carcinoma.

Method

We conducted a retrospective descriptive study including all patients with a diagnosis of recurrent endometrial cancer treated at the Department of Gynecologic Oncology from the University Hospital of the Canary Islands between 2000 and 2014.

Results

The mean age of these patients at the time of treatment of their initial tumor was 67.72 years.

The most common site of recurrence was vaginal vault (28.4) followed by lymph nodes in 19 cases (23.45%) and carcinomatosis (23.45%). The distant metastases occurred in 20 cases (24.69%) and in fourteen patients there were more than one site of recurrence.

The recurrences were diagnosed in 66.7% and 80.2% within 2 and 3 years after primary treatment, respectively.

41% of patients had symptomatic recurrent disease (33 cases).

Half of the patients were diagnosed by pelvic examination (51%), the remaining 49% of relapses were found by elevated tumors markers (28/81 cases, 34.56%), by imaging procedures (7/81 cases, 8.64%) and only 5 cases by Papsmears (6.17%).

Conclusion

In our study, the vast majority of relapses occurred in the first three years of follow-up (80.2%). The results show that routine vaginal cytology was only beneficial in 6.2% of recurrences, so it can be concluded that surveillance by vaginal cytology is ineffective for the detection of relapses of endometrial cancer.
Predictive Factors of Recurrence in Endometrial Cancer: Proposal for a New Morphological Model.

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Aims

Identify morphological and immunohistochemical features as predictive markers of recurrence in endometrial endometrioid cancer (EEC).

Method

Retrospective study of a single-center clinical series of 72 patients treated for EEC at the Department of Gynecologic Oncology of the University of Turin, between the 1st of January 2012 to 31st of December 2014. The histological specimens have been revalued in blind by a pathologist to define: FIGO stage, histological grading, number of mitosis (at 40HPF and 10HPF), Ki-67% expression and morphological features. In addition the tumor aggressiveness and its recurrence has been analyzed in relation to the proliferation boost: this was defined as the percentage of the cells in mitosis during the interphase.

Results

The analysis revealed a strong association between the Ki-67% expression (p= 0.015) and disease free survival (DFS). Proliferation boost results to be the best marker of recurrence (p= 0.007) with OR 1.93 (95% CI 1.86-1.99; p = 0.013). The only two morphological variables that showed a correlation with the recurrence are the LVSI (p= 0.032) and the pattern of infiltration (p= 0.012). At multivariate analysis the FIGO stage and the proliferation boost result independent predictors of DFS with OR 4.04 (95% CI 1.41-11.59; p= 0.009) and OR 5.01 (95% CI 1.42-17.75; p= 0.012) respectively.

Conclusion

The integration of FIGO stage and proliferation boost is feasible and could be used as predictive factor of recurrence in EEC.
ENDEMETRIAL CANCER

ESGO7-1320

SAFETY AND FEASIBILITY OF ROBOTIC SURGERY FOR ENDOOMETRIAL CANCER: EXPERIENCE FROM A TERTIARY CANCER CENTRE IN INDIA

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Aims

Robotic surgery has become the preferred surgical approach in the management of endometrial cancer in many developed countries. However, the same is not true for less developed countries where open surgery still continues to be standard of care. At our institute Xi Robotic system was installed in September 2014. The current study presents our early experience with robotic surgery in endometrial cancer.

Method

The study is retrospective analysis of prospective data of endometrial cancer patients underwent robotic hysterecomy from October 2014 to December 2016.

Results

A total of 58 patients underwent robotic surgery. The median age was 59 years (range 31-75). The median BMI was 30 (Range 20 - 42). The median docking time and procedure time was 12 min and150 min, respectively. All surgeries were completed robotically except one, which required laparotomy for advanced disease found intraoperatively. The median blood loss was 100 ml. Surgical procedures performed were – RH + BSO with bilateral pelvic lymphadenectomy in 52 %, RH + BSO + Sentinel node in 29%, RH + BSO + pelvic and retroperitoneal node dissection in 3.5 % and RH + BSO in 14%. Seventeen patients underwent sentinel node biopsy with Indocyanine green (ICG) dye, bilateral sentinel nodes were detected in all. The post operative period was uneventful except one re-exploration on first post operative day for undiagnosed needle injury to ileum. At a median follow up of 16 months 2-year recurrence free survival was 85%.

Conclusion

Robotic surgery for endometrial cancer is safe, feasible and carries low peri-operative morbidity.
ENDOMETRIAL CANCER

ESGO7-0132

RISK FACTORS FOR DIFFICULTIES IN OFFICE ENDOMETRIAL CYTOLOGICAL SAMPLING


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5Medical School- National and Kapodistrian University of Athens- Greece, Department of Hygiene- Epidemiology and Medical Statistics, Athens, Greece

Aims

Endometrial cytology is useful for the diagnosis of endometrial cancer. This study aims to evaluate factors associated with difficulties in endometrial cytology sampling.

Method

204 women that underwent endometrial cytological sampling with the Endogyn curette (Biogyn S.N.C., Mirandola, Italy) were included in the study. Difficulty (strenuousness) in obtaining the sample was graded into a five-level scale-score. Various risk factors were examined in association with the strenuousness score; multivariate ordinal logistic regression analysis was conducted. Statistical analysis was performed with Stata/SE statistical software (Stata Corp., College Station, TX, USA).

Results

Postmenopausal status (adjusted OR=2.91, 95%CI: 1.72-4.92, p<0.001) and previous invasive/surgical procedures in the cervix (adjusted OR=2.23, 95%CI: 1.20-4.15, p=0.011) were independently associated with higher difficulty score. On the other hand, participants’ phase of the menstrual cycle, endometrial thickness, obesity, current hormone use and the reproductive history of women were not significantly associated with the difficulty in conducting the procedure.

Conclusion

Difficulties during endometrial sampling are observed in postmenopausal women, as well as in women with previous surgical procedures in the cervix.

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ENDOMETRIAL CANCER

ESGO7-0631

HIGH GRADE ENDOMETRIAL STROMAL SARCOMA ASSOCIATED WITH YWHAE-FAM22 REARRANGEMENT – TWO CASE REPORTS.

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Aims

Endometrial stromal sarcoma (ESS) is the second most common malignant uterine mesenchymal tumour and accounts for around 0.2% of all uterine malignancies.

Method

We present two cases of high grade endometrial stromal sarcoma associated with YWHAE-FAM22 rearrangement harboring t(10, 17) (q22, p13).

Results

First patient was a 39 year old nulliparous women who underwent transcervical polypectomy for heavy irregular vaginal bleeding on background history of stage IV endometriosis. Histology showed high grade ESS. Subsequent completion surgery revealed residual low grade ESS, FIGO stage IB and extensive endometriosis. She recovered well post operatively and required no adjuvant therapy. She is well with no signs of recurrence 36 month after primary diagnosis.

Second patient was 57 year old, P3 morbidly obese women who underwent diagnostic hysteroscopy and curettage for abnormal uterine bleeding. Histology was suspicious for sarcoma. She was subsequently admitted with significant vaginal bleeding requiring emergency uterine artery embolization. Total abdominal hysterectomy with bilateral salpingo-oophorectomy was performed which revealed high grade ESS, at least FIGO stage IB. Decision for adjuvant pelvic radiotherapy was made. CT abdomen and pelvis performed 3 months following surgery revealed disease recurrence with new pelvic and retroperitoneal lymphadenopathy.

Conclusion

YWHAE-FAM22 ESS have been described in the literature as a clinically aggressive subtypes of ESS. Our second case certainly reflects that theory. Positive outcome of the first case could be potentially explained by the fact that high grade ESS was limited only to the endometrial polyp.
MESONEPHRIC LIKE ENDOMETRIOID UTERINE CARCINOMA – A CASE REPORT.

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Aims

Mesonephric adenocarcinomas are rare female genital tract neoplasms occurring most commonly in the cervix and occasionally in the vagina and uterus. It is assumed they originate from remnants of mesonephric (Wolffian) ducts that run parallel to the Mullerian ducts in the embryonic period.

Method

We present a case of 39 year old women with stage IV mesonephric like endometrioid uterine carcinoma.

Results

She presented initially with irregular vaginal bleeding and histological diagnosis of atypical endometrial hyperplasia was confirmed. She returned few months later with abdominal pain. Laparoscopy at that time revealed metastatic malignancy to peritoneum, omentum and ovaries. She subsequently underwent staging laparotomy. Histology showed metastatic uterine adenocarcinoma with glandular, solid and slit-like formations. There were no tubular formations with luminal eosinophilic material. Immunohistochemistry showed positive staining with EMA, vimentin, PAX8, TTF1, focal immunoreactivity with cytokeratins, p16, Ca125 and calretinin. PS3 exhibited “wild type” and hormone receptors (ER and PR) were weakly positive. WT1, inhibin, CD10, GATA3 and androgen receptor were negative. She is currently well at her 6th cycle of adjuvant carboplatin and paclitaxel based chemotherapy. Based on current knowledge it can be speculated whether this case represent true mesonephric adenocarcinoma of the uterine corpus or unusual variant of endometrioid adenocarcinoma.

Conclusion

Similar cases present significant pathological challenge since a mesonephric adenocarcinoma typically exhibits a mixture of different morphologic patterns with multiple immunohistochemical markers which can be often confused with different histological subtypes. Future studies are necessary in order to classify this tumours appropriately and guide the treatment.
ENDOMETRIAL CANCER

ESGO7-1266

PROOF OF CONCEPT: CAN THE INTELLIGENT SURGICAL KNIFE DIAGNOSE ENDOMETRIAL CANCER?
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Aims

The aim of this study was to establish whether the intelligent surgical knife (‘iKnife’) could distinguish between normal and malignant endometrial tissue based on differences in their lipidomic profiles.

Furthermore, we intend to use this reference dataset to create a multivariate statistical model to enable real-time tissue recognition in the gynaecology clinic; thus providing rapid point-of-care diagnosis.

Method

A Waters G2-XS Xevo Q-Tof mass spectrometer (MS) was used in this study in conjunction with a modified handheld diathermy (collectively coined the ‘iKnife’). The resultant surgical aerosol containing ionic species were then analysed with this technology; producing spectra that are background subtracted, lock mass corrected and in the phospholipid range. Principal component analysis (PCA) and linear discriminant analysis (LDA) were then performed to find the variance in spectral signatures between benign and malignant endometrial tissues. A leave one patient out cross validation was used to obtain sensitivity and specificity values.

Results

Seventy-two frozen uterine samples (23 normal and 49 malignant endometrial tissue samples) were analysed using the technique above.

The iKnife differentiated between normal and malignant endometrial tissues on the basis of differences in their unique phospholipid spectral signatures. A leave one patient out cross validation was performed; which revealed a sensitivity and specificity of 78% and 86% respectively.

Conclusion

This pilot study is the first to use the iKnife as a tool to differentiate between normal and malignant endometrial tissue. These results are promising, and suggest that the iKnife could be used as an adjunct in clinic to provide a point-of-care diagnosis.
SENTINEL NODE MAPPING IN ENDOMETRIAL CANCER: A SINGLE CENTER EXPERIENCE OVER 200 CASES OF HYSTEROSCOPIC INJECTION OF TRACERS

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Aims

To analyze detection-rate (DR) and diagnostic-accuracy (A) of sentinel-nodes (SLNs) mapping following hysteroscopic-injection of tracer. To compare DR and A between tracers used: ICG and Tc99m.

Method

Retrospective evaluation of Prospectively collected data of Consecutive patients with endometrial cancer underwent SLNs mapping following hysteroscopic-peritumoral-injection of tracer+/−full surgical-staging. Evaluation of DR (overall-bilateral-aortic) and A among the entire cohort and comparison between tracers.

Results

202 procedures were performed. Mean age: 60 years (28-82); mean BMI: 26.8 Kg/m2 (15-47). In 133 cases (65.8%) hysterectomy and mapping procedure were performed laparoscopically. The overall-DR of the technique was 93.2% (179/192) (10 cases excluded: 9 equipment failure; 1 vagal reaction). Bilateral pelvic mapping was found in 59.7% of cases (107/179) and was more frequent in the ICG group (72.8% vs 53.3%; p: 0.012). In 50.8% of cases (91/179) SLNs mapped both to pelvic and aortic nodes, and in 5 cases (2.8%) only in the aortic area. Mean number of detected SLNs was 3.7 (1-8).

22 patients (12.3%) had nodal involvement: 10 (45.5%) macrometastases; 5 (22.7%) micrometastases; 7 (31.8%) ITCs. In 6 cases (27.3%) only aortic nodes were positive; in 5 cases (22.7%) both pelvic and aortic nodes and in 11 cases (50%) only pelvic area was involved.

Three false negative results were found, all in the Tc99m group. All had isolated aortic metastases with negative pelvic nodes.

Overall-sensitivity was 86.4% and overall-negative-predictive-value (NPV) was 98.1%.

No differences in terms of overall-DR, overall-sensitivity and overall-NPV were found between the two tracers. (Table)

<table>
<thead>
<tr>
<th></th>
<th>Global DR</th>
<th>Tc99m (87%)</th>
<th>ICG (77%)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Included</td>
<td>179/192</td>
<td>159/179</td>
<td>120/192</td>
<td>0.007</td>
</tr>
<tr>
<td>DR</td>
<td>179/192</td>
<td>159/179</td>
<td>120/192</td>
<td>0.007</td>
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<tr>
<td>Overall sensitivity</td>
<td>96.4%</td>
<td>91.5%</td>
<td>100%</td>
<td>0.229</td>
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<tr>
<td>Overall NPV</td>
<td>96.4%</td>
<td>91.5%</td>
<td>100%</td>
<td>0.229</td>
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<tr>
<td>Overall TNv</td>
<td>96.4%</td>
<td>91.5%</td>
<td>100%</td>
<td>0.229</td>
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</table>

Conclusion

Hysteroscopic-injection of tracer for SLNs mapping in endometrial cancer is as accurate as cervical injection with a higher DR in the aortic area. ICG improved bilateral DR. Further investigation is warranted on this topic.
ENDOMETRIAL CANCER

ESGO7-0409

MULTIPOSITIONAL EVALUATION OF CLEAR-CELL ENDO METRIAL CANCER

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Aims

The trends in some epidemiological indices of clear-cell endometrial cancer (CCEC) and the efficacy of treatment were evaluated.

Method

Annual incidence and mortality values and 5-year survival rates were analyzed in 350 patients treated according to the National standards in period 2005-2015. The 5-year survival rates were compared with the same indices in 128 patients receiving non-standard therapy.

Results

The proportion of stage I CCEC patients increased by 12.7%, stage IV by 8.6%. The incidence grew from 0.6‰ to 0.8‰. Mortality in the period under study varied from 0.1‰ to 0.3‰, being 0.2‰ in most of the cases. The 5-year survival rate in the 350 patients was 65.7%, being 85.4% for stage I CCEC, 69.7% for stage II, 43.0% for stage III, and 23.6% for stage IV. In 128 patients treated with non-standard techniques, this rate was 59.2%, being 85.0% for stage I, 56.5% for stage II, 26.6% for stage III, 0.0% for stage IV. None of stage IV patients survived for 5 year, the 3-year survival rate being 10.4%.

Conclusion

Over the recent years, CCEC incidence growth from 0.6‰ to 0.8‰ was noted in Belarus, with no change in mortality rates. The employment of the National standards made it possible to increase the 5-year survival rate for stage II CCEC by 13.6%, for stage III by 16.4%, for stage IV by 23.6%, with no change in its value for stage I which was 85.4% and 85.0% in those years.
ENDOMETRIAL CANCER

ESGO7-0277

PROTEOMIC PROFILING OF ENDOMETRIOID ENDOMETRIAL CANCER REVEALS DIFFERENTIAL EXPRESSION OF HORMONE RECEPTORS AND MAPK SIGNALING PROTEINS IN OBESE VERSUS NON-OBESE PATIENTS

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Aims

Endometrial cancer development is strongly linked to obesity, but knowledge regarding the influence of excess weight on endometrial tumor signaling pathways remains scarce.

Method

We examined obesity-related protein expression patterns with reverse phase protein array (RPPA) in well-annotated patient samples using one training (n=272) and two test cohorts (n=68; n=178) of patients treated for endometrioid endometrial cancer. Gene expression profiling and immunohistochemistry were used for cross-platform validation.

Results

Body mass index (BMI) was significantly correlated with progesterone receptor (PR) expression and a hormone receptor protein signature, across all cohorts. BMI was negatively correlated with receptor tyrosine kinase- and mitogen-activated protein kinase (MAPK) pathway activation, particularly phospho-MAPK (T202 Y204) level (p-MAPK). Using stepwise selection modelling, a BMI-associated protein signature, including phospho-estrogen receptor (ER)a (S118) (p-ERa) and p-MAPK, was identified. In the subset of FIGO stage 1, grade 1-2 tumors, obese patients (BMI≥30) had significantly better disease-specific survival compared to non-obese patients (p=0.042). Non-obese patients had higher p-MAPK levels, whereas obese patients had higher p-ERa levels and enrichment of gene signatures related to estrogen signaling, inflammation, immune signaling and hypoxia. In subgroup analysis of non-obese patients with stage 1 tumors, low PI3K-activation was associated with reduced survival (p=0.002).

Conclusion

Increasing BMI is associated with increased PR and p-ERa levels as well as reduced MAPK signaling, both in all patients and in subsets with predicted excellent prognosis. The MAPK-pathway represents a potential target for therapy in non-obese patients with low stage and low grade tumors.
ENDOMETRIAL CANCER

ESGO7-0280

HIGH VISCERAL FAT PERCENTAGE IS ASSOCIATED WITH POOR OUTCOME IN ENDOMETRIAL CANCER
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Aims

Despite evidence of increased endometrial cancer (EC) risk in obese women, the impact of obesity and fat distribution pattern on clinical and histological phenotype is poorly understood. We therefore evaluated abdominal fat volumes and fat distribution quantified by computed tomography (CT), in relation to tumor characteristics and outcome.

Method

227 EC patients with preoperative contrast-enhanced abdominal CT scans and comprehensive clinicopathological data were included. Total abdominal fat volume (TAV), subcutaneous abdominal fat volume (SAV) and visceral abdominal fat volume (VAV) were quantified, and visceral fat percentage calculated (VAV%=[VAV/TAV]x100). Waist circumference (WC) and liver density (LD) were measured, and body mass index (BMI) calculated. Data for estrogen, progesterone and androgen receptor (ER/PR/AR) expression by immunohistochemistry were available for 149 tumors, and global gene expression data for 105 tumors.

Results

High BMI, TAV, SAV and WC, and low LD, were associated with markers of less aggressive disease, including low-grade endometrioid tumors and PR and AR positivity (all ps<0.03). High VAV% was associated with high age (p<0.001) and aneuploidy (p=0.01), and independently predicted reduced disease-specific survival (HR 1.05, 95% CI 1.00-1.11, p=0.041). Tumors from patients with low VAV% showed enrichment of gene sets related to immune activation and inflammation.

Conclusion

High abdominal fat volumes and markers of obesity are associated with less aggressive endometrial cancer. High VAV% independently predicts reduced EC survival. Tumors arising in patients with low VAV% show enrichment of immune and inflammation related gene sets, suggesting that the global metabolic setting may be important for tumor immune response.
ENDOMETRIAL CANCER

ESGO7-0024

PIPELINE BIOPSY: THE KEY TO REDUCING CANCER WAITING TIMES?
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Aims

Aim: During the year 2015 cancer waiting times across the UK have fallen below established targets of 85% of patients completed treatment from initial referral red flag referral. The purpose of the review was to highlight the reduced waiting times experienced when a pipeline biopsy was performed in patients with suspected endometrial cancer.

Method

Methods: A retrospective review was performed of all endometrial cancer patients (n=60) in Craigavon area hospital in 2015. From this group patients who had pipeline performed at initial hospital consultation (n=30) were compared with those who had hysteroscopy as the diagnostic tool(n=30). The total waiting time from initial referral to definitive treatment were then compared to assess for reduction in waiting time.

Results

Results: Average referral to appointment time =13.4 days which hits the target as set out by NICE guidelines. The average referral to surgery time for the pipeline group was 61.94 days in pipeline group vs 106 days in the hysteroscopy group.

Conclusion

Conclusion: Average reduction in waiting time for definitive treatment was 64.04 days. This meant that having a pipeline biopsy at initial consultation reduced the waiting time for definitive treatment by 43%.
CLINICOPATHOLOGICAL FEATURES OF UTERINE ENDOMETRIAL CANCER IN YOUNG WOMEN UNDER 40 YEARS

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Aims

To verify the feature of young uterine endometrial cancer patients who were diagnosed at age of less than 40 years; clinical course, histopathological data, family cancer history and more.

Method

From 2007 to 2016, we reviewed 47 patients of uterine endometrial carcinoma under 40 years; clinically and histopathologically. As a second study, we separated patients to two groups. One is Lynch suspected group; patients who has family cancer history of Lynch related cancer within first degree relatives. Second group is Sporadic group; patients without family cancer history of “Lynch suspected group”, and reviewed both group’s feature retrospectively.

Results

Median age was 36, BMI was 28.3. 40 of 47 patients were stage I, and 41 of 47 patients were Endometrioid carcinoma. 7 patients had synchronous ovarian cancer. 7 of 47 patients met criteria of Lynch suspected group, but no patients met Amsterdam criteria II. There were no specific findings between two groups, both Lynch suspected group and Sporadic group.

Conclusion

In young endometrial cancer patients, ratio of early stage and histology of endometrioid carcinoma was high. 15% patients had family cancer history which is related to Lynch syndrome. This suggest that it is important to treat young endometrial cancer patients with consideration of hereditary tumor. Prospective analysis of more patients will be needed.
Aims

The new, revised WHO classification of endometrial hyperplasia has greater benefit to clinical management that is why it is preferred by gynecologic oncologists. Correct assessment of precancerous lesions in peri or postmenopausal women with abnormal uterine bleeding means to avoid under or over treatment of these patients, so to identify the true neoplasia is the most important for the clinical practice.

The main objective for the nonsurgical management in EIN is to induce and maintain disease regression. Unfortunately, hormonal treatment is not so well standardized regarding optimal route, dose, duration for administrating of progestins, nor for the follow-up and endometrial surveillance in these women.

A significant proportion of patients diagnosed with endometrioid intraepithelial neoplasia -EIN have a coexisting invasive cancer or have a high risk of developing cancer. Also, in patients diagnosed with EH by endometrial sample, after surgery the diagnosis was EIN, so surgical treatment should be established correctly.

Method

In our study were included all the patients diagnosed with endometrial hyperplasia in our institution in the last two years after having an endometrial sampling with or without a hysteroscopy.

Results

All our patients diagnosed with EIN who underwent hysterectomy had an associated well differentiated endometrioid adenocarcinoma of endometrium.

Conclusion

Because of the risk of concurrent endometrial cancer or because of the risk of progression to cancer, we consider total hysterectomy with bilateral salpingoophorectomy appropriate for all women diagnosed with EIN. Women with benign EH or those diagnosed with EIN who wish to preserve their fertility can be managed conservatively.
ENDOMETRIAL CANCER

ESGO7-0351

ANALYSIS OF THE RISK FACTORS FOR THE OVERALL SURVIVAL IN PATIENTS WITH ENDOMETRIAL CANCER
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Aims
To evaluate the influence of the risk factors on the survival in patients treated for endometrial cancer (EC)

Method
Retrospective review. Staging surgery/debulking was performed in 169 patients between April 2004 and April 2017. A total hysterectomy and double salpingo-oophorectomy was performed with sentinel node in 12 cases, with pelvic lymphadenectomy in 69 cases and with pelvic and para-aortic lymphadenectomy in 52 cases. A laparoscopic technique was performed in 101 patients. Pelvic exenteration was performed in 2 cases. 90 patients received adjuvant treatment with chemotherapoy-radiotherapy. The factors that affect survival were assessed using Kaplan-Meier survival curves and a multivariate analysis.

Results
Mean age was 64.3 years. Mean Surgical time was 195.2 minutes, and mean blood loss was 1132 ml. Mean removed nodes was 20 pelvic nodes (10-55) and 18.1 para-aortic nodes (7-51). The global survival of the studied group was 94.5% at 3 years and 93.1% at 5 years. There were significant differences according to myometrial infiltration (95.2% vs. 84.9% at 3 years, 93.8% vs. 68.6% at 5 years; log rank p=0.034), FIGO stage (Log rank p=0.00) and preoperative Ca125 levels (89.4% vs. 53.2% when Ca125 > 35; log rank 0.030). There weren't significant differences on the survival depending on the surgical technique (LPS vs LPM) (p=0.727), histological differentiation degree (p=0.180), tumor size (p=0.271), infiltration lymphovascular (p=0.140), positive nodes (p=0.436) and histological type (p=0.083).

Conclusion
In this serie the risk factors in the overall survival of patients with EC, was the stage at diagnosis, preoperative Ca125 levels and myometrial infiltration.
THE ROLE OF COMPREHENSIVE SURGICAL STAGING IN SEROUS ENDOMETRIAL CANCER: A PROSPECTIVE EXPERIENCE

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Aims

To evaluate the role of comprehensive surgical staging in serous endometrial carcinoma.

Method

Data of consecutive patients diagnosed with serous carcinoma of the endometrium undergoing surgery between 2000 and 2016 at Fondazione IRCCS Istituto Nazionale Tumori of Milan (Italy) were prospectively collected and reviewed. Disease-free and overall survival outcomes were evaluated using Kaplan-Meier and Cox proportional hazard models.

Results

Overall, 101 patients were included. Forty-nine (48.5%) patients had gross peritoneal disease and they had cytoreductive procedures. Among the 52 (51.5%) patients with apparent uterine confined disease 22 (42.3%) patients were upstaged. Five (9.6%) patients had microscopic disease located in the adnexal regions; while, seven (13.4%) and 10 (19.2%) were upstaged due to the presence of microscopic peritoneal and retroperitoneal disease, respectively. Considering factors predicting disease-free and overall survival, we observed that presence of extra-uterine disease significantly impact on patients’ outcomes (p<0.05). Deep of myometrial invasion (HR: 2.00 (95%CI: 1.16, 3.46); p=0.013), LVSI (HR: 1.99 (95%CI: 0.95, 4.14); p=0.065), and peritoneal disease (HR: 2.09 (95%CI: 1.06, 4.12); p=0.032) were associated with disease-free survival at univariate analysis. Via multivariate analysis, only peritoneal disease influenced disease-free survival (HR: 2.25 (95%CI: 1.11, 4.55); p=0.023). Similarly, peritoneal disease was the only factor predicting for overall survival (HR: 3.28 (95%CI: 1.75, 6.17); p<0.001).

Conclusion

In apparent early stage serous endometrial cancer, peritoneal and retroperitoneal staging allow to identify patients with disease harboring outside the uterus. Owing to the high prevalence of extra-uterine disease in apparent early stage serous endometrial carcinoma, comprehensive staging should be mandatory.
EMENETRIAL CANCER

ESGO7-1075

VALUE OF SENTINEL LYMPH NODE (SLN) MAPPING AND BIOPSY USING COMBINED INTRACERVICAL RADIOTRACERS AND BLUE DYE INJECTIONS FOR ENDOMETRIAL CANCER
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2Shahid Beheshti University of Medical Sciences, Nuclear Medicine Department, Tehran, Iran

Aims

This study was conducted to evaluate SLN mapping of early stage endometrial cancer with blue dye in conjunction with a radioactive tracer.

Method

In this prospective cross-sectional study, patients with stage I and II endometrial cancer who were candidates for systemic lymph node dissection during surgery were enrolled, some underwent lymph node mapping and SLN biopsy using combined intra cervical radiotracer and blue dye injections and some applying only an intra cervical radiotracer. SLNs and other lymph nodes were sent for pathological assessment. Sensitivity, specificity, the positive predictive value, and the negative predictive value were calculated as predictive values for the radiotracer and blue dye.

Results

Pre-operative lymph node mapping showed SLN in 29 out of 30 patients. Intra operations in 29/30 patients, SLNs were harvested by gamma probe; in 13 out of 19 patients SLNs were detected by blue dye. The median number of SLNs per patient was 3 and the total number of SLNs detected was 81. Four patients had positive pelvic lymph nodes. All of the positive nodes were SLNs. Using this technique (radiotracer and blue dye) an overall detection rate of 96.7%, an NPV of 100%, a sensitivity of 100% and a specificity of 3.85% were achieved.

Conclusion

Results of SLN research for endometrial cancer are promising and make feasible the possibility of avoiding unnecessary aggressive surgical procedures in near future by advances in SLN mapping.
ENDOMETRIAL CANCER

ESGO7-0636

OUTCOMES OF CONSERVATIVE THERAPY FOR ADENOCARCINOMA AND ATYPICAL ENDOMETRIAL HYPERPLASIA OF THE ENDOMETRIUM IN YOUNG WOMEN: A SINGLE INSTITUTION EXPERIENCE WITH 14 CASES

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Aims

To evaluate treatment efficacy and fertility outcomes in women with complex atypical hyperplasia (CAH) or grade one endometrial cancer (G1EC) treated with high-dose oral progestin for fertility preservation at our Hospital (2007 to 2015).

Method

A total of 14 patients were identified, 6 with CAH and 8 with G1EC. Complete response (CR) was defined as the absence of carcinoma/hyperplasia on endometrial sampling.

Results

The age at presentation ranged from 30 to 40 years (median, 38y). All patients were nulliparous, and 10/14 had a history of infertility while four of them of abnormal uterine bleeding. Mean Body Mass Index was 28±6Kg/m2. Patients received 500mg of medroxyprogesterone acetate (6/14) or 160mg of megestrol acetate (8/14) orally daily. Transvaginal ultrasound and endometrial biopsy were performed at 6 months of treatment. CR rate was 87% (7/8) in the CAH and 50% (3/6) in the G1EC group. Among those with CR, two patients recurred at 12 and 16 months. Nine out of fourteen (64%) underwent fertility treatment with the following outcomes: 3/9 (33%) no pregnancy, 2/9 (18%) at least one live infant and 1/9 (11%) spontaneous abortion. While 3/9 were undergoing assisted reproductive techniques during abstract elaboration. None achieved a live birth without intervention. Ten out of fourteen (71%) underwent hysterectomy; 5/14 for persistent and 2/14 for recurrent disease and 3/14 after attempting pregnancy, none were upstaged. One patient was lost during follow-up.

Conclusion

Oral progestin is an effective temporizing fertility-sparing treatment for women with CAH/G1EC. Fertility specialist is recommended due to the low live birth rate without intervention. Hysterectomy is recommended after childbearing due to a high recurrence rate.
ENDOMETRIAL CANCER

ESGO7-0941

APRONECTOMY FOR GYNAECOLOGICAL CANCER SURGERY: A CASE SERIES
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Aims

To investigate surgical outcomes of apronectomy combined with laparotomy in gynaecological oncology, as a technique to gain access to the abdomen, especially for morbidly obese women.

Method

Retrospective case series of all patients with gynaecological cancer, who had apronectomy combined with laparotomy at The Christie, between 1/9/2007 and 31/8/2016. Data collection included patient demographics (age, BMI, body weight, performance status, co-morbidity and anaesthetic scoring) level and complexity of surgery, histopathological features (stage, type, grade) and surgical outcomes (peri and post-operative morbidity, mortality, length of hospital stay, readmission).

Results

We identified 77 consecutive cases. Median age was 58.7 years old (range 31-84 y.o) with a mean BMI of 45.5 and a mean body weight of 116.2 kg. 30% had a BMI>50. 34% were diabetic and 58% had cardiovascular disease. 82% had at least a moderate risk in the adult co-morbidity evaluation score (ACE) and 30% had an ECOG performance status of 2 or higher. Mean hospital stay was 6.9 days (range 4-23 days). Post-operative complications included wound infection in 32% of patients, 7% of UTI and chest infections, and only 1.2% of Clavien-Dindo level 3a complication. There were no deaths within 30 days post op. There were 2.4% readmissions for wound healing problems.

Conclusion

Apronectomy in this high risk cohort of patients is a safe procedure with acceptable morbidity although longer than average hospital stay.

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ENDOMETRIAL CANCER

ESGO7-0393

FRENCH MULTICENTRIC RANDOMIZED TRIAL EVALUATING SEVERE PERIOPERATIVE MORBIDITY AFTER ROBOT ASSISTED VERSUS CONVENTIONAL LAPAROSCOPY IN GYNECOLOGIC ONCOLOGY: RESULTS OF ROBOGYN TRIAL.


1oscar lambret cancer center, gynecologic surgical oncology, lille, France
2oscar lambret cancer center, statistics, lille, France
3university hospital, gynecology, tours, France
4university hospital, gynecology, limoges, France
5university hospital, gynecology, lille, France
6rene gauducheau cancer center, rene gauducheau cancer center, nantes, France
7university hospital pompidou, gynecology, paris, France
8bordeaux nord hospital, gynecology, bordeaux, France
9university hospital, gynecology, toulouse, France
10university hospital, gynecology, bordeaux, France
11university hospital, gynecology, nimes, France
12alexis vautrin cancer center, surgery, nancy, France
13oscar lambret cancer center, clinical research, lille, France
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Aims

In gynecologic oncology, mini-invasive surgery by laparoscopy decreases incidence of severe morbidity compared to open surgery. The robotic-assisted laparoscopy (RL) was approved by FDA in gynecology in 2005. ROBOGYN (NCT01247779) is the first multicentric randomized trial comparing severe perioperative morbidity after RL versus conventional laparoscopy (CL).

Method

Patients with a gynecologic cancer eligible for mini-invasive surgery were recruited in 13 French centers between December-2010 and December-2015. Severe perioperative morbidity was defined as Oslo grade>=II for per-operative complications, Clavien-Dindo grade>=II in the first 30 days, or NCI-CTCAE-4.03 grade>=3 up to 6 months after surgery, evaluated on the per-protocol dataset. Overall 374 evaluable patients were required to detect 10%-decrease of severe morbidity (15%-versus-5%) with a 90%-power (two-sided α=5%). Balanced randomization was stratified by center.

Results

383 patients with uterine (54%), cervical (43%) and ovarian cancer (3%) were recruited. Median age=58, BMI=25.9, WHO-0 in 83%. Per-protocol analysis includes 369 patients: 176 underwent RL, 193 CL. 208 and 92 patients had total and radical hysterectomy, respectively. A pelvic and/or iliac lymphadenectomy was performed in 186 patients, para-aortic lymphadenectomy in 71. Ten patients in each arm had a laparocversion (p=0.83). RL was associated with a significantly longer operating time (median, 205 vs 162min, p<0.001), and higher blood loss (estimated volume, median, 100 vs 50ml, p=0.005).

Severe perioperative morbidity was reported in 48/176 for RL (27%) and 40/192 for CL (21%) (p=0.15, 1 missing data).

Conclusion

We did not observe any reduction of severe perioperative morbidity with robot-assisted laparoscopy compared to conventional laparoscopy in patients with gynecologic cancer.
MULLERIAN MIXED TUMOR: ADENSARCOMA REPORT OF A CASE.

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Aims

Mullerian adenosarcoma is a rare biphasic malignant mesenchymal tumor composed of a benign glandular component and a malignant stromal component, but usually of low grade. The age range of onset is very wide, ranging from 10 to 90 years, although it is more frequent in postmenopausal women.

Given the rarity of adenosarcomas, we presents a case of adenoarcomas with sarcomatous overgrowth.

Method

Report of a Case

Results

Female 18 years old, with no relevant clinical history. Began with clinical manifestations transvaginal bleeding, initially in abundant amount, went to gynecologist, received hormonal treatment for 6 months without response, performed PET CT: hypermetabolic uterine lesion at right diaphragmatic, retroperitoneal and pelvic diaphragmatic level Left, mesentery, and free fluid in the peritoneal cavity. Hysteroscopy with biopsy, histopathological report: Endometrial adenosarcoma with stromal overgrowth and heterologous component of rhabdomyosarcoma. Immunohistochemistry: Myogenin: + zonal. Desmin: + zonal CD10: + zonal in negative areas of Myogenin. RE: + focal. Clinical stage IVB.

Received systemic treatment with Carboplatin and paclitaxel for 5 cycles, assessing response with PET CT with Partial Response.

Then, it was decided to perform endometrial interval cytoreductive laparotomy, findings with the presence of subserosal, ileum, parietal peritoneum, pelvic and aortic lymphatic implants.

Intercurred with abdominal pain of great intensity predominance in right hypochondrium. TAC: Heterogeneous lesion of hypodense predominance, with areas of greater density, with dimensions of 16x8cm in topography of the hepatic capsule segment VI, conditions important displacement of adjacent structures. Free liquid in pelvic cavity. The biopsy with histopathological report of fusco cell sarcoma

Conclusion

Case of Adenosarcomas with sarcomatous overgrowth.
ENDOMETRIAL CANCER

EXPRESSION OF FOCAL ADHESION-ASSOCIATED PROTEINS IN ENDOMETRIAL CANCER FOR INDICATOR OF METASTATIC POTENTIAL

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Aims

To investigate the expression of focal adhesion-associated proteins in human endometrial cancer samples (endometrium and myometrium) and relate to the level of metastasis of the samples to determine if proteins have metastatic indicator potential. Expression of the same proteins were looked at in the rat during blastocyst implantation and early pregnancy, as the uterine luminal epithelium during this type exhibits similar adhesion-loss to cancer metastasis.

Method

Human samples were obtained through a human ethics approved collaboration with local hospitals, from patients with type 1 or 2 endometrial cancer. Uterine epithelial cells were obtained from rats during different stages of early pregnancy, when focal-adhesions were intact and then when they are lost. Western blotting, immunohistochemistry and qPCR were then used to determine protein expression and localization.

Results

Focal adhesion-associated proteins, such as lasp-1 and palladin isoforms, showed expression in the varying types of endometrial cancer consistent with literature of different cancer types. There was an increase of those proteins associated with cell adhesion loss in types with more metastatic potential (type 2). Additionally, there is a significant loss of alpha-parvin once uterine epithelial adhesion loss has occurred during rat early pregnancy, and an increase in phosphorylated alpha-parvin, palladin 140 kDA isoform and lasp-1 during adhesion loss of early pregnancy.

Conclusion

Preliminary results in human endometrial cancer samples suggests the use of some focal adhesion-associated proteins as an indicator for cell movement. This is supported by the same changes in protein expression during controlled adhesion loss in rat uterine luminal epithelial cells during early pregnancy.
ENDOMETRIAL CANCER

ESGO7-0290

TYPE I VS. II ENDOMETRIAL CANCER: DIFFERENTIAL IMPACT OF COMORBIDITY
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Aims

Two distinct types of endometrial carcinoma (EC) with different etiology, tumor characteristics and prognosis are recognized. We investigated if the prognostic impact of comorbidity varies between these two types of EC. Further, we studied if the recently developed ovarian cancer comorbidity index (OCCI) is useful for prediction of prognosis in EC.

Method

This nationwide cohort study was based on data from 5369 type I and 1219 type II EC patients diagnosed in Denmark in 2005-15. Patients were assigned a comorbidity index score according to the Charlson comorbidity index (CCI) and the OCCI. Kaplan Meier survival statistics and adjusted multivariate Cox regression analyses were used to investigate the differential association between comorbidity and overall survival in type I and II EC.

Results

The distribution of comorbidities varied between the two EC types and a consistent negative association between increasing level of comorbidity and survival was observed for both types. Cox regression analyses revealed a significant interaction between stage and comorbidity indicating that the impact of comorbidity varied with stage. In contrast, the interaction between comorbidity and EC type was not significant. Both the CCI and the OCCI were useful measurements of comorbidity but the CCI obtained a better statistical fit in the multivariate model.

Conclusion

This study demonstrates that comorbidity is an important prognostic factor in type I as well as in type II EC though the overall prognosis differs significantly between the two types of EC. The prognostic impact of comorbidity varies with stage but not with type of EC.
PREOPERATIVE CT AND MR IMAGING TO DETECT LYMPH NODE (LN) METASTASIS AND DEEP MYOMETRIAL INFILTRATION IN ENDOMETRIAL CANCER (EC) PATIENTS

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Aims

In a prospective study of sentinel lymph node (SLN) mapping (1) all patients underwent preoperative imaging with CT (thorax + abdomen) and MR (pelvis). The aim was to evaluate the diagnostic performance of the preoperative imaging.

Method

Consecutive patients with apparently early stage EC were included and underwent robot-assisted laparoscopic HBSO with ICG fluorescence SLN mapping including extended pathology (serial sectioning and immunohistochemistry) on H-E negative SLNs. The result of preoperative CT and MR imaging combined was compared to the histopathologic LN metastasis status and myometrial infiltration depth in the uterine surgical specimen.

Results

Among the 108 patients included in the study 17 (16 %) had LN metastasis. Only 8 had a corresponding true positive imaging result (sensitivity 47 %, PPV 57 %), and among those 92 LN negative patients 6 had a false positive imaging result (specificity 93 %, NPV 91 %). 48 patients (44 %) had > 50 % myometrial infiltration depth on histology, 25 of whom were correctly identified on preoperative imaging. The PPV and NPV were 76 % and 70 %, respectively.

Conclusion

Due to inaccuracy, CT and MR preoperative imaging alone is not sufficient for rational treatment planning.

ENDOMETRIAL CANCER

ESGO7-1322

RISK OF ENDOMETRIAL CANCER IN POSTMENOPAUSAL WOMEN UNDERGOING DIAGNOSTIC HYSTEROSCOPY: ROLE OF AUB AND ENDOMETRIAL THICKNESS

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Aims

to investigate the predictive value of endometrial thickness on the risk of endometrial cancer in postmenopausal women according to the presence or absence of AUB history. Secondly, to estimate the weight of BMI, hormone replacement therapy, hypertension and diabetes mellitus on the risk of cancer.

Method

We conducted a prospective, observational study from June 2012 to June 2014 on a cohort of postmenopausal patients undergoing diagnostic hysteroscopy with endometrial biopsy. Patients were included if a recent endometrial thickness measurement was available. For each patient we collected general features and history.

Results

435 patients were included in the study: 329 asymptomatic with endometrial thickness ≥ 4 mm (ET_Group), 106 with AUB (AUB_Goup), of which 58 with endometrial thickness ≥ 4 mm (AUB_Subgroup1) and 48 with ET < 4 mm (AUB_Subgroup2). We found higher prevalence of cancer in AUBGroup in comparison to ET_Group (15.2% vs 3.7%; p<0.001) and in AUB_Subgroup1 than AUB_Subgroup2 (20.7% vs 8.5%; p<0.001). Sensitivity and specificity of endometrial thickness for cancer detection in AUB patients resulted 75% and 48.3%. In ET_Group we found a correlation between endometrial thickness and BMI with cancer risk. The best cut-off of endometrial thickness for cancer diagnosis was 11 mm (100% sensitivity and 80% specificity).

Conclusion

In asymptomatic women hysteroscopy should be indicated exclusively when endometrial thickness is ≥ 11 mm, especially in case of overweight. In women with AUB the risk of cancer is considerably high even if endometrial thickness is < 4 mm, therefore diagnostic hysteroscopy is always recommanded in these patients.
ENDOMETRIAL CANCER

ESGO7-1326

ENDOMETRIAL SURVEILLANCE IN TAMOXIFEN USERS: ROLE, TIMING AND ACCURACY OF HYSTEROSCOPIC INVESTIGATION: OBSERVATIONAL LONGITUDINAL COHORT STUDY

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Aims

To determine the role of endometrial hysteroscopy in relation to the ultrasound, clinical and histological features of the endometrium during tamoxifen(TAM) use.

Method

We performed an observational longitudinal cohort study (2007–2012) that investigated the endometrium of 151 TAM users with hysteroscopy and histology. For all patients, ultrasound endometrial thickness(ET), gynecological history, years of adjuvant treatment and indications for hysteroscopy were recorded.

Results

Hysteroscopic findings showed that 100% of patients referred for simple follow-up had no evidence of endometrial disease. A strong correlation was found between history of abnormal uterine bleeding (with or without endometrial thickening) and hysteroscopic suspicion of endometrial atypia, confirmed by histology. Hysteroscopy had 83.3% sensitivity, 99% specificity, 83.3% positive-predictive-value(PPV) and 99% negative-predictive-value(NPV) in detecting endometrial atypia. No correlation was found between ET>5mm without bleeding and histological atypia. Similarly, the duration of treatment was not related to ET and histological atypia. Endometrial stromal hyperplasia was detected by histology in 70.5% of patients with ET between 5 and 10mm. In contrast, no atypia was detected when ET was <5mm. Ultrasound performed using a 5mm cut-off threshold for ET showed 100% sensitivity, 15% specificity, 4% PPV and 100% NPV in detecting endometrial atypia, while a 10mm cut-off threshold resulted in 84% sensitivity, 69% specificity, 10% PPV and 99% NPV.

Conclusion

Low-risk TAM users do not require different endometrial surveillance than general population. Hysteroscopy could play a fundamental role in determining the endometrial status of patients before the initiation of TAM treatment and in assessing the endometrial status of patients when bleeding occurs.
LAPAROSCOPIC SENTINEL NODE DETECTION IN ENDOMETRIAL CANCER AFTER INJECTION OF INDOCYANINE GREEN. PRELIMINARY REPORT FROM LJUBLJANA MEDICAL CENTER.

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Aims

To report the preliminary results concerning feasibility, safety and detection rate (DR) of sentinel lymph nodes (SLNs) detection in type-I endometrial cancer (EC) patients, after injection of indocyanine green (ICG) according to the internal protocol of Ljubljana Medical Center.

Method

Observational prospective study involving patients with apparent early stage endometrial cancer scheduled for surgical staging and SLN-mapping. The mapping technique according to our internal protocol consist in the peri-cervical injection of 0.5mg/mL of ICG followed by visualization of pelvic cavity through a laparoscope equipped with a near infrared (NIR)-camera.

Results

We performed a total of 42 procedures. The detection rate of SNLs was 90.5%(38/42). Of These 5 patents underwent complete pelvic-lymphadenectomy based on surgeon decision. The unilateral SNLs DR was 85.7%(36/42), the bilateral was 76.2%(32/42). In 6 cases we did not detect SNLs and patients underwent complete pelvic-lymphadenectomy. All SNLs were negative. Interestingly the only positive node detected was not a SNL and was included in the 5 patients who underwent complete lymphadenectomy on the basis of surgeon decision. Ultrastaging was not performed. The median operative time was 96 minutes (35 -160 min), blood loss 207 ml (50 – 300 ml). We did not reported serious intra-operative/post-operative complications.

Conclusion

Laparoscopy SNLs technique with ICG showed in our preliminary report a high degree of DR in apparently early stage endometrial cancer patients. Even if the DR and accuracy is not 100%, SNLs technique has the potential to reduce morbidity of complete lymphadenectomy. Probably the routine use of ultrastaging technique may reduce the gap increasing diagnostic accuracy.
ENDOMETRIAL CANCER

ESGO7-0716

IMPACT OF LYMPHOVASCULAR SPACE INVOLVEMENT ON THE PROGNOSIS OF ENDOMETRIAL CARCINOMA

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Aims

To evaluate whether LVSI is an independent prognostic factor in endometrial cancer.

Method

It is an observational retrospective cohort study. A total of 327 patients were included and were stratified by the presence (study group) vs. absence (control group) of LVSI. LVSI positivity was established as the presence of tumoral cells in a space completely surrounded by endothelial cells.

Results

36.7% of included patients had LVSI. Presence of LVSI was significantly associated with non-endometrial histological type, deep miometrial infiltration (OR 50.2; p<0.001) and cervical stroma invasion (OR 6.1; p<0.001). In endometrioid tumors, LVSI was significantly associated with tumor grade 2 (OR 2.4; p=0.011) and 3 (OR 7.4; p<0.001), lower third of the uterus invasion (OR 5.2; p<0.001) and tumoral size bigger or equal to 20 mm (OR 2.6; p=0.02). LVSI was significantly associated with higher risk of pelvic and paraaortic node invasion (OR 4.4; p=0.004). The association was independent from histological subtype, tumor grade, depth of myometrial invasion and cervical stromal invasion. The study group presented significantly higher distant recurrence rates than the control group (88.9% vs. 61.5%, p=0.007). In the univariate analysis, LVSI was a risk factor for DFS (Hazard Ratio, HR 1.65; p=0.031), distant DFS (HR 2.46; p=0.001) and OS (HR 1.71; p=0.032). In multivariate analysis, LVSI was not an independent risk factor for DFSR (HR 1.05; p=0.856), distant DFSR (HR 1.44; p=0.236) and OS (HR 1.02 p=0.940).

Conclusion

LVSI is not an independent prognostic factor.
ENDOMETRIAL CANCER

ESGO7-0259

CRUDE LYMPH VASCULAR INVASION (LVSI) IS PROGNOSTIC FOR SURVIVALS AND RECURRENCES IN THE MAINLY NON-RADIATED DANISH ENDOMETRIAL CANCER POPULATION. A DANISH ENDOMETRIAL CANCER DATABASE STUDY

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Aims

LVSI is a strong independent prognostic factor for survivals and recurrences in early stage endometrial cancer. We examine the effect of LVSI on overall (OS), cancer-specific (CSS) and recurrence-free (RFS) survivals in the Danish population of 4521 endometrial cancer patients, only rarely given radiation.

Method

28.9% had lymph node resection (LN-resection). LVSI-status was reported to the database for 1946 cases and another 1521 were found in the pathology reports, leaving 1054 (23.3%) unknown. Therefore, three groups were examined by Kaplan-Meier and COX-analysis; LVSI-positive, LVSI-negative, LVSI-unknown

Results

3467 cases had known LVSI-status and of these 20.4% were LVSI-positive. For stage I, 11.3 % were LVSI-positive and this increased with risk-group (low-risk: 5.7%, intermediate-risk: 20.5%, high-risk: 23.6%). For LVSI-negative/LVSI-positive/LVSI-unknown the 5-years-OS were 85.9%/56.0%/77.7%, CSS: 93.8%/63.9%/86.5% and RFS: 89.2%/55.3%/80.4% and for stage I: OS: 87.8%/72.3%/86.5%, CSS: 95.7%/82.8%/95.5% and RFS: 91.4%/74.2%/91.0%.

In univariate analysis LVSI significantly increased the risk of dying by 4.02, whereas a metastatic lymph node increased the risk by 3.15.

In multivariate analysis LVSI was an independent prognostic factor for survivals and recurrences in all patients, in non-LN-resected, LN-resected and in lymph node metastatic patients. For non-LN-resected stage I, LVSI was an independent prognostic factor for all three risk groups, but in LN-negative LVSI was only a prognostic factor in intermediate-risk not in the low- or high-risk. Conclusion

LVSI is a strong independent prognostic factor for OS, CSS and RFS. For lymph node negative stage I, LVSI was a strong independent prognostic factor for survivals and recurrences for intermediate risk, but not for low- or high-risk.
ENDOMETRIAL CANCER

ESGO7-0525

RETROSPECTIVE ANALYSIS OF RADICAL RADIOTHERAPY FOR ENDOMETRIAL CANCER
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Aims

The first choice for the treatment of endometrial cancer is surgical therapy, but radical radiotherapy may be selected for cases with difficulty because of comorbidities. In this study, we examined the characteristics of patients undergoing radical radiotherapy for endometrial cancer.

Method

From 2005 to 2015, we retrospectively examined the backgrounds, treatment complications, and therapeutic effects of patients undergoing radical radiotherapy as the initial treatment for endometrial cancer at our hospital.

Results

Among the 223 cases undergoing initial treatment for endometrial cancer at our hospital, 5 (2.1%) underwent radical radiotherapy because surgical therapy was judged to be difficult because of comorbidities. Age was 30–86 years (median, 81 years), and many were elderly patients. Performance status (PS) was poor. The disease was classified as stage IA in three patients, IB in one, and II in one, and as endometrioid adenocarcinoma grade 1 or 2. The major comorbidities were cardiovascular disorders in two cases, breathing disorder in one, cerebrovascular disorder in one, and anaphylactic shock due to anesthetic reagent in one. The treatment comprised external irradiation plus intraluminal brachytherapy in two patients, external irradiation in two, and intraluminal brachytherapy in one. All treatments were completed without high adverse events, and the tumor disappeared after treatment in all patients.

Conclusion

Only patients who posed difficulties in surgery because of comorbidities were selected for radical radiotherapy. Despite a small number of studies, radical radiotherapy has been suggested to display few adverse events and a high curative effect. Further studies are warranted for long-term and late adverse events.
ENDOMETRIAL CANCER

ESGO7-1051

2D ULTRASOUND THRESHOLD PREDICTIVE OF FOCAL LESIONS REQUIRING ADVANCED HYSTEROSONIC TECHNIQUES IN CASES PRESENTED WITH POSTMENOPAUSAL BLEEDING OR INCIDENTAL ASYMPTOMATIC THICKENED POSTMENOPAUSAL ENDOMETRIUM

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Aims

to evaluate the frequency of detecting focal endometrial lesions requiring advanced hysteroscopic technique in PMB by 2D pelvic ultrasound. It assesses the value of Myosure in the outpatient setting compared to the Gynaecare scope.

Method
234 outpatient hysteroscopies done by one experienced operator from March 2014 to March 2017 for PMB and asymptomatic thickened endometrium were analysed for the frequency of finding cancer or precancer against various endometrial thresholds. The cases were analyzed whether done by Gynaecare scope (178/234) vs. Myosure (56/234) comparing outcome measures.

Results
The incidence of cancer was 11/234 (4.7%). The hysteroscopies to pick one cancer or precancer is approximately 6:1. The presence of focal lesion (polyps, fibroid, elevation, abnormally thickened endometrium) raises as the thickness of the endometrium increased; 8% at < 4mm thickness with no cancer and 9.5% at the zone of 4-5mm with one case of precancer (hyperplasia), and 24.2% at the zone of 5-6mm with 50% risk of cancer or precancer. From the thickness of > 6mm the risk of focal lesion is >40% with 39-53% risk of cancer or precancer.

Adverse events happened in 38/234(16.2%) and severe complication in 7/234(2.99%). with no difference in both groups. Only 1.7% were unsatisfied with the experience and satisfaction rate was comparable in both groups with less pain during the procedure and shorter duration in the Myosure group.

Conclusion
The threshold to hysteroscopy in PMB can be set at ET >5mm with a role for pipelle under that. The likelihood to need Myosure treatment is > 40% when endometrium is >6mm.
ENDOMETRIAL CANCER

ESGO7-1268

PREDICTION OF MYOMETRIAL INVASION IN PATIENTS WITH ENDOMETRIAL CARCINOMA: COMPARISON OF TOLUIDINE BLUE STAINING AND GROSS VISUAL INSPECTION.

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Aims

This study evaluated the accuracy of toluidine blue staining frozen endometrium and myometrium (TBSEM) on postoperative detection of myometrial invasion by endometrial cancer. We also evaluated the results of gross visual inspection (GVI) of surgical specimens compared with histopathological diagnosis.

Method

Thirteen women underwent postoperative TBSEM and GVI. Myometrial tumor invasion was evaluated histologically and classified as absent (depth a), superficial (depth b: < or = 50% invasion), or deep (depth c: > 50% invasion).

Results

The accuracy TBSEM and GVI were shown to be not reliable for postoperative evaluation of deep myometrial invasion.

Conclusion

The high accuracy of TBSEM methods for endometrium but not for myometrium.
ENDOMETRIAL CANCER

ESGO7-1164

DEDIFFERENTIATED ENDOMETRIOID ADENOCARCINOMA: REPORT OF AN HIGHLY AGGRESSIVE LETHAL CASE AND REVIEW OF LITERATURE.
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4San Martino Hospital, Oncology, Genova, Italy

Aims

Dedifferentiated endometrioid adenocarcinoma (DEAC) has been recently described as a rare uterine malignancy containing both undifferentiated carcinoma and differentiated endometrioid adenocarcinoma (usually FIGO G1-2). The aim of this study is to report a case of an aggressive DEAC in a young patient and to perform a review of the literature.

Method

We collected clinical data and imaging from our medical records. We performed a review of literature on Medline/PubMed/Embase.

Results

A 42-year-old woman was admitted to our department complaining of abdominal pain. TV-US scan showed: normal uterus, two 10-cm complex pelvic masses, free fluid and suspicious peritoneal nodules. The MRI-scan confirmed a peritoneal carcinomatosis. CA125: 1211 U/mL. The patient underwent laparotomy and debulking surgery including hysterectomy, bilateral salpingo-oophorectomy, pelvic and diaphragmatic peritonectomy, resection of caecum+anastomosis, sigmoid colon and rectum with left hemicolecotomy, infragastric omentectomy, removal of multiple peritoneal nodules, and one liver nodule, ileal resection and end colostomy. Residual disease was macroscopically absent. The histology report revealed a DEAC pT3a/Nx/M1, FIGO IVB (liver metastasis), G4. 11 days after the surgery the patient presented increasing abdominal pain and a CT-scan showed disease recurrence. In the 15th postoperative day she was transferred to medical oncology department to assess the possibility of starting adjuvant chemotherapy, but she died on postoperative day 18th. We performed a review that includes 10 reports for a total of 104 patients.

Conclusion

In conclusion DEAC is a rare and aggressive tumor, sometimes misdiagnosed. A prompt and appropriate diagnosis is important to provide a correct and quick treatment including adjuvant therapy.
SEROUS ENDOMETRIAL INTRAEPITHELIAL CARCINOMA ARISING ON A SUBMUCOSAL LEIOMYOMATOUS POLyps. REPORT OF THE SECOND CASE IN THE LITERATURE

Aims

We report a case of serous endometrial intraepithelial carcinoma (SEIC) arising on a submucosal leiomyomatous polyp, the second in the English literature.

Method

A 59-year-old female patient was referred to our department because of ascites. The patient presented with abdominal distention and anorexia. Her past medical history included thyroidectomy 17 years ago, ectopic pregnancy at the age of 29 plus 2 cesarean sections. Clinical examination revealed normal external genitalia and mild cervical atrophy. Abdominal computed tomography (CT) scan revealed ascitis, multiple nodular lesions on the peritoneal surfaces and the omentum and a normal size uterus with heterogenous texture of the endometrium and myometrium. Ca 125 was normal. Cytological examination of the peritoneal fluid was positive for low grade adenocarcinoma. The patient underwent a total abdominal hysterectomy, bilateral salpingo-oophorectomy and omentectomy. Macroscopically, the uterus appeared normal.

Results

On microscopic examination there was a 13mm submucosal leiomyoma projecting in the endometrial cavity. The surface epithelium above it as well as the underlying glands were involved by SEIC. Immunohistochemical study was positive for P-16 and P-53. Ki-67 was positive in 70% of tumor cells. Immunohistochemical study of deeper sections revealed a 2.5mm area of confluent glands suggesting early invasion. The peritoneum was infiltrated by high grade serous carcinoma.

Conclusion

The diagnosis of SEIC with associated minimal uterine serous carcinoma and high grade peritoneal serous carcinoma was made. To the best of our knowledge this is the second case of SEIC associated with leiomyatous polyps in the English literature.
ENDOMETRIAL CANCER

ESGO7-0759

DIAGNOSTIC ACCURACY BETWEEN PREOPERATIVE IMAGING AND SENTINEL LYMPH NODE BIOPSY DURING ROBOTIC OR LAPAROSCOPIC SURGERY IN ENDOMETRIAL AND CERVICAL CANCER LYMPH NODE METASTASIS

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Aims

Appropriateness assessment of Sentinel Lymph Node Biopsy application in endometrial and cervical cancer.

Method

Performed a retrospective review of patients with cervical cancer and endometrial cancer who diagnosed and treated at a single institute. All cases underwent preoperative PET/CT or MRI followed by definitive robotic (da Vinci®) or laparoscopic surgical therapy including SLNB with Indocyanine green (ICG) fluorescence detection using Firefly® and NIR/ICG.

Results

The 89 patients underwent intraoperative sentinel nodes mapping. Deposition of ICG into at least one lymph node was observed in 100% of studied cases. Most common detected lymph metastasis locations in SLNB were obturator area 50%(9/18). And 35.6% obturator lymph node metastasis was found in all lymph node metastasis. Tumor size was not related with SLNB positive. Sensitivity, specificity, positive predictive value and negative predictive value were evaluated among preoperative PET/CT, preoperative MRI and sentinel lymph node frozen biopsy. In three variables (PET/CT, MRI, SLNB), Overall detection sensitivity were 50.0%, 31.3%, 81.3%. Specificity were 98.0%, 94.0%, 99.3%. Positive predictive value were 72.7%, 35.7%, 92.9%. Negative predictive value were 94.8%, 92.8%, 98.0%. False positive rate were 2.0%, 6.0%, 0.7%. False negative rate was 50.0%, 68.7%, 18.7%.

Conclusion

Individualized treatment to reduce therapy-associated morbidity is an important consideration in the surgical treatment. SLNB with ICG mapping is more accurate method than conventional imaging tools. SLNB has gained more acceptance and may offer an alternative to complete pelvic lymphadenectomy in the future.
ENDOMETRIAL CANCER

ESGO7-0626

FEASIBILITY OF LAPAROSCOPIC INDOCYANINE GREEN (ICG)-GUIDED SENTINEL NODE BIOPSY IN OPEN ENDOMETRIAL CANCER SURGERY

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Aims

Regional lymph nodes are the most important prognostic factor in endometrial cancer (EC). Sentinel lymph node (SLN) biopsy has proven a safe and feasible procedure in EC. The aim of this preliminary retrospective study was to assess the feasibility of Indocyanine Green (ICG) sentinel node sampling using laparoscopic camera during open endometrial cancer surgery.

Method

Retrospective study. Twelve women with endometrial cancer, that did not fit for the complete laparoscopic staging, underwent SLN mapping using the IMAGE1 camera during open surgery.

Results

Median age was 67 years (range 47-86). The median BMI was 30 (range 19.7-58.2). Mean operative time 185 minutes and hospital stay 5 days. The overall detection rate of SLN mapping was 95%. Bilateral detection was 91%. No post-operative short or long complication were observed.

Conclusion

Real-time NIR technology supported by the IMAGE1 S is a reliable system and represents a promising method for SLN mapping in those selected cases with EC and severe surgical risks, during open traditionally approach. The use of Laparoscopy IGC in Open Surgery seems to be a feasible and useful tool for the detection of sentinel node biopsy in endometrial cancer patients with intraoperative and/or postoperative high morbidity risk and it represents a valid alternative to robotic surgery, particularly in countries and centers where the robotic platform is not available.
ENDOMETRIAL CANCER

ESGO7-1021

THE ROLE OF ADJUVANT CHEMOTHERAPY IN ENDOMETRIAL CANCER – THE EXPERIENCE OF A CENTER
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Aims

Endometrial Cancer(EC) is the most frequent gynaecological cancer in developed countries. Nowadays, the indications for and the real impact of adjuvant systemic treatment(AST) remain uncertain. This study aimed to analyze the real-life impact of AST in EC patients based on two endpoints: disease-free(DFS) and overall survival(OS).

Method

Retrospective revision of a EC patients'cohort treated with adjuvant chemotherapy(CT) (taxane/platinum) and radiotherapy(RT) ± brachytherapy(BT) in a tertiary cancer center between 2005-2016 (250patients, medium follow-up 51months). Significance was achieved when p<0.05.

Results

Median age at diagnosis was 63 years(37-83). Most cases was of endometrioid type (62/250; 24.8%), serous (56/250; 22.4%) and carcinosarcoma (38/250; 15.2%) and were detected in an initial stage(FIGO I/II: 132/250; 52.8%). Poor prognostic factors: lymphovascular invasion(LVI), high grade and incomplete surgical stage were described in 105/240(43.8%); 176/245 (71.8%) and 57/250 (22.8%); respectively. Near 73%(182/250) were submitted to CT+RT+BT: in an alternation scheme(166/250, 66.4%) or a sequential one(14/250, 5.6%). Relapsed was detected in 65/250(26%) with a median DFS of 19 months(3-74). Distant metastasis was the presentation at recurrence in 41/65(63.1%) and the majority of patients underwent palliative CT (37/65, 56.9%). In multivariate analysis, the independent risk factors for recurrence were FIGO stage(p<0.001) and LVI(p 0.007). 2-year OS was 88.4% and 5-year was 76.4%. The only independent prognostic factor was FIGO stage(p<0.001).

Conclusion

FIGO stage and LVI seems to be important factors for relapse and the first one also for death. More studies are needed to understand if theses factors could define a subgroup of EC patients that do not need such aggressive adjuvant approaches.
USE OF MRI IN ENDOMETRIAL CARCINOMA STAGING

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Aims

The purpose of this review is to evaluate the utility of magnetic resonance imaging (MRI) in endometrial carcinoma (EC) staging regarding to local myometrial invasion.

Method

A retrospective study of all cases of endometrial carcinoma operated in our hospital from 1st January 2013 to 31st December 2016 who had undergone a MRI prior to their surgery were reviewed. MRI myometrial infiltration was compared to final surgical stage registered in Pathology reports (Stage Ia versus stage Ib or higher).

The International Federation of Gynecology and Obstetrics (FIGO) classification was used for the staging of EC.

Results

Data from 82 patients diagnosed with endometrial carcinoma were analysed; only 69 (84.14%) had undergone MRI studies before surgery. The histologies were as follows: 69 endometrioid carcinoma (77.53%); 10 papillary serous carcinoma (11.23%); 1 clear cell carcinoma (1.12%), and 2 carcinosarcoma (2.25%). The average age was 68.65 years.

Concordance between predicted stage by MRI and stage after surgery was found in 40 of 69 patients (57.97%). The 29 (42.03%) cases with no MRI concordance were analysed: 12 (41.38%) were understaged, and 17 (58.62%) overstaged by MRI.

These results did not reveal significant differences between tumor stage predicted by MRI and definitive surgical stage (\(p>0.05\)).

Conclusion

The MRI is a widespread imaging tool used to diagnose and evaluate disease extent, helps treatment planning and postoperative evaluation and follow up. As in our study, MRI works as a good predictive tool. Nevertheless, surgical staging is still the only way accepted for endometrial cancer staging.
ENDOMETRIAL CANCER

ESGO7-0884

DEPTH OF MYOMETRIAL INVASION AS A PREDICTOR OF LYMPH NODE METASTASIS
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Aims

Evaluate the association between myometrial invasion and incidence of lymph node metastasis in endometrial cancer.

Method

Patients diagnosed with endometrial carcinoma that underwent oncological surgery in our Hospital from 1st January 2013 to 31st December 2016 were included. Pelvic and/or paraaortic lymphadenectomy was performed.

Myometrial invasion and lymph node metastasis were analyzed as expressed in Pathology report after surgery. Myometrial invasion was classified as <50% and ≥50%.

Statistical analysis was made with SPSS, using Chi-squared Distribution.

Results

Data from 79 patients were evaluated during this period. The average age was 68.85.

Positive lymph node invasion was found in the 7% (6/79) of the patients, from which 83% (5/6) were reported with >50% myometrial invasion. In the non lymph node invasion group (73/79), the 72% (52/73) of the patients had <50% myometrial invasion.

The statistical analysis revealed a significant association between percentage of myometrial invasion and presence of lymph node metastasis (p<0.05), with and OR=12.38 IC 95% (1.36-112.41).

Conclusion

As literature supports and confirmed in our study, myometrial invasion is a good predictor of possible lymph node metastasis (greater percentage of metastasis in greater invasive carcinomas). Lymphadenectomy is a great cause of morbidity in patients undergoing oncologic surgery, so seems necessary to balance the desire to prevent unnecessary lymphadenectomy and the need of extension diagnose, and this kind of predictors might help taking the decision.
IS TUMOR SIZE A GOOD PREDICTOR OF MYOMETRIAL INFILTRATION IN ENDOMETRIAL CARCINOMA?

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Aims

Evaluate the association between tumor size and myometrial infiltration in endometrial carcinoma, expecting less grade of invasion in smaller tumors.

Method

Patients diagnosed with endometrial carcinoma that underwent oncological surgery in our Hospital from 1st January 2013 to 31st December 2016 were included.

Tumor size and myometrial infiltration were analyzed as expressed in Pathology report. Myometrial invasion was classified as <50% and ≥50%. Tumor size was divided using 2cm as cut point.

Statistical analysis was made with SPSS, using Chi-squared distribution.

Results

79 patients were evaluated, with an average age of 68.85.

Expected infiltration concordance with tumor size, according to literature, was found in 38/79 patients of the total (48.10%). The 52.6% of them (20/38) were tumors less than 2cm which invasion reported was <50%. The other 47.4% (18/38) turned out to be tumors >2cm with >50% myometrial invasion. No concordance was found in the other 41/79 patients.

We were not able to prove statistically significant association between tumor size and myometrial invasion in this study.

Histological diagnose was also evaluated. The histologies were as follows: 69 endometrioid (77.53%); 10 papillary serous (11.23%); 1 clear cell (1.12%), and 2 carcinosarcoma (2.25%). Higher percentage of myometrial invasion was found in non-endometrioid histological subtypes, regardless of tumoral size.

Conclusion

Tumor size has been related to risk of myometrial invasion >50%. In this study, association was not proved with data evaluated. Histological type seems to be determinant in carcinoma invasion, which could be assessed in further studies.
ENDOMETRIAL CANCER

ESGO7-0891

PROGNOSTIC FACTORS IN ENDOMETRIAL CARCINOMA TYPE-I AND TYPE-II

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Aims

Evaluate the surgical prognostic factors of different histological subtypes in endometrial cancer.

Method

Patients diagnosed with endometrial carcinoma that underwent oncological surgery in our hospital from 1st January 2013 to 31st December 2016 were included.

This is a descriptive study, where histological subtypes type-I (endometrioid) and type-II (serous papillary and clear cells) are analyzed, valuing the percentages of myometrial invasion and lymph node metastasis in each cases.

Results

The histologies were 69 Type-I or endometrioid type (77.53%), and 13 Type-II or non-endometrioid type (15.85%): 10 serous papillary (11.23%); 1 clear cell (1.12%), and 2 carcinosarcoma (2.25%). The average age was 68.85.

Myometrial invasion >50% was found in the 46.15% (6/13) of Type-II group, while in patients with Type-I was only 28.98% (20/69). Myometrial invasion <50% was found in the 71.01% (49/69) of patients included in Type-I group, and in the 53.84% (7/13) of patients in the Type-II group.

Regarding lymph node metastasis, there was 30.77% (4/13) of patients with positive lymph node metastasis in Type-II group, while only 2.89% (2/69) were affected by lymph node metastasis in Type-I group.

Conclusion

The main predictors of lymph node and distant metastasis are the depth of myometrial invasion and the degree of tumor differentiation.

Regarding the different histological types of endometrial carcinoma, type-I carcinomas tend to be well differentiated forms of carcinoma, and their prognostic is better, with a higher rate of cure. Type-II carcinomas, on the other hand, generally correspond to more aggressive forms, with a higher percentage of lymph node metastasis and a deeper myometrial invasion, as revealed in our study.
ENDOMETRIAL CANCER

ESGO7-0617

DOES TUMOR DIAMETER AFFECT SIGNIFICANTLY SURVIVAL OUTCOMES IN STAGE I ENDOMETRIOID ENDOMETRIAL CANCER? A PROSPECTIVE COHORT STUDY.
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Aims

To study the prognostic value of tumor diameter ≥ 2cm on survival outcomes in patients with surgically staged I endometrioid endometrial cancer.

Method

A prospective study was conducted during 1996-2016 enrolling patients with endometrioid endometrial cancer treated in the 3rd Department of Obstetrics and Gynaecology. Epidemiological, histopathological and survival outcome of patients were prospectively recorded in a computerized database. Primary outcome of the study was to assess the prognostic impact of tumor diameter ≥ 2cm on overall survival and recurrence of disease. This was separately studied for low-risk cases (grade 1 or 2 invading<50% of myometrium) and intermediate or high-risk cases (grade 3 and grade 1 or 2 invading ≥ 50% of myometrium). Cox regression analysis was used to examine potential impact of tumor diameter on survival parameters.

Results

There were 183 cases of surgically staged I endometrial cancer treated during the period of the study. Mean age of patients was 62.5 ± 10.4 years. Regarding low-risk cases (N=112), tumor diameter was not significantly correlated with risk for recurrence and overall survival (P=.44 and P=.49). Similarly, no significant impact of tumor diameter ≥ 2cm was indicated on risk for recurrence and overall survival in intermediate or high-risk patients as well (P=.61 and P=.62).

Conclusion

Tumor diameter ≥ 2cm may not to be an independent prognostic factor affecting overall survival and risk for recurrence.
PELVIC VS. PELVIC AND PARAORTIC LYMPHADENECTOMY FOR INTERMEDIATE AND HIGH-RISK ENDOMETRIAL CANCER: SYSTEMATIC REVIEW AND META-ANALYSIS.

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Aims

To compare overall survival and disease-free survival between intermediate and high-risk endometrial carcinomas treated with pelvic and paraaortic vs. only pelvic lymphadenectomy.

Method

A computerized datasearch was performed in Pubmed and Scopus databases. Terms used for search were “endometrial cancer” or “endometrial carcinoma” or “endometrial adenocarcinoma” AND “para-aortic lymph*” or “paraaortic lymph*”. In the present analysis we included studies having as primary endpoint to compare survival outcomes of intermediate and high-risk endometrial carcinomas treated with pelvic and paraortic (PVAL) vs. only pelvic lymphadenectomy (PVL). Non-english studies, animal studies, studies involving only low-risk cases and studies restricted to cases of certain surgical stage were excluded. Prospective or retrospective character of study was not set as exclusion criterion. Primary outcomes were overall survival (OS) and disease-free survival (DFS).

Results

Out of 460 studies identified after computerized datasearch with key-phrases, there were 378 remaining after duplicates removed, 112 assessed for eligibility and finally 5 studies included in the meta-analysis. Quality of studies was assessed as low. A total of 1,489 cases were included, of which 633 concerned cases treated with PVAL and 856 treated with PVL. Overall survival was significantly increased in the group of PVAL vs. PVL (RR: 1.175 with 95% CI: 1.096-1.256, P<.001). Similarly, the group of PVAL presented an 11.9% increase in DFS compared with PVL (RR: 1.119 with 95% CI: 1.053-1.171, P<.001).

Conclusion

Pelvic and paraaortic lymphadenectomy is associated with improved overall survival and disease-free survival compared with only pelvic lymphadenectomy. Further prospective RCTs should be performed in order to improve quality of evidence.
ENDOMETRIAL CANCER

ESGO7-0060

AN UNUSUAL CASE OF DUAL SITE LATE RECURRENT FOLLOWING SURGERY FOR LOW-RISK ENDOMETROID CARCINOMA: A REPORT OF A CASE

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Aims

We report an unusual case of late dual site recurrence from an initial early stage endometroid carcinoma and discuss the dilemma of diagnosis and management.

Method

Case report

Results

A 55-year-old postmenopausal woman had total laparoscopic hysterectomy and bilateral salpingoopherectomy for stage 1A grade 1 endometroid endometrial carcinoma. No adjuvant treatment was offered. Five years later, she presented with upper abdominal pain. Abnormal liver function test prompted US of liver and referral to a Hepatologist. A triple-phase liver computed tomography (CT) scan suggested a lesion in the right liver dome. Positron Emission Tomography (PET) scan revealed metabolically active lesion along the right dome of the liver and extrinsic to rectosigmoid junction. Biopsy of the liver lesion under ultrasound guidance was performed which confirmed metastatic adenocarcinoma consistent with recurrence of endometrial carcinoma. Colonscopic biopsy did not identify malignancy, but in view of the PET scan it was presumed to be most likely dual site recurrence of the previous endometrial cancer. She underwent a laparotomy with rectosigmoid resection with division of large bowel 10 cm above and below the visible tumour, primary colorectal anastomosis with defunctioning ileostomy and non-anatomical liver resection from the right dome of the liver. Pathology confirmed presence of stage 2 metastatic endometroid carcinoma in both the rectosigmoid and liver resection specimens. She was reviewed by the clinical oncology team and is receiving 6 cycles of adjuvant chemotherapy.

Conclusion

We report unusual case of late recurrence of low risk endometrial cancer at two sites, which was managed with complete surgical resection.
ENDOMETRIAL CANCER

ESGO7-0742

SERUM CONCENTRATIONS OF TFF3, S100-A11 AND AIF-1 IN ASSOCIATION WITH SYSTEMIC INFLAMMATORY RESPONSE, STAGE AND NODAL INVOLVEMENT IN ENDOMETRIAL CANCER

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Aims

The aim of this study was to compare preoperative TFF3, AIP and S100-A11 serum levels in patients with endometrial cancer, endometrial hyperplasia and in healthy female controls, to investigate an association with tumor grade, stage and nodal status. Furthermore, we analyzed an association between TFF3, S100-A11, AIP-1 and biomarkers of inflammatory response, oxidative stress and nutritional balance.

Method

In total 98 consecutive patients with endometrial cancer who underwent hysterectomy with bilateral salpingoophorectomy, pelvic and paraaortic lymphadenectomy were included in the study. The control group was comprised of 24 patients who had elective total hysterectomy for nonmalignant disorder. Furthermore, preoperative blood samples were taken in 43 patients diagnosed with endometrial hyperplasia at hysteroscopy. Ninety one patients with negative hysteroscopic findings represented a control group.

Results

TFF3 serum levels were significantly higher in endometrial cancer patients when compared to controls. S100-A11, and AIF-1 levels were higher in endometrial hyperplasia patients than in controls, and also significantly higher in endometrial cancer than in endometrial hyperplasia patients. The serum concentrations of TFF3, S100-A11, but not AIF-1 were associated with tumor stage and lymph node status. TFF3 exhibited positive correlation with age, IL-6, vitamin D, kynurenine, urinary neopterin/creatinine ratio and kynurenine/tryptophan ratio. S100-A11, as well as AIF-1 correlated positively with IL-6 and TFF3.

Conclusion

TFF3, S100-A11 and AIF-1 represent potential biomarkers in patients with endometrial cancer. TFF3 and S100-A11 increase with tumor stage and lymph node involvement, reflecting higher tumor mass that is also associated with increased concentration of biomarkers of immune dysfunction.
ENDOMETRIAL CANCER

ESGO7-0819

IMPLEMENTATION OF SENTINEL LYMPH NODE MAPPING WITH INDOCYANINE GREEN FLUORESCENT DYE IN ENDOMETRIAL CANCER IN CLINICAL PRACTICE: OUR PRELIMINARY RESULTS

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Aims

We report our initial experience with laparoscopic Indocyanine-Green (ICG) Sentinel Lymph Node (SLN) mapping in endometrial cancer (EC) in terms of feasibility and diagnostic accuracy, focusing on low (LR), intermediate (IR), high-intermediate and high risk (HIR/HR) groups, according to ESMO/ESGO/ESTRO classification.

Method

All patients diagnosed with apparently uterine-confined EC between September 2016 and April 2017 in Mondovi and Negrar Hospitals underwent laparoscopic ICG-SLN mapping (according to SLN Memorial-Sloan-Kettering-Cancer-Center algorithm) via cervical injection, SLN biopsy and subsequent appropriate surgical treatment according to the risk group. Detection rate, sensitivity and negative predictive value (NPV) were prospectively analyzed and risk groups were taken into account.

Results

48 patients were included (preoperative 17LR-19IR-12HIR/HR): SLN was detected in 45/48 (93.7%), without complications; overall and bilateral detection rate were 91.6% and 75%, respectively. The median number of removed lymph nodes was 2(0-4)-23-21, for SLNs, pelvic non-SLNs and para-aortic non-SLNs, respectively. Metastatic SLNs were 6/45 (13.3%): 4 macrometastasis, 1 micrometastasis and 1 isolated tumor cells; in 4/6 of them SLN was the only positive node. Two patients had false negative (FN) SLN (1 metastatic pelvic non-SLN and 1 metastatic para-aortic non-SLN); FN rate was 4.4% (2/45); sensitivity was 75% (6/8); all SLNs in LR patients were negative; for pre-operative IR-HIR/HR NPV was 90%. Post-operative groups were: 21LR-10IR-17HIR/HR.

Conclusion

In our preliminary experience the ICG-SLN technique in EC was feasible, safe and cheap, with good detection rate and low FN rate. The pre-operative IR group seems very interesting, because of its frequent reassignment to another risk group on final pathology.

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ENDOMETRIAL CANCER

ESGO7-1235

ADVANTAGES OF LAPAROSCOPIC SURGERY VERSUS OPEN SURGERY IN ENDOMETRIAL CANCER - 3 YEAR SINGLE INSTITUTION DATA

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Aims

Laparoscopic surgery is being used in gynecologic oncology for total hysterectomy, bilateral salpingo-oophorectomy and lymph node dissection for endometrial cancer (EC). The purpose of this study is to compare the feasibility and complications among women undergoing open and laparoscopic hysterectomy for endometrial cancer

Method

We carried out a single center retrospective study using Belarus cancer register database between 2013 and 2016 on all women diagnosed with uterine cancer, classifying women in groups as either laparoscopically or open surgery treated.

Results

Laparoscopic surgery has more advantages versus open surgery in Endometrial Cancer Patients. The total for 3 years 378 laparoscopic and 1724 open hysterectomies were performed, including 56 operations with laparoscopic pelvic lymphadenectomy and 432 with open pelvic lymphadenectomy surgeries. The average duration of laparoscopic operation – 73 min. (40-180 min.), the average volume of blood loss – 51,9 ml (15-330 ml) were registered. Conversion to open surgery was in 4 cases; bladder injury – in 2, trauma of a sigmoid colon – in 1, bleeding – in 1 case. The average duration of open surgery – 74 min (50-174 min), average blood loss – 75,4 ml (20-950ml). Duration of lymphorrhea in laparoscopic operations was 3,4 days vs 6,3 days in open surgery. Laparoscopic surgery has benefits over open surgery in patients with morbid obesity with BMI more than 35 kg/m2 in surgical wound complications (1 vs 15) and thromboembolic complications (0 vs 5 cases).

Conclusion

Laparoscopy for EC retains its advantages over open surgery, especially in case of obesity patients.
ETHNIC DIFFERENCES IN THE MUTATIONAL LANDSCAPE OF ENDOMETRIAL CANCER

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Aims

Background: Endometrial cancer (EC) is the commonest gynaecological malignancy in the UK and the incidence in Leicester is particularly high. Our previous work has shown that British South Asian (BSA) and White British (WB) women are diagnosed with a similar distribution of Type I/II cancers but BSA women are significantly younger in age compared to WB women.

Objectives: To determine whether BSA and WB women diagnosed with EC harbour different mutational profiles.

Method

DNA was extracted from formalin-fixed, paraffin embedded (FFPE) tissue from 32 patients. Ion Torrent targeted next generation sequencing (tNGS) was performed using a bespoke tNGS panel interrogating 10 commonly mutated genes in EC.

Results

A total of 99 mutations were found in this cohort (3.1/patient). The most commonly mutated genes were PIK3CA and PTEN with 53% and 47% of patients, respectively. None of the BSA patients carried a POLE mutation compared to 23% of the WB patients (p=0.15). ARID1A mutations were also less frequent in BSA patients (10% versus 36%, p=0.21).

Conclusion

ARID1A and POLE mutations were more frequent in WB versus BSA patients. Although the trend did not reach significance, it raises interesting clinical questions since it is known that POLE mutations are associated with better prognosis. It has been suggested that ARID1A mutations are associated with mutations in the PI3K pathway. Since many targeted therapies are focused on this frequently mutated pathway, a possible implication is that BSA patients may not respond as well to these newer agents. Analysis in a larger cohort is ongoing.
ENDOMETRIAL CANCER

ESGO7-0793

THE PARAMETRIAL AND PELVIC LYMPH NODES INVOLVEMENT IN SURGICAL-PATHOLOGIC STAGE II ENDOMETRIAL CARCINOMA

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Aims

To know if the invasion of cervical stroma by endometrial cancer is associated to an increased percentage of parametrial and pelvic lymph nodes involvement in patients surgically staged II (FIGO 2008).

Method

In 150 patients with endometrial carcinoma, all with endometrioid histology submitted to radical hysterectomy type A or B with bilateral salpingoophorectomy and systematic pelvic lymphadenectomy we had 22 patients (14.6%) with pathologic study in strict stage II. The pathologic study included the pelvic lymph nodes and parametrial status.

Results

In the group of 22 patients stage II endometrioid adenocarcinomas we had an average of 35 pelvic lymph nodes (range 11-41), with 2 patients with positive pelvic lymph nodes (9.0%). No patient had positive parametrial involvement at pathologic study.

Conclusion

According to this study, in surgical-pathologic endometrial endometrioid adenocarcinoma stage II, the risk of positive pelvic lymph nodes is 9%, without involvement of parametria.
ENDOMETRIAL CANCER

ESGO7-0921

ENDOMETRIAL CANCER TISSUE HAS A UNIQUE PHOSPHOLIPID SIGNATURE IDENTIFIABLE USING DESORPTION ELECTROSPRAY IONISATION (DESI) IMAGING

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Aims

Endometrial cancer (EC) is the fourth most common gynaecological cancer in Europe. Strongly associated with obesity, incidence of endometrial cancer is rising. DESI-MSI (Desorption Electrospray Ionisation-Mass Spectrometry Imaging) is one mass spectrometry imaging technique that allows direct correlation between biochemical changes within a tissue and histological features, providing topographically localised biochemical information.

Method

Fresh frozen endometrial samples (benign, cancer) were analysed using DESI-MSI. Peaks of interest were identified from mass spectra, matched with histopathological tissue annotations and clinical data, which was combined to generate a reference database from which principal component analyses (PCA) and maximum margin criterion (MMC) were performed highlighting the biochemical differences between the sample groups analysed.

Results

59 fresh frozen sections were analysed using DESI-MSI, of which 47 (79.7%) were endometrial tumour tissues and 12 (20.3%) were benign. Clear distinction of the different tissue types (tumour-associated stroma versus tumour) was identified within each sample. Benign endometrial samples and endometrial cancer samples produced unique spectra which enabled clear separation in PCA-cross validated MMC analyses. Cross-validation resulted in 91.5% sensitivity and 98.0% specificity for the correct classification of EC. Phosphatidylinositol, PI (34-0), was more abundant in tumour tissue, and phosphatidylglycerol, PG (44:1), more abundant in benign tissue.

Conclusion

DESI-MSI can discriminate benign endometrial versus tumour tissue by identifying unique lipodomic profiles. Our analysis contributes to knowledge of lipid metabolism in cancer and can identify potential lipid markers. These markers can be useful in identifying patients at risk in whom signalling pathways involved in carcinogenesis are overexpressed.
ENDOMETRIAL CANCER

ESGO7-1307

EVALUATING THE ACCURACY OF THE SENTINEL NODE MAPPING ALGORITHM IN ENDOMETRIAL CANCER USING INDOCYANINE GREEN DYE AND ROBOTIC PLATFORM

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Aims

To Evaluate the accuracy of SLN mapping algorithm in endometrial cancer when using Indocyanine green (ICG) dye and Robotic Assisted Infrared Imaging.

Method

Single institution prospective study carried out from July 2015 till October 2016. Patients with histology proven endometrial cancer undergoing robotic staging surgery were included. The Sentinel node mapping was done using intracervical ICG dye injection and robotic assisted Near infrared imaging. Algorithm published by Berlin et al and adopted by NCCN was followed. Careful inspection was made to identify and remove the sentinel node, any enlarged non sentinel nodes. Complete lymphadenectomy was done when sentinel nodes could not be identified.

Results

72 patients with endometrial cancer underwent surgery during this period out of which 64 underwent robotic staging surgery including sentinel node mapping. Sentinel node was detected in 60 patients (93.8%). 7 patients (11%) had positive nodes in histopathology, out of which 5 patients had positive sentinel node and in 2 patients enlarged non sentinel nodes were positive. Just by using sentinel node technique, those two patients would have been missed. But by following the algorithm, all patients with positive nodes could be identified.

Conclusion

The SLN mapping technique in endometrial cancer should be used only as a part of the complete algorithm for accurately detecting positive nodes.
ENDOMETRIAL CANCER

ESGO7-0912

THE ROLE OF FROZEN SECTION IN UTERINE CANCER STAGING - EVALUATING ITS ACCURACY

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Aims

Surgical staging, treatment and prognosis of uterine corpus malignancies are highly dependent on disease severity and spread, factors that can be intraoperatively assessed by frozen section (FS). We aimed to determine the accuracy of FS in surgical staging and agreement with permanent section (PS); to evaluate the association between adverse prognostic intraoperative findings with final histopathology.

Method

Retrospective chart analysis from January 2007 to March 2017 of all uterine corpus malignancies diagnosed in a tertiary university hospital. Kappa (K) statistics and proportions of agreement (PA) with 95% confidence intervals were applied. Exclusion criteria were absence of FS, clinically advanced disease, coexisting second malignancy.

Results

A total of 205 cases were identified. Regarding myometrial depth invasion, substantial agreement between FS and PS was found (K= 0.63), which was higher for tumours confined to the inner half of myometrium (PA= 0.92) and lower for serosa invasion (PA= 0.33). The sensitivity and specificity for involvement of the outer half was 74% and 99%. For cervical stromal involvement, a sensitivity and specificity of 65% and 99% was found. Regarding adverse prognostic oncological factors: the rate of adjacent organ invasion was higher in mesenchymal tumours (50%); lymph node involvement was more frequent in serous (45%) and mixed cell adenocarcinoma (40%), followed by mullerian mixed tumours (33%). Positive ascitic fluid was more frequent in mixed (50%) and miscellaneous (33%) categories.

Conclusion

Particularly in low risk disease and epithelial tumours, comprehensive surgical staging with FS seems beneficial. For locally aggressive tumours, preoperative imagiological staging might have a promising role.
ENDOMETRIAL CANCER

ESGO7-0927

UTERINE CANCER - THE IMPORTANCE OF HISTOPATHOLOGICAL AGREEMENT: FROM ENDOMETRIAL BIOPSY, THROUGH FROZEN SECTION TOWARDS DEFINITIVE HISTOLOGY

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Aims

Preoperative oncological uterine stratification based on endometrial sampling (ES) influences surgical planning and radically. The aim was to evaluate the histopathological agreement between ES, frozen section (FS) and permanent section (PS).

Method

Retrospective longitudinal study of all uterine corpus malignancies diagnosis/suspicion in a tertiary university centre from January 2007 to March 2017. Kappa (K) statistics and proportions of agreement (PA) with 95% confidence intervals (CI) were applied to evaluate agreement between pre, intra and postoperative histology, regarding histologic type, subtype and grade.

Results

A total of 215 cases of uterine corpus malignancies were included, from which 104 performed both ES and FS, 171 ES and PS and 113 FS and PS. Among those with final histopathological exam, 84% were epithelial, 9% mesenchymal, 5% miscellaneous and 1% benign and mixed tumours. Concerning the histologic type, the PA between ES and FS was 70% for total agreement and 8% for partial agreement. The majority of discordant cases were due to endometrioid tumours, revealed as complex atypical hyperplasia in ES. A PA of 72% was achieved for total or partial agreement between ES and PS. Regarding agreement between FS and PS a good agreement was found, with a PA of 88% for total or partial concordance. Agreement in tumour grade was moderate between the three groups (K= 0.47, 0.43, 0.43).

Conclusion

A higher agreement was found between FS and PS, compared to ES. Discordance was greater among high risk epithelial, mixed and mesenchymal tumors, suggesting a more challenging diagnosis.
ENDOMETRIAL CANCER

ESGO7-0865

COMBINING CA-125 AND COMPUTED TOMOGRAPHY IMPROVES SELECTION OF ADVANCED STAGE ENDOMETRIAL CARCINOMA

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Aims

To investigate the predictive value of preoperative CA-125 and computed tomography (CT) for advanced FIGO stage in the work-up for endometrial carcinoma (EC).

Method

The PIpelle Prospective ENDOmetrial carcinoma (PIPENDO) study cohort comprised all consecutive patients treated for endometrial carcinoma at nine hospitals in the Netherlands between September 2011 and December 2013. Patient characteristics, preoperative CA-125 and CT-scan results, histology, and follow-up data were collected. CT-scan results were classified as: suspected or unsuspected for extra-uterine disease, or inconclusive. Serum levels of CA-125 > 35 Ku/L were considered as elevated. Primary outcome was advanced FIGO III-IV stage, determined for low-(grade 1-2), and high (grade 3) tumor grade.

Results

A total of 432 EC patients were included; 25.9% with high-grade, and 74.1% with low-grade EC. Overall, 29.0% of the patients had an elevated CA-125, and 14.1% of the patients were suspected for extra-uterine disease based on CT-scan. Elevated CA-125 had a positive predictive value for advanced stage in of 8.8% in low-grade EC, compared to 47.5% in high-grade EC. Abnormal CT-scan had a positive predictive value for advanced stage of 30.0% in low grade EC, compared to 53.3% in high grade EC. Combined elevated CA-125 and abnormal CT-scan resulted in a positive predictive value of 28.6% in low-grade EC and 66.7% in high grade EC.

Conclusion

Combining CA-125 and CT-scan increases the positive predictive value for advanced FIGO stage in high-grade EC.
ENDOMETRIAL CANCER

ESGO7-0810

CLINICAL DECISION-MAKING BASED ON PREOPERATIVE ENDOMETRIAL SAMPLING IN ENDOMETRIAL CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Aims

To determine the agreement between preoperative endometrial sampling and final diagnosis for tumor grade and subtype.

Method

MEDLINE, EMBASE, ClinicalTrials.gov and the Cochrane library were searched from inception to January 1, 2017, for studies that compared tumor grade and histological subtype in preoperative endometrial samples and hysterectomy specimen. In eligible studies the index test included office endometrial biopsy, hysteroscopic biopsy or dilatation & curettage; the reference standard had to be hysterectomy. Outcome measures included tumor grade, histological subtype or both.

Results

Two independent reviewers assessed the eligibility of the studies. Risk of bias was assessed (QUADAS-2). A total of 45 studies (12,459 patients) met the inclusion criteria. Pooled agreement rate for tumor grade was 0.67 (95% confidence interval [CI] 0.60-0.75) and Cohen’s k was 0.45 (95% CI 0.34-0.55). Agreement between hysteroscopic biopsy and final diagnosis was higher (0.89, 95% CI 0.80 – 0.98) than for office endometrial biopsy (0.73, 95% CI 0.60 – 0.86) and dilation and curettage (0.70, 95% CI 0.60 – 0.79). Lowest agreement rate was found for grade 2 endometrial carcinomas (0.61, 95% CI 0.53-0.69). Downgrading was found in 25% and upgrading was found in 21% of the endometrial samples. Agreement for histological subtypes was 0.95 (95% CI 0.94 – 0.97) and 0.81 (95% CI 0.74 – 0.92) for the preoperative endometrioid and non-endometrioid carcinomas respectively.

Conclusion

The moderate agreement between preoperative endometrial sampling and final diagnosis should be taken into account when selecting the most appropriate surgical treatment procedure.
ADENOCARCINOMA ENDOMETRIOIDE AND ADENOMIOSIS

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Aims

A 42-year-old patient who turned to the gynaecologist with dysmenorrhea and hypermenorrhea of six months of evolution with a history of laparoscopy due to endometriosis. The patient is treated for three months with gestagens in the second phase of the cycle without response to treatment and with IUD of levonorgestrel with which we obtained amenorrhea during six months but later the expulsion takes place.

Method

Bx endometrium and cytology normal.
Transvaginal ultrasound: it reports two myomas, one submucosal intramural of 23 x 14 mm, another cornual myoma of 19 x 17 mm, proliferative endometrium, normal ovaries and free Douglas. Hysteroscopy: it confirms the diagnosis of submucous myoma of 23 x 14 mm.

Results

Pathologic anatomy:

Myometrium: Fragments of endometrioid adenocarcinoma on adenomyosis with presence of lymphatic tumor permeation.

Adenomyosis

Proliferative endometrium. Postoperative MR:

17mm adenopathy in right internal iliac chain. In a second time is realized: Cervical excision, bilateral anexectomy and lymphadenectomy. Pathological anatomy: residual endometroid adenocarcinoma that affects endocervix and lateral margin extension. Right pelvic attachments and lymph nodes: microinvasive implants in hilum and next to the ovary.

Lymph node metastasis (0/22).

Left pelvic attachments and lymph nodes: ovary without alterations. Lymph node metastasis (3/13) one with capsular rupture.

Peritoneum Bx: Endometrioid adenocarcinoma micrinoinvasar implant

Conclusion

It is important in these cases not to delay the surgery and to opt for surgical techniques that allow the correct study of uterus and ovaries avoiding the morcelation (fragmentation) this will allow us to make a better assessment of the margins affected and the size of the tumor.
ENDOMETRIAL CANCER

ESGO7-0263

CLINICOPATHOLOGIC CHARACTERISTICS OF ENDOMETRIAL CARCINOMA METASTATIC TO THE OVARY COMPARED TO ENDOMETRIAL CARCINOMA WITH SYNCHRONOUS OVARIAN CARCINOMA

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Aims

To characterize the clinicopathologic characteristics and outcomes of sporadic synchronous endometrial and ovarian cancers (SEOC) patients compared to endometrial carcinoma with metastasis to the ovaries.

Method

Cases with carcinoma in the endometrium and ovary who underwent primary surgery at our institution between 06/1993 and 09/2014 were identified. Pathology reports were reviewed to determine the pathologist’s assessment of whether the ovarian carcinomas were likely synchronous or metastatic. Stage IV were excluded.

Results

76 cases were identified. 19 were SEOCs and 57 cases were classified as endometrial carcinoma with ovarian metastasis (ECOM). Median age was 52 (range: 32-71) and 63 (range: 43-89) years, respectively (p=0.4). Non-endometrioid histology was seen in only 21% of SEOC as compared to 58% in ECOM (P=0.006). No myoinvasion was noted in 32% SEOC compared to only 9% ECOM (P=0.01). Endometriosis was noted in 58% SEOC compared to 4% ECOM (p<0.0001). Median follow-up time was 44.2 mo (range: 0.4-201.4) for the entire cohort. The 4-year progression-free survival (PFS) was 82% (SE+/9.5) for SEOC and 51.6% (SE+/7) for ECOM group (p=0.06). 4-year overall survival (OS) was 94.7% (SE+/5.1) for SEOC and 69.8% (SE+/6.2) for ECOM (p=0.046). 4-years PFS for endometrioid histology only cases was 84% (SE+/10.6) for SEOC vs 77.8% (SE+/8.87) for ECOM (p=0.97). 4-years OS for endometrioid histology was 93.3% (SE+/8.4) for SEOC vs 81.9% (SE+/8.2) ECOM (p=0.3).

Conclusion

SEOC was associated with more favorable endometrial factors and endometriosis, these are likely dissemination by retrograde flux. SEOC was associated with better survival outcomes but not when analyzing endometrioid histology alone.
ENDOMETRIAL CANCER

ESGO7-0642

ENDOMETRIAL CANCER RISK IN BRCA MUTATION CARRIERS: A PROSPECTIVE DATABASE STUDY
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Aims

The risk of endometrial cancer (EC) in BRCA mutation carriers is unclear. Whether risk-reducing surgery should include hysterectomy (TH) at the time of bilateral salpingo-oophorectomy (BSO) is controversial.

Method

We analysed our prospectively maintained clinical database of BRCA mutation carriers >20 years of age. Expected EC rate was calculated using national data standardised by age, year and geographical region from date of BRCA1/2 test report (true prospective group) and from 01/01/1980-31/12/2015 (full dataset). Women were censored at time of death, hysterectomy or date of last follow up. Observed EC cases were verified with the national cancer registry.

Results

There were 2156 women (BRCA1 n=1107, BRCA2 n=1049) and over 51,185 total women years at risk (median: 23.5yrs). Median age at last follow up was 51yrs (IQR 42, 60). In total, 160 underwent risk-reducing TH-BSO (median 42.5yrs, IQR 38, 48) and a further 447 underwent BSO without TH (median age 45yrs, IQR 40, 52) and were followed up for a median 6.2 years. Fourteen women were diagnosed with EC; two had high-grade serous pathology. None were recorded in the BSO group. We found no evidence for an increased risk of EC overall (E: 9.8, O: 14; OR: 1.42 95% CI: 0.78-2.39, p=0.24), nor in the prospective group from mutation report (E: 3.64, O: 2; OR: 0.55 95% CI 0.07-1.98) where there were only two endometrioid cancers in 8724.5 years follow-up

Conclusion

We found no evidence for an increased risk of EC amongst BRCA mutation carriers, although the cohort is still young.
ENDOMETRIAL CANCER

ESGO7-0566

IMPACT OF TUMOR GRADE ON PROGNOSIS IN TYPE 1 ENDOMETRIUM CANCER

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Aims

The aim of this study was to evaluate the relationship between prognosis and tumor grade of patients with type 1 endometrial cancer.

Method

165 patients with type 1 endometrial cancer who underwent operation in the Department of Obstetrics and Gynecology of Selçuk University between 2009-2016 were included in this study. Histological grade of the tumor was determined from pathologic reports. The patient's last clinical status, recurrence dates, and death dates were determined from medical records. The relationship between the histological grade and the disease recurrence life table was established and the Wilcoxon test was used to compare the survival curves.

Results

The mean age of the patient was 58.5 years. 87 patients were classified stage 1A, 38 patients stage 1B, 10 patients stage 2, 5 patients stage 3A, 3 patient stage 3B, 19 patients stage 3C and 3 patients stage 4 were detected. The mean follow-up time was 45.4 months. 127 patients were Grade 1, 30 patients were Grade 2 and 8 patients were Grade 3. Recurrence was detected in 10 patients and there was no death during the follow-up. The mean duration of relapse was 55.1 months. 4 of the patient with recurrence were grade 1 and 6 were grade 2. Life table analysis showed a statistically significant increase in recurrent Grade 2 patients (p = 0.045).

Conclusion

The recurrence risk was detected higher in grade 2 patients than grade 1 and grade 3 patients in this study. Further studies with more patients are needed to confirm this study.
ENDOMETRIAL CANCER

ESGO7-0901

SERUM ISCHEMIA MODIFIED ALBUMIN AND ENDOMETRIAL CANCER; PROSPECTIVE CASE-CONTROL STUDY
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Aims

To investigate the importance of ischemia modified albumin (IMA) in the diagnosis and evaluation of endometrioid type endometrial carcinoma

Method

Serum IMA levels of patients with and without endometrioid type endometrial cancer were measured by the calorimetric assay technique and their absorbance units were compared.

Results

A total of 120 women consisting of 56 endometrial cancer patients and 64 patients as the control group, were included in the study. The median ages were 58 and 56, respectively. Age, gravida, body mass index, serum albumin levels were not different between the groups (p > 0.05). In the endometrial cancer group, the median serum IMA level was 0.667 and range was 0.57 (0.313-0.883), while in the control group the median serum IMA level was 0.639 and range was 0.754 (0.178-0.932). There was no significant difference between the two groups (p = 0.433). IMA levels were similar when myometrial invasion, lymphovascular involvement, grade, tumour size and stage were evaluated (p > 0.05).

Conclusion

Although IMA was predominantly used as a cardiac marker only, it was found to be significantly higher in a limited number of patient studies with some types of cancer. The IMA level does not appear to be an additional predictor of preoperative diagnosis and evaluation of endometrioid type endometrial cancer.
CLUSTERIN IMMUNOEXPRESSION IS ASSOCIATED WITH EARLY STAGE ENDOMETRIAL CARCINOMAS

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Aims

Clusterin has anti-apoptotic, regeneration and migration stimulating effects on tumor cells. This study investigates the relation between clusterin expression and the clinicopathological parameters in endometrial carcinomas.

Method

Seventy one cases of previously diagnosed endometrial carcinoma (including 59 endometrioid adenocarcinoma, 9 serous adenocarcinoma, 1 clear cell adenocarcinoma, and 2 malignant mixed Mullerian tumor) and 30 tissue samples of non-cancerous endometrium (including 16 proliferative endometrium, 10 secretory endometrium and 4 endometrial polyps) were employed for clusterin detection using tissue microarrays and immunostaining.

Results

A total number of 23 (32.4%) cases were positive for clusterin immunostaining. Brown granular cytoplasmic expression of clusterin was detected in 33.9% of endometrioid adenocarcinomas, 22.2% papillary serous endometrial carcinomas. Three (10%) control cases showed granular cytoplasmic expression. Positive clusterin immunostaining was found more frequent in well differentiated and stage I endometrial carcinomas, showing significant statistical association (p-value = 0.036 and p-value = 0.002 respectively). Significant difference in clusterin expression was observed between tumor cases and control group (P-Value = 0.019), i.e., endometrial carcinoma cases are more than four times likely to show positive clusterin immunostaining (odds ratio 4.313 with 95% confidence interval 1.184–15.701). This study did not find relation between clusterin expression and disease recurrence, survival or any of the other clinicopathological parameters in endometrial tumors. The results of our study confirms the diagnostic values of clusterin in supporting the diagnosis of endometrioid carcinoma.

Conclusion

When clusterin is expressed in endometrial tumors, it is associated with lower stage. The correlation of clusterin with tumor stage suggests involvement of this molecule in endometrial tumor progression.
ENDOMETRIAL CANCER

ESGO7-0107

ROBOT-ASSISTED LAPAROSCOPY VERSUS LAPAROTOMY FOR INFRA-RENAL PARAAORTIC LYMPHADENECTOMY IN WOMEN WITH HIGH-RISK ENDOMETRIAL CANCER: A RANDOMIZED CONTROLLED TRIAL (RASHEC)

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Aims

To investigate if robot-assisted laparoscopic surgery (RALS) was non-inferior to laparotomy (LT) in harvesting infrarenal paraaortic lymph nodes in patients with presumed stage I-II high-risk endometrial cancer.

Method

Patients with histologically proven endometrial cancer, presumed stage I-II with high-risk tumor features, were randomized to hysterectomy, bilateral salpingo-oophorectomy, pelvic and paraaortic lymphadenectomy by either RALS or LT. Primary outcome was paraaortic lymph node count. Secondary outcomes were perioperative events, postoperative complications and total health care cost.

Results

Overall 120 patients were randomized and 96 patients were included in the per protocol analysis. Demographic, clinical and tumor characteristics were evenly distributed between groups. Mean (±SD) paraaortic lymph node count was 20.9 (±9.6) for RALS and 22 (±11, p=0.45) for LT. The difference of means was within the non-inferiority margin (-1.6, 95% CI -5.78, 2.57). Mean pelvic node count was lower after RALS (28±10 vs. 22±8, p<0.001). There was no difference in perioperative complications or readmissions between the groups. Operation time was longer (p<0.001) but total blood loss less (<0.001) and hospital stay shorter (<0.001) in RALS group than LT group. Health care costs for RALS was significantly lower (mean difference $1,568 USD/€1,225 Euro, p<0.05).

Conclusion

Our results demonstrate non-inferiority in paraaortic lymph node count, comparable complication rates, shorter hospital length and lower total cost for robot-assisted laparoscopic surgery over laparotomy. Generalizability of the latter finding requires a high-volume setting and high surgical proficiency. In women with high-risk endometrial cancer confined to the uterus, RALS is a valid treatment modality.
ENDOMETRIAL CANCER

ESGO7-0543

THE UTERINE CHORIOCARCINOMA IN POSTMENOPAUSAL WOMEN: SPECIFICITIES OF DIAGNOSIS AND TREATMENT

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Aims

Choriocarcinoma is a gestational trophoblastic tumor that mainly affects women of childbearing age. Cases of choriocarcinoma in postmenopausal women are exceptional.

Method

Through an observation and literature review, we propose to study the specific diagnosis and treatment features of this tumor in menopausal women.

Results

We report the observation of a pure uterine choriocarcinoma, which occurred in post-menopause. The diagnosis was made on the analysis of surgical specimens confirmed by measurement of hCG. Chemotherapy was started after a total hysterectomy and bilateral salpingo-oophorectomy first. The improvement was dramatic after 3 courses of chemotherapy and the patient is in complete remission after five years of monitoring.

Conclusion

The primitive forms of pure choriocarcinoma in postmenopausal women are exceptional. Their etiology is poorly understood and their treatment based on chemotherapy.
ENDOMETRIAL CANCER

ESGO7-1375

PROGNOSTIC FACTORS AND TREATMENT OUTCOMES IN SURGICALLY-STAGED NON-INVASIVE UTERINE CLEAR CELL CARCINOMA: A TURKISH GYNECOLOGIC ONCOLOGY GROUP STUDY

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Aims

To assess the prognosis of surgically-staged non-invasive clear cell carcinoma (UCCC), and to determine the role of adjuvant therapy.

Method

A multicenter, retrospective department database review was performed to identify patients with UCCC who underwent surgical treatment between 1997 and 2016 at 8 Gynecologic Oncology centers. Demographic, clinicopathological, and survival data were collected.

Results

A total of 232 women with UCCC were identified. Of these, 53 (22.8%) had surgically-staged non-invasive UCCC (UCCC with no myometrial invasion). Twelve patients (22.6%) were upstaged at surgical assessment, including a 5.6% rate of lymphatic dissemination (3/53). Of those, 1 had stage IIIA, 1 had stage IIIC₁, 1 had stage IIIC₂, and 9 had stage IVB disease. Of the 9 women with stage IVB disease, 5 had isolated omental involvement indicating omentum as the most common metastatic site. UCCC limited only to the endometrium with no extra-uterine disease was confirmed in 41 women (73.3%) after surgical staging. Of those, 13 women (32%) were observed without adjuvant treatment whereas 28 patients (68%) underwent adjuvant therapy. The 5-year disease-free survival rates for patients with and without adjuvant treatment were 100% vs. 74.1%, respectively (p=0.06).

Conclusion

Extra-uterine disease may occur in the absence of myometrial invasion, therefore comprehensive surgical staging including omentectomy should be the standard of care for women with UCCC regardless of the depth of myometrial invasion. Larger cohorts are needed in order to clarify the necessity of adjuvant treatment for women with UCCC truly confined to the endometrium.
Table 1. Baseline characteristics of all patients

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, years (median)</td>
<td>63 (42-84)</td>
</tr>
<tr>
<td>Menopausal status, N</td>
<td></td>
</tr>
<tr>
<td>Postmenopausal</td>
<td>59 (94.3%)</td>
</tr>
<tr>
<td>Premenopausal</td>
<td>3 (5.7%)</td>
</tr>
<tr>
<td>Gravida (median)</td>
<td>3 (0-14)</td>
</tr>
<tr>
<td>Histopathology, N</td>
<td></td>
</tr>
<tr>
<td>Pure</td>
<td>38 (71.7%)</td>
</tr>
<tr>
<td>Mixed</td>
<td>15 (28.3%)</td>
</tr>
<tr>
<td>Serum CA 125 (median IU/ml)</td>
<td></td>
</tr>
<tr>
<td>Normal (&lt;35 IU/ml)</td>
<td>24 (55.3%)</td>
</tr>
<tr>
<td>High (≥35 IU/ml)</td>
<td>8 (18.1%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>14 (26.4%)</td>
</tr>
<tr>
<td>Tumor size</td>
<td></td>
</tr>
<tr>
<td>≤30 mm</td>
<td>18 (34%)</td>
</tr>
<tr>
<td>&gt;30 mm</td>
<td>29 (54.7%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>6 (11.3%)</td>
</tr>
<tr>
<td>Positive peritoneal cytology, N</td>
<td>6 (11.3%)</td>
</tr>
<tr>
<td>LVSI</td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>7 (13.2%)</td>
</tr>
<tr>
<td>Negative</td>
<td>44 (55.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>2 (3.8%)</td>
</tr>
<tr>
<td>Number of LNs removed</td>
<td>40 (15-100)</td>
</tr>
<tr>
<td>Number of pelvic LNs removed</td>
<td>20 (10-65)</td>
</tr>
<tr>
<td>Number of para-aortic LNs removed</td>
<td>12 (2-43)</td>
</tr>
<tr>
<td>Stage, N</td>
<td></td>
</tr>
<tr>
<td>IA</td>
<td>41 (77.4%)</td>
</tr>
<tr>
<td>IIA</td>
<td>1 (1.9%)</td>
</tr>
<tr>
<td>IIB</td>
<td>1 (1.9%)</td>
</tr>
<tr>
<td>IIBC</td>
<td>1 (1.9%)</td>
</tr>
<tr>
<td>IVC</td>
<td>1 (1.9%)</td>
</tr>
<tr>
<td>IVB</td>
<td>9 (17%)</td>
</tr>
<tr>
<td>Extra-uterine disease, N</td>
<td></td>
</tr>
<tr>
<td>Present</td>
<td>12 (22.6%)</td>
</tr>
<tr>
<td>Absent</td>
<td>41 (77.3%)</td>
</tr>
</tbody>
</table>

Abbrications:
N: Number
LVSI: Lympho-vascular space invasion
LN: Lymph Node
<table>
<thead>
<tr>
<th>ADJUVANT THERAPY</th>
<th>N (%)</th>
<th>Recurrence</th>
<th>DFS (5 year)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemotherapy only (paclitaxel/platinum)</td>
<td>8 (20%)</td>
<td>0</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Radiotherapy only</td>
<td>36 (39%)</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDR</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EBRT</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDR + EBRT</td>
<td>3</td>
<td></td>
<td></td>
<td>0.06</td>
</tr>
<tr>
<td>Chemoradiotherapy</td>
<td>4 (10%)</td>
<td>1</td>
<td>74%</td>
<td></td>
</tr>
<tr>
<td>CT + HDR</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT + EBRT</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NO ADJUVANT THERAPY**

<table>
<thead>
<tr>
<th>N (%)</th>
<th>Recurrence</th>
<th>DFS (5 year)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 (32%)</td>
<td>1</td>
<td>74%</td>
<td></td>
</tr>
</tbody>
</table>

**Abbreviations:**

N: Number  
DFS: Disease-free survival  
HDR: Brachytherapy  
EBRT: External beam radiotherapy  
CT: Chemotherapy
A FEASIBILITY STUDY OF SENTINEL LYMPH NODE MAPPING BY CERVICAL INJECTION OF A TRACER IN JAPANESE WOMEN WITH EARLY STAGE ENDOMETRIAL CANCER

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Aims

The aim of this study was to investigate the feasibility of sentinel lymph node mapping characterized by a cervical tracer injection in endometrial cancer.

Method

This retrospective study was carried out using data for 57 patients with endometrial carcinoma who had undergone intraoperative sentinel lymph node mapping and subsequent surgical staging. Technetium colloid and/or indocyanine green was injected into the uterine cervix and a gamma-detecting probe and/or photodynamic eye camera system was used intraoperatively to locate hot spots.

Results

Of the 57 patients, 52 (91.2\%) had FIGO Stage I disease. Successful unilateral or bilateral mapping occurred in 54 patients (94.7\%) and 46 (80.7\%), respectively. The median number of sentinel lymph nodes detected was two (range, 0–5). Following sentinel lymph node mapping, 41 patients (71.9\%) underwent pelvic lymphadenectomy alone and 16 (28.1\%) full lymphadenectomy. The median number of lymph nodes resected was 17 (range, 8–110). Sentinel lymph nodes were involved in four patients (7.0\%), two with macrometastases and two with low-volume metastases. The sensitivity and negative predictive value for detecting lymph node metastasis were both 100\%.

Conclusion

Sentinel lymph node mapping with the use of cervical tracer injection is highly feasible in Japanese women with early stage endometrial cancer.
ENDOMETRIAL CANCER

ESGO7-0444

EVALUATING THE LONG TERM PROGNOSTIC FACTOR AND THE ROLE OF CYTOREDUCTION IN THE OVERALL POPULATION OF PATIENTS WITH CLINICAL AND SURGICAL STAGE IV ENDOMETRIAL CARCINOMA

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²Department of Obstetrics and Gynecology, Aichi Cancer Center, Nagoya City, Japan

Aims

This study aimed to evaluate the long term prognostic factor and the role of cytoreduction in the overall population of patients with clinical and surgical stage IV endometrial carcinoma.

Method

All patients with Stage IV endometrial carcinoma treated in Aichi Cancer Center between 1982 and 2016 were retrospectively analyzed.

Results

The median age was 59 years (range 31 to 79); the most common histologic subtypes were 52 (61.1%) with endometrioid carcinoma, 11 (12.9%) with serous carcinoma, and 10 (11.9%) with carcinosarcoma. Median overall survival time (MST) of all cases were 12 months (range 0 to 189). The presence of metastasis beside peritoneal dissemination was analyzed and differed statistically (with (n=42) vs without (n=43), MST 12,14 months p=0.0456). Patients were divided into three groups according to their initial treatment: primary surgery following chemotherapy, primary chemotherapy following surgery and chemotherapy alone were 48(56%), 20(24%) and 16(19%) cases retrospectively. Among patients underwent surgery, no postoperative intra-abdominal residual tumor (NRD) or <=1cm, >1cm were 13, 24 and 31 retrospectively. Postoperative intra-abdominal residual tumor significantly differed statistically in MST (NRD, <=1cm, >1cm groups, MST 63, 14, 13 months p<0.001). No other characteristics showed statistical difference. Twelve cases (14.1%) showed more than 5 years survival in which 11 were treated with surgery and 7 with no residual tumor after surgery.

Conclusion

From our result completely debulking abdominal disease regardless of primary treatment appears to be most important determinants of long term survival in patients with Stage IV endometrial carcinoma. Though there are few cases dying in a short time which makes essential to regard the management of treatment.
LYMPHOCELE AFTER PELVIC LYMPHADENECTOMY FOR PATIENTS WITH ENDOMETRIAL CANCER

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³Pavlov First Saint Petersburg State Medical University, Oncological department, Saint-Petersburg, Russia
⁴North-Western State Medical University named after I.I Mechnikov, Oncological department, Saint-Petersburg, Russia

Aims

To identify the incidence of lymphocele after pelvic lymphadenectomy in patients after laparoscopic and open abdominal surgery for endometrial cancer.

Method

648 endometrial cancer patients underwent hysterectomy and bilateral pelvic lymphadenectomy with laparoscopic and open approach in N.N. Petrov Research Institute of Oncology from 2010 to 2016. The median age of patients at surgery was 59.8 (25–88) years. Median BMI was 32.7 (18.31-60.97) kg/m2. A total of 327 patients after laparoscopic surgery were compared to 321 patients after open surgery group. In both groups the majority of patients were at stage IA and IB (89.3% in the laparoscopic group and 69.7% in the laparotomic group). Metastases in pelvic lymph nodes were detected in 4.89% and 10.9% of patients respectively. Ultrasound examination of the pelvis for all patients after surgery was performed.

Results

The overall incidence of lymphoceles was 320/648 (49.4%); 141/320 (44.06%) after laparoscopy and 179/320 (55.9%) after open surgery (p=0.01). Symptomatic lymphoceles were found in 15 (4.6%) and 21 (6.5%) patients after laparoscopic and open surgery respectively. The mean size (largest diameter) of lymphoceles was 43.7 mm (1–155 mm). There was a significant size difference between asymptomatic (mean size 39.9 mm; 1–114 mm) and symptomatic lymphoceles (mean size 82.3 mm; 32–155 mm) [p=0.02].

Conclusion

The incidence of lymphocele after lymphadenectomy for endometrial cancer is high (49.4%). Most of them are asymptomatic (88.9%). Laparoscopic approach in endometrial cancer surgery is associated with a lower occurrence of both asymptomatic and symptomatic lymphoceles compared to open surgery.
ENDOMETRIAL CANCER

ESGO7-0946

CLINICAL FEATURES OF ENDOMETRIAL CANCER IN PATIENTS OVER THE AGE OF 70

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²Petrov Research Institute of Oncology, Gynaecological Oncology Department, Saint-Petersburg, Russia

Aims

To study clinical features of endometrial cancer in patients elder 70 years

Method

All patients (316) were divided into two groups: I group - patients aged ≥ 70 (n=157), average age 75.2, II group - patients < 70 (n = 159), average age 59.5 (2009-2016)

Results

I stage of the disease was observed in 66.25% patients ≥ 70 years vs 86.79% in patients < 70 years (p<0.05). The II stage was registered more often - in the group ≥ 70 years (15.29% vs 6.29%, p<0.05). The III stage of endometrial cancer also more often became apparent in the group ≥ 70 (15.91% vs 6.29%, p<0.05). The IV stage is revealed in 2.55% of patients of the I group and in 0.63% of patients of the II group (p>0.05). In both age groups the endometrioid adenocarcinoma prevailed. G1 carcinoma was less often observed in patients ≥70 (17.8% vs 37.1% in the II group, p<0.05). G2 and G3 endometrioid adenocarcinomas occurred in 49.7% and 10.8% respectively in the I group against 47.8% and 6.92% in the II group (p>0.05). The serous endometrial carcinoma prevailed, it became apparent in the senior age group authentically more often and was of 15.9% against 4.4% in the II group (p<0.05).

Conclusion

Among patients ≥ 70 years the tendency to increase in specific weight of advanced stages of endometrial cancer is noted, the highly differentiated endometrioid adenocarcinoma occurs less often, and among the non-endometrioid forms of a tumor the serous endometrial carcinoma which is characterized by the unfavourable prognosis prevails.
ENDOMETRIAL CANCER

ESGO7-0237

HYPOXIA AND HYPERGLYCAEMIA ARE ASSOCIATED WITH METFORMIN RESISTANCE IN ENDOMETRIAL CANCER

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1Division of Molecular and Clinical Cancer Sciences, School of Medical Sciences, Manchester, United Kingdom
2Division of Pharmacy and Optometry, School of Health Sciences, Manchester, United Kingdom
3Department of Histopathology, Central Manchester University Hospitals Foundation Trust, Manchester, United Kingdom
4Division of Pharmacy and Optometry, School of Health Science, Manchester, United Kingdom

Aims

Obesity and insulin resistance are key drivers in the pathogenesis of endometrial cancer (EC). Metformin reduces tumour proliferation in vitro and following short-term pre-surgical administration in patients with EC. We hypothesised that metformin’s anti-tumour activity is driven by effects on mitochondrial function and affected by glucose and oxygen concentrations.

Method

Ishikawa and HEC1A EC cell lines were used in cell viability, flow cytometry and mitochondrial assays to test the cytostatic and mitochondrial function effects of metformin at varying glucose (0.5-25mM) and oxygen (1%-21%) concentrations. In patients, baseline serum glucose and insulin levels were measured before treatment with metformin in a pre-surgical study. Baseline tumour hypoxia (HIF-1α, CA-9) and change in mitochondrial mass (TOMM-20) was measured by immunohistochemistry in endometrial tumours.

Results

In vitro, metformin’s dose-dependent cytostatic effects (p<0.01) were reduced by high glucose and hypoxia (p<0.05-0.001). These conditions suppressed basal and mitochondrial respiration in mitochondrial assays (p=0.017). In vitro, metformin increased mitochondrial mass (p<0.0001) but decreased mitochondrial function (p<0.001) at low glucose concentrations (p<0.01), while treatment in patients was associated with increased mitochondrial mass (p=0.03). There was no association with baseline glucose or insulin levels but metformin response was reduced in hypoxic tumours (p=0.03).

Conclusion

Supraphysiological concentrations of metformin are required for cytostatic effects in high glucose culture conditions. Metformin response is reduced in low oxygen concentrations, both in vitro and in patients. Metformin targets mitochondrial function, however in high glucose, a switch to glycolysis may contribute to metformin resistance. Understanding these metabolic adaptations can help identify patients likely to benefit from metformin.
ENDOMETRIAL CANCER

ESGO7-0620

RADIATION-RELATED TOXICITIES AND OUTCOMES IN ENDOMETRIAL CANCER: ARE OBESE WOMEN AT A DISADVANTAGE?

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1Radboudumc, Gynaecology, Nijmegen, The Netherlands
2Royal Cornwall Hospital Trust, Oncology, Truro, United Kingdom
3Retired, Gynaecology, Truro, United Kingdom
4Royal Cornwall Hospital Trust, Gynaecology, Truro, United Kingdom
5Radboud UMC, Gynaecology, Nijmegen, The Netherlands

Aims

To assess the impact of body mass index (BMI) on radiotherapy toxicities in endometrial cancer patients.

Method

This was a retrospective cohort study of women diagnosed with endometrial cancer between January 2006 and December 2014 at the Royal Cornwall Hospital Trust. Women who received radiotherapy as part of treatment, including EBRT and/or vaginal brachytherapy were included. Radiation-related toxicities were graded according to the Radiation Therapy Oncology Group (RTOG) guidelines. Toxicity outcomes were compared across BMI groups; non-obese (BMI <30 kg/m²) and obese (BMI ≥30 kg/m²), according to radiotherapy treatment received (EBRT, brachytherapy or a combination).

Results

A total of 159 women received radiotherapy of which 110 could be included. Sixty-three women had a BMI <30 kg/m² and 47 women were obese. Obese women had poorer ECOG performance status (P=0.021) and more comorbidities (P<0.001) compared to the non-obese group. Total (any) toxicity rates were 60.3%, 72.7% and 52.0% for respectively; EBRT and brachytherapy (N=63), single mode EBRT (N=22) and brachytherapy (N=25). BMI was not associated with the incidence of acute and late radiation toxicities in the different radiotherapy groups. Nor were there differences in individual complications between the BMI groups.

Conclusion

When comparing obese to non-obese women, obesity does not negatively impact the incidence of radiation toxicities in endometrial cancer. However, toxicities remain an important challenge as they are common and negatively influence the quality of life (QoL) of survivors. Future studies need to further explore the role of BMI and possible interventions to improve toxicities and QoL.
ENDOMETRIAL CANCER

ESGO7-1358

EFFICACY OF ENDOMETRIAL CANCER FOLLOW-UP: AN EXPERIENCE FROM A TERTIARY CARE HOSPITAL IN ITALY

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1University of Florence, Department of Experimental and Clinical Biomedical Sciences - Division of Obstetrics and Gynecology, Florence, Italy

Aims

To review the experience of a tertiary university hospital on endometrial cancer follow-up in a 10 year period.

Method

We retrospective review our institutional experience of follow up between September 2006 and September 2016 for patients treated for endometrial carcinoma and critically analyzed how to improve the clinical practice and the quality of life, reducing the public spending. Patients have been examined with a frequency of 4-5 months for the first 2 years, 6-8 months between third and fifth year, every 12 months between fifth and tenth year.

Results

367 patients were enrolled. The recurrence rate was 8.18% with the highest recurrence rate in stage IIIC (36.4%). Only six patients (20%) showed symptoms before the diagnosis with no difference in recurrence free survival between asymptomatic and symptomatic patients. Among the asymptomatic endometrium recurrences, the diagnosis was made with imaging clinical examinations in the 87.5% of cases. Vaginal cytology did not detect any disease recurrence in case of central asymptomatic endometrium recurrences. There were no relapses after the fifth year of follow-up

Conclusion

Considering the necessity of a spending reduction for the National Health System, we recommend a more careful modulation of the number of examinations and of required tests based on risk factors and on the patient’s prognostic. In accordance with literature, the use of vaginal cytology in endometrial cancer follow-up should be reduced. The absence of recurrence after the fifth year of follow-up might suggest to reduce the length of follow-up programme.

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ENDOMETRIAL CANCER

ESGO7-0288

STATISTICAL ANALYSIS OF HOSPITAL STAY OF PATIENTS WITH MALIGNANT TUMORS OF THE UTERUS AND OBESITY

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1University Hospital of Oncology, Clinic of gynecology, Sofia, Bulgaria

Aims

Obesity is a major public health problem, and it is observed in cases of endometrial cancer.

Method

A hospital stay of 262 women (non-obese - 55 patients and obese - 207 patients) with malignant tumors of the uterus in terms of BMI and its influence on the preoperative and postoperative stay operated in the clinic of Gynecology (01.01.2013 – 31.07.2016) University Hospital of Oncology in Sofia was conducted. As control group 331 patients with cervical and ovary cancer (non-obese - 161 patients and obese - 170 patients) were used. The Kruskal-Wallis Test and the Mann-Whitney Test were used for statistical analysis of the results. The null hypothesis is rejected at a P-value of less than 0.005.

Results

Statistically there were found out significant differences between BMI and postoperative stay in patients with malignant tumors of the uterus. No statistically significant differences between the categories of BMI and postoperative stay in patients with cervical cancer and ovarian cancer has been observed.

Conclusion

Our results indicate that there is a relationship between postoperative hospital stay and BMI in patients with malignant tumors of the uterus and prolonged stay in patients with a higher BMI. Regarding patients with gynecological cancer correlation between complications and obesity has not been established.
THE INFLUENCE OF SOME CLINICAL FACTORS ON SURVIVAL OF ENDOMETRIAL STROMAL SARCOMA PATIENTS.

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¹Grigoriev Institute of medical radiology, Oncogynecology, Kharkov, Ukraine
²Grigoriev Institute of medical radiology, Radiation therapy, Kharkov, Ukraine
³Grigoriev Institute of medical radiology, Clinical oncology, Kharkov, Ukraine

Aims

analyse clinical cases of uterine sarcoma patients, who were diagnosed for the first time and underwent treatment between January 1997 and December 2016 in the clinic of «Grigoriev Institute for Medical Radiology of NAMS of Ukraine».

Method

There was evaluated the treatment results of 42 uterine endometrial stromal sarcoma patients stage IA-IVB (T1-3NxM0-1). All the patients underwent surgery, radiotherapy and/or chemotherapy. The treatment efficacy was assessed by the incidence-rate, recurrence-rate, disease-free and overall survival, site of recurrence and metastasis.

Results

the progression index was 22.2 ± 1.0 % at stage I, 50.1 ± 1.7 % at stage II, 66.7 ± 1.7 % at III stage, and 62.5 ± 1.8 % at stage IV, with the period of observation up to 60 months. The recurrence-rate after combined or complex treatment in ESS patients stage I-IV was 42.9 ± 7.6 %. Loco-regional recurrence was detected in 16.7 ± 5.8 % of patients, distant metastases – in 26.2 ± 6.8 %.

Conclusion

The progressive disease in term before 6 months was noted in 80 % of patients with stage II and IV. The 5-year non-progressive survival, without taking into consideration the stage of disease, was 57.1 %. The treatment regimen has no influence on relapse-rate in ESS patients.
ENDOMETRIAL CANCER

ESGO7-0802

POST-PREGNANCY OUTCOMES OF YOUNG PATIENTS WITH ENDOMETRIAL CANCER OR ATYPICAL ENDOMETRIAL HYPERPLASIA WHO RECEIVED FERTILITY-PRESERVING HORMONAL THERAPY USING MEDROXYPROGESTERONE ACETATE.

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²Keio University School of Medicine, Obstetrics and Gynecology, Tokyo, Japan

Aims

We aimed to clarify retrospectively, the post-pregnancy outcomes of young patients with endometrioid adenocarcinoma (EC) or atypical endometrial hyperplasia (AEH) who received fertility-preserving hormonal therapy using medroxyprogesterone acetate (MPA).

Method

We reviewed 248 patients with AEH (102), EC Grade1 (142), EC Grade2 (4), who were determined to have neither myometrial invasion nor extrauterine metastasis. After 4 months oral administration of MPA (400-600mg/day), D&C was performed. An additional 2 months medication and D&C were repeated when positive residual disease. At intrauterine recurrence, we repeated MPA therapy for patients meeting the same eligibility for initial therapy. We analyzed the recurrence-free survival (RFS) rates in EC patients or AEH patients by Kaplan-Meier method.

Results

Median follow-up period was 60 months. In initial therapy, pathological CR rate was 97% in AEH, 90% in G1/G2. The pregnancy rate after MPA therapy was 34% in AEH, 34% in G1/G2. After delivery or abortion, 2 year-RFS rate was 91% in AEH, 65% in G1/G2, and 5 year-RFS rate was 65% in AEH, 38% in G1/G2 (p=0.0038, Log-rank test). RFS rate was similar between patients after abortion or patients after successful delivery (53% vs. 50%, p=0.49).

Conclusion

Post-pregnancy RFS rate was low especially in patients with EC. Careful surveillance for intra-uterine recurrence is needed even after successful pregnancies.
ENDOMETRIAL CANCER

ESGO7-1199

RECURRENCE PREDICTION SCORE: DEVELOPMENT AND VALIDATION OF A SYSTEM TO PREDICT BASELINE RISK OF RECURRENCE IN STAGE I-II ENDOMETRIAL CARCINOMA

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¹National cancer center hospital, Department of gynecology, Tokyo, Japan
²Cancer institute hospital of JFCR, Medical Oncology Department, Tokyo, Japan

Aims

To develop and validate the 3-year recurrence prediction score (RPS) system for predicting the baseline risk of recurrence in stage I-II endometrial carcinoma.

Method

We reviewed 427 patients with FIGO stage I-II endometrial carcinoma who underwent surgery without any adjuvant therapy at our institution from 2005 to 2013. Multivariate analysis was performed using clinicopathological factors to identify the risk factors for 3-year recurrence-free survival (RFS) in 251 patients treated in odd-numbered years (test cohort). We assigned score points to each risk factor based on Cox regression analyses and the sum of the risk factor score points was defined as the RPS system. The scoring system was applied to 176 patients treated in even-numbered years (validation cohort).

Results

The significant risk factors were age ≥60 years, pathological type II, cervical stromal invasion, and positive peritoneal cytology and Cox regression analysis revealed that the regression coefficients of each factor were almost same, and we defined each score points as 1. Score distribution and the 3-year RFS rate for each RPS are shown in Table 1 and Table 2. The 3-year RFS was significantly higher in the low-RPS group (RPS 0-1) than in the high-RPS group (RPS 2-3) (97.7% vs. 71.1%, p < 0.01) (95.2% vs. 79.9%, p < 0.01) in both test and validation cohort (Figure 1).

<table>
<thead>
<tr>
<th>RPS Group</th>
<th>Test cohort</th>
<th>Validation cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td>score</td>
<td>n = 251</td>
<td>n = 176</td>
</tr>
<tr>
<td>group</td>
<td>score</td>
<td>group</td>
</tr>
<tr>
<td>0 Low-RPS</td>
<td>101 (40.0%)</td>
<td>78 (44.3%)</td>
</tr>
<tr>
<td></td>
<td>219 (87.3%)</td>
<td>146 (83.0%)</td>
</tr>
<tr>
<td>1</td>
<td>118 (47.0%)</td>
<td>68 (38.6%)</td>
</tr>
<tr>
<td>2 High-RPS</td>
<td>26 (10.4%)</td>
<td>24 (13.8%)</td>
</tr>
<tr>
<td></td>
<td>32 (12.7%)</td>
<td>30 (17.0%)</td>
</tr>
<tr>
<td>3</td>
<td>6 (2.4%)</td>
<td>6 (3.4%)</td>
</tr>
</tbody>
</table>

Table 1: Score distribution
Conclusion

The RPS system showed significant reproducibility for predicting the baseline risk of recurrence using multiple risk factors.
A FEASIBILITY OF LAPAROSCOPIC SURGERY WITH PELVIC LYMPHADENECTOMY FOR EARLY-STAGE ENDOMETRIAL CANCER

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Aims

To investigate feasibility of laparoscopic surgery with pelvic lymphadenectomy for endometrial cancer.

Method

Laparoscopic surgery for endometrial cancer hadn't been covered by insurance until 2014 in Japan. Since 2015, we have performed laparoscopic surgery (LPS) for 93 endometrial cancer patients. Pelvic lymphadenectomy were performed for 35 of them. We judge the adaptation of lymphadenectomy for endometrial cancer from frozen-section results (Table 1). Insurance allows to perform total laparoscopic hysterectomy (TLH)+bilateral salpingo-oophorectomy (BSO)+pelvic lymphadenectomy, not to perform para-aortic lymphadenectomy. We compared them with 102 patients by laparotomy (LPT) with pelvic lymphadenectomy for endometrial cancer performed 2011-2016 about age, body mass index (BMI), operative time, blood loss, resected lymph nodes, intraoperative and postoperative complications.

Results

Patient characteristics were not significantly different between two groups (median age: 58(39-76) for LPT vs 58(24-78) for LPS, BMI: 23(16-36) vs 28(17-35), respectively). The median operative time was 341 min (225-596), blood loss 12 ml (0-191), resected lymph nodes 45 (18-78) in LPS, and 266 min (163-48), 325 ml (72-1018), 44 (24-82) in LPT. The operative time in LPS was longer (p < 0.01), although blood loss was less than LPT (p < 0.01). And resected lymph nodes were almost equal between the two groups.

The statistic difference on intra and perioperative complications between the two was not significant. (blood transfusion: 6.4% vs 0%, p = 0.08; injuries of other organs: 0% of both groups)

Also, the statistic difference on post-operative complications was not significant as well (surgical site infection: 4.9% vs 0%, p = 0.28; pelvic peritonitis: 6.9% vs 8.7%, p = 0.78; ileus: 0% of both groups).

Conclusion

Laparoscopic surgery with pelvic lymphadenectomy for endometrial cancer was feasible compared with conventional laparotomy.
A PREDICTION MODEL OF SURVIVAL FOR PATIENTS WITH BONE METASTASIS FROM UTERINE CORPUS CANCER
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Aims

The aim of the study was to establish a predictive model of survival period after bone metastasis from endometrial cancer.

Method

A total of 28 patients with bone metastasis from uterine corpus cancer were included in the study. Data at the time of bone metastasis diagnosis, which included presence of extraskeletal metastasis, performance status, history of any previous radiation/chemotherapy, and the number of bone metastases were collected. Survival data were analyzed using Kaplan–Meier methods and Cox proportional hazards models.

Results

The most common site of bone metastasis was the pelvis (50.0%), followed by lumbar spine (32.1%), thoracic spine (25.0%), and rib bone (17.9%). The median survival period after bone metastasis was 25 weeks. The overall rate of survival after bone metastasis of the entire cohort was 75.0% at 13 weeks, 46.4% at 26 weeks, and 42.9% at 52 weeks. Performance status of 3–4 was confirmed as an independent prognostic factor (HR, 3.5; 95% CI, 1.41–8.70) and multiple bone metastases tended to be associated with poor prognosis (HR, 2.4; 95% CI, 0.95–5.97). A prognostic score was calculated by adding up the number of these two factors. The 26-week survival rates after bone metastasis were 88.9% for those with a score of 0, 45.5% for those with a score of 1, and 0% for those with a score of 2 (p=0.0006).

Conclusion

This scoring system can be used to determine the optimal treatment for patients with bone metastasis from endometrial cancer.
EXPRESSION OF L1CAM IN CURETTAGE AND HIGH L1CAM LEVEL IN PREOPERATIVE BLOOD SAMPLES PREDICTS LYMPH NODE METASTASES AND POOR OUTCOME IN ENDOMETRIAL CANCER PATIENTS

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⁶Halland’s hospital Varberg, Department of Obstetrics and Gynecology, Varnerg, Sweden
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Aims

Several studies have identified L1CAM as a strong prognostic marker in endometrial cancer. To further underline the clinical usefulness of this biomarker, we here investigated L1CAM as a predictive marker for lymph node metastases and its prognostic impact in curettage specimens and preoperative plasma samples.

Method

Immunohistochemical staining of L1CAM was performed for 1134 curettage specimen from endometrial cancer patients. In addition L1CAM level in preoperative blood samples from 372 patients was determined using ELISA. Association between L1CAM level and clinicopathologic variables including lymph node status and survival was investigated.

Results

Expression of L1CAM in curettage specimen was significantly correlated to L1CAM level in corresponding hysterectomy specimen. Both in curettage specimen and preoperative plasma samples was L1CAM upregulation significantly associated with features of aggressive disease and poor outcome. L1CAM was an independent predictor of lymph node metastases, after correction for curettage histology, both in curettage specimen and plasma samples.

Conclusion

We demonstrate that preoperative evaluation of L1CAM levels, both in curettage or plasma samples, predicts lymph node metastases and adds valuable information on patient prognosis. Our results strongly support the usefulness of L1CAM as a biomarker in endometrial cancer.
MISMATCH REPAIR GENES DEFECT AMONG PATIENTS WITH ENDOMETRIAL CANCER
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3Faculty of Medicine Vajira Hospital, Anatomical Pathology, Bangkok, Thailand

Aims
To evaluate the prevalence of mismatch repair genes defect (MMRd) among Thai patients with endometrial cancer (EMC), and its association with clinic-pathologic features.

Method
Formalin fixed paraffin-embedded blocks of EMC tissue from hysterectomy specimens of patients having surgery in our institution between Jan 1, 1995 and December 31, 2016 were assessed for the immunohistochemical expression of 4 MMRproteins (MLH, PMS, MSH2, MSH 6). MMR gene defect was determined by a negative expression of at least 1 protein.

Results
From 301 EMC tissues, the most frequent abnormal (negative) protein expression was MSH6 (40.9%), followed by PMS (36.2%), MLH (35.5%), and MSH2 (16.6%). Overall, 59.1% had negative expression of at least one protein. Except for age ≤ 60 years old which was nearly significant to have MMRd more frequently than age > 60 years, 63.7% vs 36.3% (p=0.052), no other clinic-pathologic features were significantly associated with MMRd. The 5-year cancer-specific survival (CSS) of the patients with MMRd was significantly higher than those without gene defect: 92.7% (95% confidence interval [CI] 88.6%-96.8%) vs 82.7% (95% CI 75.3%-90.1%) (p=0.032).

Conclusion
More than half of Thai EMC patients had MMRd. The patients who aged ≤ 60 years old tended to have higher prevalence of MMRd than older age. Except for the significantly longer CSS of the patients MMRd, no association of MMRd and other clinico-pathologic features were demonstrated.
IDENTIFICATION OF BIOMARKERS TO DIAGNOSE LYMPH NODE METASTASIS BASED ON GENE EXPRESSION PATTERNS IN PRIMARY LESION OF ENDOMETRIAL CARCINOMA

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²Riken Center for Life Science Technologies, Division of Genomic Technologies, Yokohama, Japan

Aims

Discrimination between lymph node metastatic status in endometrial carcinoma before lymphadenectomy would be highly valuable, but no effective methods have been developed. Here, we attempted to identify biomarkers to diagnose lymphatic metastasis based on gene expression patterns in the primary lesion patients with endometrial carcinoma.

Method

We collected endometrial carcinoma tissue from 115 patients. Genome-wide gene expression was analyzed using cap analysis gene expression (CAGE) in 10 lymphatic metastasis-negative (LN-) and five lymphatic metastasis-positive (LN+) cases with G1 endometrial carcinomas with invasion less than or equal to 1/2 myometrial depth. Candidate genes used to distinguish between LN-/LN+ were identified and verified in all 115 samples by quantitative real-time reverse transcription polymerase chain reaction.

Results

Genome-wide screening based on CAGE and targeted examination based on qRT-PCR revealed a significant association of SEMA3D and TACC2 isoforms expressed through a novel promoter, with LN+/LN– status in a low-risk group. SEMA3D and TACC2 isoform were highly expressed in LN– (p <0.001) and LN+ (p <0.05) respectively. The difference in their expression levels was effective in discriminating between LN+/LN– status (AUC = 0.929).

Conclusion

SEMA3D and a novel TACC2 were identified as biomarkers to evaluate lymphatic metastasis in endometrial carcinoma. These biomarkers can diagnose lymphatic metastasis based on gene expression patterns in the primary lesion without so much as requiring Sentinel lymph node biopsy. Our findings pave the way for support clinical decisions that minimize irrelevant lymphadenectomy.
ENDOMETRIAL CANCER

ESGO7-0878

EXPRESSION OF THE PUTATIVE CANNABINOID RECEPTOR GPR55 IS INCREASED IN ENDOMETRIAL CARCINOMA
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Aims

The GPR55 receptor is a potential key player in malignant transformation involving human tumours. Aim of this study was to evaluate GPR55 expression in endometrial carcinoma (EC).

Method

A total of 27 endometrial biopsies (21 ECs (15 type 1, six type 2)) and six normal age-matched controls atrophic endometrium were recruited. Samples were divided into two: one for this study and one for histological confirmation of diagnosis. GPR55 transcript levels were measured using Taqman multiplex qRT-PCR. Immunohistochemistry was performed using commercially available GPR55 antibodies. Statistical testing was performed using one-way ANOVA followed by Dunn’s ad hoc post-test or Mann-Whitney U-test.

Results

GPR55 transcript levels were significantly raised (p<0.0020) in the EC when compared with atrophic tissues. Sub-analyses revealed that GPR55 transcript level in patients with type 1 disease were significantly elevated compared to control patients (p<0.0007), but were not elevated in patients with type 2 disease (p< 0.1320). Furthermore, GPR55 transcript levels in patients with grade 1 and 2 EC type 1 were statistically significantly elevated (p<0.01) and (p<0.05), respectively, but not in grade 3 type 1 EC and type 2 (serous and carcinosarcoma) samples. IHC showed GPR55 immunoreactivity to be markedly increased in EC samples compared to atrophic endometrium, with differential staining intensities; atrophic< type 2 < type 1 EC, mirroring the transcript levels.

Conclusion

This study demonstrates that, GPR55 expression is elevated in EC and may play a role in the aetiopathogenesis of EC. GPR55 could be an invaluable as a diagnostic tool and a potential therapeutic target.
ENDOMETRIAL CANCER

ESGO7-1387

PRIMARY ENDOMETRIAL YOLK SAC TUMOURS

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³Sint Jozef Clinic, Multidisciplinary Breast Clinic Izegem - Unit Gynecological Oncology, Izegem, Belgium

Aims

Primary endometrial yolk sac tumours (EYSTs) are extremely rare. They can be divided in a pure and in mixed forms. Current presentation will discuss the outcome of the different EYSTs.

Method

A literature search was performed regarding EYSTs until May 1st, 2017. All published cases in the English literature were reviewed and an additional case recently seen at the University Hospital Antwerp was added.

Results

In total 26 EYSTs were identified (13 Pure forms and 13 mixed forms). The associated or mixed forms consisted of 4 adenocarcinomas, 2 serous adenocarcinomas, 2 carcinocarcomas, 1 endometrioid adenocarcinoma, 1 serous and endometrioid adenocarcinoma, 1 complex hyperplasia, 1 undifferentiated and endometrioid adenocarcinoma, and 1 undifferentiated, clear cell and serous adenocarcinoma. Of the pure type 64 % were premenopausal and of the mixed type 93 % are postmenopausal. The follow-up status for pure vs. mixed EYSTs for NED is 7 vs.1; for AWD 1 vs. 7 and for DOD 4 vs.3 and LTF 1 vs.1. The mean follow-up time for the pure EYSTs is 20 months and for the mixed EYSTs is 15 months.

Conclusion

The outcome between the pure and the mixed forms of EYSTs differs significantly. The poor outcome in mixed forms is likely to reflect therapy resistance.
ENDOMETRIAL CANCER

ESGO7-0369

IMPLICATIONS OF PARA-AORTIC LYMPH NODE METASTASIS IN PATIENTS WITH ENDOMETRIAL CANCER WITHOUT PELVIC LYMPH NODE METASTASIS

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Aims

The aim of this study was to confirm the incidence and implications of a lymphatic spread pattern involving para-aortic lymph node (PAN) metastasis in the absence of pelvic lymph node (PLN) metastasis in patients with endometrial cancer.

Method

We carried out a retrospective chart review of 754 patients with endometrial cancer treated by surgery at Hokkaido Cancer Center between 2003 and 2016. Of these patients, 380 (50.4%) who underwent PLN dissection and PAN dissection were reviewed retrospectively. We determined the probability of PAN metastasis in patients without PLN metastasis and investigated survival outcomes of PLN−PAN+ patients.

Results

The median numbers of PLN and PAN removed at surgery were 41 (range: 11–107) and 16 (range 1–65), respectively. Sixty-four patients (16.8%) had lymph node metastasis, including 39 (10.3%) with PAN metastasis. The most frequent lymphatic spread pattern was PLN+PAN+ (7.9%), followed by PLN+PAN− (6.6%), and PLN−PAN+ (2.4%). The probability of PAN metastasis in patients without PLN metastasis was 2.8% (9/325). The 5-year overall survival rates were 96.5% in PLN−PAN−, 77.6% in PLN+PAN−, 63.4% in PLN+PAN+, and 53.6% in PLN−PAN+ patients.

Conclusion

The likelihood of PAN metastasis in endometrial cancer patients without PLN metastasis is not negligible, and the prognosis of PLN−PAN+ is likely to be poor. The implications of a PLN−PAN+ lymphatic spread pattern should thus be taken into consideration when determining patient management strategies.
ENDOMETRIAL CANCER

ESGO7-0949

BREAST LOBULAR CARCINOMA INVOLVING TAMOXIFEN-ASSOCIATED ENDOMETRIAL METASTATIC CARCINOMA: CASE REPORT

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2Medical Faculty- University of Nis, Department of Pharmacy, Nis, Serbia
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4Clinic of oncology- Clinical center Nis, Clinical pharmacology, Nis, Serbia

Aims

Tamoxifen is a nonsteroidal triphenylethyl compound that is widely used as adjuvant therapy in the treatment of breast cancer. Tamoxifen prolongs overall and disease-free survival and reduces the likelihood of disease in the contralateral breast. The efficacy of tamoxifen is due to its anti-estrogenic properties. However, tamoxifen may also exert a weak estrogenic effect, resulting in a variety of endometrial proliferative lesions, including hyperplasia, polyps and adenocarcinomas. The aim of this work was to present an endometrial metastatic carcinoma case, having in mind that metastases to the endometrium from outside the female genital tract are rare.

Method

Diagnosis was made by positive immunohistochemical staining with the cytokeratin epithelial marker and estrogen-receptor and progesterone-receptor of the endometrial cells being positive.

Results

A 66-year-old multigravid woman with a history of lobular breast carcinoma who has already been on tamoxifen therapy for 4 years, presented with abnormal uterine bleeding. Histopathologic study of the endometrial curettage revealed malignant cells which did not correspond to a primary carcinoma of the endometrium. Comparative micromorphological and immunohistochemical analyses showed it was metastatic endometrial carcinoma originated from breast cancer. A complete clinical workup ruled out metastatic spread to the brain, lungs, skeleton, or abdomen. A total abdominal hysterectomy, bilateral salpingo-oophorectomy, and pelvic lymph node sampling were performed. Final pathology examination revealed primary breast carcinoma limited to the endometrium.

Conclusion

Abnormal uterine bleeding in patients with a history of malignancy should always alert the physician to consider the diagnosis of metastatic spread to the genital tract.
GLASSY CELL CARCINOMA OF THE ENDOMETRIUM: A CASE REPORT
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²University Hospital for Tumors- Clinical Hospital Centre „Sestre Milosrdnice”-, Department of Oncological Pathology, Zagreb, Croatia
³General Hospital Scheibbs, Department of Gynecology and Obstetrics, Scheibbs, Austria

Aims

We present a case of 65-year old patient with glassy cell carcinoma of the endometrium, which is a rare neoplasm. To our knowledge, there are 14 previously cases reported in the literature. Microscopically, it is composed of malignant cells showing a "ground glass" cytoplasm, large nuclei with prominent nucleoli and distinct cell membranes. Nature of glassy cell carcinoma is still debatable, for now it is considered to be a poorly differentiated variant of adenosquamous carcinoma.

Method

A 65-year-old patient with ultrasonically found thickened endometrium underwent hysteroscopy. Histologically the tumor showed polyloid solid mass of epithelial cells with ground glass cytoplasm and large nuclei with prominent nucleoli. Immunohistochemical analysis confirmed diagnosis of glassy cell carcinoma of the endometrium. The patient underwent bilateral salpingo-oophorectomy, total abdominal hysterectomy and radiation therapy.

Results

She is alive, with no evidence of disease for 14 months after diagnosis.

Conclusion

There are no specific recommendations about treatment of this rare disease. Detailed analysis of more cases is required to evaluate the nature of glassy cell carcinoma and to determine accurate prognosis for this infrequent entity.
IMPACT OF COEXISTENT ADENOMYOSIS IN ENDOMETRIOD ENDOMETRIAL CANCER: A PROPENSITY SCORE–MATCHED ANALYSIS

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⁴Akdeniz University School of Medicine, Department of Gynecopathology, Antalya, Turkey

Aims

We sought to compare outcomes of patients with endometrioid type endometrial cancer (EC) with or without adenomyosis.

Method

A total of 314 patients with endometrioid type EC were included in the analysis. Patients were divided into two groups according to the presence or absence of adenomyosis. Adenomyosis was identified in 79 patients (25.1%). A propensity score–matched comparison (1:1) was carried out to minimize selection biases. The propensity score was developed through multivariable logistic regression model including age, stage, and tumor grade as covariates. After performing propensity score matching, 70 patients from each group were successfully matched. Primary outcome of the study was disease–free survival (DFS), and the secondary outcomes were overall survival (OS) and disease–specific survival (DSS).
Results

Median follow-up time was 61 months for adenomyosis positive group, and 76 months for adenomyosis negative group. There were no statistically significant differences both in three– and five–year DFS, OS, and DSS rates between the two groups. Five–year DFS was 92% vs 88% (HR, 1.54; 95% CI, 0.56–4.27; P = 0.404), five–year OS was 94% vs 92% (HR, 1.60; 95% CI, 0.49–5.26; P = 0.441), and five–year DSS was 94% vs 96% (HR, 2.51; 95% CI, 0.46–13.71; P = 0.290) for patients with and without adenomyosis, respectively.

Conclusion

Coexistent adenomyosis in endometrioid type EC is associated with similar disease outcomes in comparison with adenomyosis negative tumors.
ENDOMETRIAL CANCER

ESGO7-1262

NEW ASPECTS IN PREVENTION AND EARLY DIAGNOSTIC OF ENDOMETRIAL CANCER IN A FIRST-DEGREE RELATIVES FROM FAMILIES WITH LYNCH SYNDROME.

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Aims

Accumulation of malignant neoplasms in families with Lynch syndrome, creates the need for screening for the early diagnosis and prevention of hereditary cancer.

Prevention and early diagnosis of endometrial cancer in families with high cancer risk will reduce the incidence and mortality of women with hereditary predisposition to endometrial cancer.

Method

Material and methods: We retrospectively followed 361 women who we were recruited to the National Register of Cancer Families between 2007-2013, including data on 145 families of probands with endometrial cancer (38 cases), ovarian cancer (36), colorectal cancer (CRC) (31 cases), Breast cancer (20 cases) and multiple primary malignant neoplasms (MPMN) (20 cases). As the control, the age-adjusted population frequencies of endometrial cancer were used. The work used clinical, instrumental and laboratory methods of investigation.

Results

Results: A total of 18 endometrial cancer cases with a frequency of 4.9 ± 1.14% were observed. Compared with women without family history, we found an increased risk of endometrial cancer for women from families with Lynch syndrome, which exceeds the population frequency by 490 times. The peak of the maximum incidence of women with endometrial cancer falls at the age of 45-52 years, while the peak incidence of EC in probands falls on the older age of 59-62 years.

Conclusion

Conclusions: A high percentage of accumulation of malignant pathology, including EC, among women from families with Lynch syndrome, underlines the necessary of screening for the early diagnosis and prevention of cancer in these families.
AN UNUSUAL CASE OF ISOLATED PULMONARY RECURRENT IN EARLY STAGE ENDOMETRIOID ENDOMETRIAL CARCINOMA EIGHT YEARS AFTER INITIAL DIAGNOSIS AND TREATMENT

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Aims

To present an interesting case of a 71 year old patient diagnosed with isolated pulmonary recurrence eight years after initial diagnosis and treatment of early stage endometrioid endometrial carcinoma.

Method

A 71 year old patient was initially referred with post-menopausal bleeding. Following an ultrasound scan showing suspicious features, she underwent a hysteroscopy and endometrial biopsy confirming endometrial cancer. Staging CT and MRI pelvis suggested more than 50% myometrial invasion but no other disease spread. After discussion within Gynaecology Multi-Disciplinary Team, she underwent a total abdominal hysterectomy and bilateral salpingo-oophorectomy. There was no other pelvic, abdominal or para-aortic disease at laparotomy. Histology from operative specimen confirmed this to be a Grade 1 Stage 1C (2008 FIGO Classification) endometrioid carcinoma which is equivalent to Stage 1B as per the revised 2009 FIGO staging. She was subsequently treated with brachytherapy and external beam radiotherapy.

Results

The patient continued to be followed up in secondary care beyond five years as she felt reassured by normal clinical examination. In the eighth year of follow up she reported generalised abdominal pain and a CT chest and abdomen revealed suspicious lung nodules which on subsequent biopsy were surprisingly confirmed to be recurrence of endometrial cancer.

Conclusion

Pulmonary recurrence is usually associated with advanced stage, high risk disease. There are no other reported cases in the literature describing solitary pulmonary recurrence of Grade 1 Stage 1B endometrial cancer. It is vital in this group of patients to investigate any unusual symptoms appropriately with a high index of suspicion during follow up.
Aims

To study the survival of uterus leiomyosarcomas

Method

We conducted retrospective analysis of 23 cases with uterine sarcoma for the period from 2009 to 2015. The most characteristic symptoms were abdominal pain 15 (65.2%), bleeding in postmenopausal women 12 (52.1%), menorrhagia 13 (56.2%) and the rapid growth of the uterus 17 (73.9%), every fourth patient with sarcoma uterus size corresponded to 20 weeks of gestation or more.

Results

We have studied the long-term results of treatment of 12 patients, whom were performed improperly supravaginal uterus amputation in non-specialized hospitals over alleged uterine fibroids. Later on 8 of 12 patients (group 1) - received chemo radiotherapy and were followed up, and in 4 of 12 them (group 2) an average of up to 3 months after non-radical surgery was performed second operation - extirpation of the cervical stump, followed by chemo radiotherapy. Of the 4 patients in the second group only in a patient there found lung metastases after the 7 years later, 3 others are alive and there are no recurrences. While those 8 patients in the first group had metastases in the period of from 2 to 6 years. When comparing the survival - after non-radical surgery patients operated radically found big difference in the survival of these patients, which amounted to 12.5% and 75%.

Conclusion

It should be noted that the most characteristic relapses within small pelvis in patients with uterus leiomyosarcoma, whereas for other morphological forms of malignant non-epithelial and mixed uterus tumors - development of distant metastases.
PROGNOSTIC BENEFIT OF POLE EXONUCLEASE DOMAIN MUTATIONS IN ENDOMETRIAL CANCER CANNOT BE EXPLAINED BY INCREASED SENSITIVITY TO ADJUVANT TREATMENT STRATEGIES

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⁴Leiden University Medical Center, Human Genetics, Leiden, The Netherlands

Aims

POLE exonuclease domain-mutant (EDM) endometrial cancers (ECs) have an excellent clinical outcome. To reduce overtreatment, minimization of adjuvant treatment has been proposed in early-stage POLE-mutant EC. However, studies showing prognostic significance of these mutations failed to conclude its independence of adjuvant therapy. Therefore, we tested treatment sensitivities of POLE EDMs in a model system.

Method

Three somatic POLE exonuclease domain hotspot mutations were generated in mouse embryonic stem cells using CRISPR/Cas9. Spontaneous mutation frequencies and spectra were determined through Hprt assays. Cells were treated with ionizing radiation or chemotherapeutic agents including nucleoside analogs. IC50s were calculated and compared between isogenic wild type and POLE EDM cell lines.

Results

Similarly to POLE-mutant ECs, POLE EDMs resulted in a mutator phenotype in mouse embryonic stem cells (~8–30x higher mutation frequency compared to wild type). POLE EDM cells did not show increased sensitivity to ionizing radiation ($P=0.8281$) or to chemotherapeutic agents (cisplatin, 5-FU, paclitaxel, doxorubicin, methotrexate and etoposide; $P=0.1091$–$0.9960$) compared to wild type cells. In contrast, POLE EDM cells displayed hypersensitivity to nucleoside analogs cytarabine and fludarabine (IC50 2.6 vs 6.5 μM, $P=0.0386$; IC50 18.0 vs 74.9 μM; $P=0.0002$, respectively).

Conclusion

Based on this study, hypersensitivity to currently used adjuvant treatments cannot explain the good prognosis of POLE-mutant (endometrial) cancers. These results support ongoing efforts to explore minimization of adjuvant therapy for early-stage POLE EDM ECs. Moreover, this study proposes nucleoside analogs as most effective chemotherapeutic agents for advanced-stage POLE-mutant cancers, which should be subject of further studies.
ENDOMETRIAL CANCER

ESGO7-1257

THE IMPACT OF GRADE IN ENDOMETRIOID ENDOMETRIAL CANCER INVADING CERVICAL STROMA AFTER HYSSTERECTOMY AND BSO.

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Aims

To determine the impact of grade on recurrence pattern and survival in endometrial cancer patients with cervical stromal invasion and to analyze the literature to determine the spread pattern, risk on and pattern of recurrence in the same group with grade 1.

Method

A retrospective study was performed where 97 consecutive patients, treated by hysterectomy/BSO and adjuvant radiotherapy (RT) were analyzed with respect to age, grade, type of (adjuvant) treatment, presence of extra uterine disease and outcome. Literature studies, where it was possible to separately analyze grade 1 tumors, were analyzed regarding extra uterine disease, recurrence pattern and survival in relation to type of (adjuvant) treatment.

Results

34 patients (34.7%) had grade 1, 39 (40.3%) grade 2 and 24 (24.0%) grade 3. Extra uterine disease was found in 17%, 38% and 46% of grade 1, 2 and 3 patients respectively. Overall survival was significantly better in grade 1 versus grade 2, 3 patients (82.7% vs 63.2%, p=0.027). Only 1 patient with grade 1 died from disease. One study from literature was found, reporting specifically on 20 grade 1 tumors where only 1 recurrence was reported.

Conclusion

Grade 1 patients with endometrial cancer and cervical stromal invasion have an excellent prognosis. It is debatable if complete staging and/or adjuvant treatment, especially pelvic RT, results in a better outcome for this subgroup. Because all patients had adjuvant RT the role of staging and adjuvant RT remains unclear. The scarce literature confirms the excellent prognosis of the grade 1 subgroup but more detailed data are needed.
Aims

Endometrial cancer is the most common gynecologic cancer and the seven leading cause of cancer death in women of the developed countries. In Oaxaca, Mexico represents the third cause of gynec-oncology in 2003, 1731 new cases and 242 deaths were reported.

Method

Objective To present 14 consecutive cases of minimally invasive surgery for endometrial cancer, making a historical comparison with the procedures opened in the surgical oncology service of the Regional Hospital of High Specialty of Oaxaca.

Results

We report 14 consecutive cases, with a mean age of 49.09 years, Weight of 65.09 kg, Height of 1.48 m, BMI of 28.7 kg/m², Uterus size 9.8 cm, surgical time 210 minutes and 2.1 days of hospital stay, 7 cases low risk, 4 cases high risk and 3 intermediate risk, 100% of cases were endometrioid histology, 13 pelvic lymph nodes of rate, 210 ml of bleeding, 1 case of conversion secondary to uterus perforation. 1 case of bowel obstruction at 2 weeks resolved without surgery. A follow up of one year at least, 0% of major complications and mortality.

Conclusion

Laparoscopic surgery for endometrial cancer is safe and feasible with 0% of mortality, 0% of major complications and with comparable oncological results to open surgery.
ENDOMETRIAL CANCER

ESGO7-0852

VALUE OF SENTINEL NODE BIOPSY IN LOW-RISK ENDOMETRIOID CARCINOMA

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Aims

To analyze Sentinel Lymph Node (SLN) biopsy in low-risk endometrioid carcinoma (EC).

Method

42 patients with low-risk EC (< 50% miometrial infiltration, grade I-II and without risk factors) underwent laparoscopic surgery at our institution. Laparoscopic hysterectomy with bilateral adnexectomy and SLN biopsy were performed. We injected Indocyanine Green (ICG) into the cervix and uterine fundus. Then, we located and biopsied fluorescent nodes, first in the paraaortic area and later in the pelvis. All SLN were processed with an ultrastaging technique.

Results

The overall SLN detection rate was 95.2% (40/42) with a 57% (24/42) detection rate in the paraaortic area. In the pelvic area there were 5 cases of right side SLN detection, 3 cases with left side detection and 32 cases with bilateral detection (72%). In 3 cases presacral SLN were detected. Ultrastaging revealed 2 cases of micrometastasis (5%).

Conclusion

SLN biopsy can help detect lymph node metastasis in low-risk patients without increasing morbidity. 5% of the women in the low-risk group had affected lymph nodes, which would not have been detected without the SLN technique and ultrastaging. Low-risk EC has a good prognosis, but some relapses occur. We need more patient series to determine the prognostic value of lymphatic microdisease and the need for adjuvant therapies in these patients.
ENDOMETRIAL CANCER

ESGO7-0859

SENTINEL NODE BIOPSY IN ENDOMETRIAL CANCER WITH CERVICAL AND FUNDAL ICG INJECTION
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Aims

To describe a novel sentinel lymph node (SN) tracer injection procedure featuring cervical and fundal green indocyanine (ICG) injection for endometrial cancer.

Method

Between June 26th 2014 and October 31st 2016, 111 patients underwent laparoscopic surgery for endometrial cancer at our Institution. In all cases SN biopsy with dual cervical and fundal ICG injection was performed. All SLN were processed with an ultrastaging technique. 69 patients also underwent total pelvic and paraaortic lymphadenectomy.

Results

The overall SN detection rate was 92.79% (103/111). The overall pelvic SN detection rate was 89.19% (99/111) and the bilateral pelvic SN detection rate was 61.26% (68/111). Paraaortic SN were detected in 59.46% (66/111). Isolated paraaortic SN detection was 4% (4/111). We found macroscopic Lymph Node metastases (LN) 11 patients (9.9%). In another 10 patients microdisease was present in LNs, raising global LN affectation to 18.92. There were 1 false negative case in wich SN was negative with a positive aortic lymphadenectomy, and another positive case in lymphadenectomy in wich was not detected the SN. The S was 94.44%, E 100%, VPN 97.83% and LHR(-) 0.06.
Conclusion

SLN biopsy with cervical and fundal ICG injection offers good overall detection rates and provides an improved mapping of the aortic area. SN ultrastaging increases the number of positive nodes.
ENDOMETRIAL CANCER

ESGO7-1325

IMPROVING USAGE AND ADHERENCE BY CONVERTING THE ENDOMETRIAL CANCER GUIDELINE INTO DECISION TREES

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2IKNL, Oncology, Maastricht, The Netherlands
3IKNL, Research, Rotterdam, The Netherlands
4IKNL, ICT, Utrecht, The Netherlands
5NKI-AVL, Gynecologic Oncology, Amsterdam, The Netherlands
6Catharinaziekenhuis Eindhoven, Gynecologic Oncology, Eindhoven, The Netherlands

Aims

Oncological guidelines are often large documents with a huge amount of information on diagnostic procedures and treatment options. Due to this amount of information, inconsistencies are common and the recommendations in the guidelines are difficult to find. When new information based on relevant clinical trials becomes available it is difficult to implement this in these guidelines. Representing guidelines as decision trees is a way to overcome these hurdles. The aim of our study is to examine the feasibility of converting the Dutch multidisciplinary endometrial cancer guideline recommendations into easily accessible decision trees to facilitate guideline usage in daily practice.

Method

We converted the most recent Dutch endometrial cancer guideline into data driven decision trees using a structured method where nodes represent data-items and leaves represent recommendations and/or references to other decision trees.

Results

In total we developed 23 decision trees (www.oncoguide.nl). Currently, the decision trees are updated by professionals involved in treating patients with endometrial cancer. Furthermore, we identified information gaps which we can use in designing new trials and we were able to standardize terminology throughout the recommendations.

Conclusion

Converting guidelines into decision trees is feasible but also challenging. With the decision trees it is now possible to: 1) decide on treatment options easily in daily clinical practice, 2) use this information for shared decision making with the patient, 3) substantiate, document and/or evaluate a treatment advice, 4) use information for discussion at a multidisciplinary tumour board and 5) identify information gaps for which clinical trials could be developed.
TUMORAL SIZE AS A PROGNOSTIC FACTOR IN ENDOMETRIAL CANCER
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2Hospital Universitario 12 de octubre, Obstetrics and Gynecology: Gynecologic Oncology and Endoscopy Unit, Madrid, Spain

Aims
On this study we aimed to evaluate the impact of tumoral size ≥20mm on overall survival (OS) and recurrence-free survival (RFS) in patients diagnosed of endometrial cancer

Method
We reviewed 327 consecutive cases of endometrial malignancies diagnosed and treated at our institution between 1/1/2001 and 31/12/2014 with follow-up until January 2016. Patients received as primary treatment hysterectomy and double adnexectomy and on cases of intermediate to advanced risk (ESGO criteria), pelvic and para-aortic lymphadenectomy and/or adjuvant therapy was performed. A univariate Cox regression analysis was established to study both OS and RFS.

Results
A univariate Cox regression analysis showed that tumors of ≥20mm were 1.63 to 7.98 more likely to relapse than those smaller (p<0.01). Relapse rate for those sized ≥20m was of 30.6% vs 11.1% on the smaller ones. OS were, respectively 69.4% and 88.9%, being these differences statistically significant (p<0.01).

Patients with tumors ≥20mm were 2.82 to 14.55 times more likely to die than those with smaller ones (p<0.01). Mortality rate was statistically significantly higher on patients with tumors ≥20mm, 29.9% vs. 3.2% (p<0.01) and OS was of 70.1% and 96.8% respectively.

Conclusion
Although tumoral size as a prognostic factor in endometrial cancer is still a controversial subject, there are many authors that still find associations with it and risk of lymph node invasion, RFS and OS. A tumoral size of ≥20 mm implies a negative prognostic factor diminishing RFS and OS on patients with a diagnosis of endometrial carcinoma and perhaps should be taken into account when considering adjuvant treatment.
ENDOMETRIAL CANCER

ESGO7-1152

LOWER UTERINE SEGMENT INVOLVEMENT AS A PROGNOSTIC FACTOR ON ENDOMETRIAL CANCER
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5Hospital Universitario 12 de octubre, Obstetrics and Gynecology: Gynecological Oncology and Endoscopy, Madrid, Spain

Aims

To evaluate the impact of the low uterine segment on both overall survival (OS) and recurrence-free survival (RFS) on patients diagnosed of endometrial cancer

Method

We reviewed 327 consecutive cases of endometrial malignancies diagnosed and treated at our institution between 1/1/2001 and 31/12/2014 with follow-up until January 2016. Patients received as primary treatment hysterectomy and double adnexectomy and on cases of intermediate to advanced risk (ESGO criteria), pelvic and para-aortic lymphadenectomy and/or adjuvant therapy was performed. A univariate Cox regression analysis was established to study both OS and RFS.

Results

87 patients presented with low uterine segment involvement (LUS). A univariate Cox regression model showed that tumors with LUS were 1.47 to 3.76 times more likely to relapse than those without it (p=0.01). Relapse rate for those with LUS was of 34.9% vs 18.6% on the rest of the study population.

RFS were, respectively 65.1% and 81.4%, being these differences statistically significant (p<0.01). Patients with LUS involvement were 1.52 to 4.10 times more likely to die than those without it (p<0.01). Mortality rate was statistically significantly higher on patients with LUS involvement 32.5% vs. 17.3% (p<0.01) and OS was of 67.5% and 82.7% respectively.

Conclusion

Although LUS has not been deeply studied on literature, it was been associated with lymphovascular invasion, RFS and OS. According to our study, LUS is a negative prognostic factor on both RFS and OS on endometrial cancer. Further studies are needed to evaluate its implications on treatment and prognosis on patients diagnosed of endometrial cancer.
ENDOMETRIAL CANCER

ESGO7-1214

HYSTEROSCOPICALLY GUIDED ENDOMETRIAL SAMPLING ON ENDOMETRIAL CARCINOMA: ACCURACY AND IMPLICATIONS
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3Hospital Universitario 12 de octubre, Pathology Department, Madrid, Spain

Aims

To determine accuracy of preoperative endometrial sampling guided by histeroscopy.

Method

We reviewed 327 consecutive cases of endometrial malignancies treated at our institution between 1/1/2001 and 31/12/2014. Histology and tumoral grade were compared on preoperative and final reports. Cases where preoperative biopsy was not recorded or tumoral grade not informed were excluded.

Results

Histological and FIGO tumoral grade on preoperative and final reports are shown on Table 1 and 2 respectively.

Table 1.

<table>
<thead>
<tr>
<th>Preoperative histology</th>
<th>Final histology</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mucinous</td>
<td>Serous</td>
</tr>
<tr>
<td>Endometrioid</td>
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<td>2</td>
</tr>
<tr>
<td>Mucinous</td>
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<td>1</td>
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<tr>
<td>Serous</td>
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</tr>
<tr>
<td>Clear cell</td>
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<td>-</td>
</tr>
<tr>
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<td>-</td>
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<tr>
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<td>16</td>
<td>-</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>252</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 2.

<table>
<thead>
<tr>
<th>Preoperative grade</th>
<th>Final grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>G2 G3</td>
</tr>
<tr>
<td>G1</td>
<td>61 48 17 126</td>
</tr>
<tr>
<td>G2</td>
<td>2 21 10 33</td>
</tr>
<tr>
<td>G3</td>
<td>7 9 62 78</td>
</tr>
<tr>
<td>Total</td>
<td>70 78 89 237</td>
</tr>
</tbody>
</table>

Concordance on histology was found on 80.2%(256/319) of cases. On tumoral grade it was of 60.8%(144/237) and on 31.6%(75/237) an upgrade was observed on the final report. Global grade-histology concordance between preoperative and postoperative report was of 60.8%(144/237).
Conclusion

Hysteroscopy is still the gold standard technique for preoperative endometrial sampling although it isn’t exempt from inaccuracy on diagnosis.
A CHINESE MULTI-CENTRIC RESEARCH ON FERTILITY-SPARING THERAPY OF ENDOMETRIAL CANCER AND COMPLEX ATYPICAL HYPERPLASIA

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Aims
This multi-centric retrospective cohort study aims to provide experience for fertility-sparing therapy of endometrial cancer (EC) and complex atypical hyperplasia (CAH).

Method
Patients ≤40, diagnosed with IA (confined to endometrium) G1EC and CAH, plus ER and PgR positive were enrolled and treated according to procedure.

Results
Totally 15 national hospitals 68 patients were enrolled including 37 EC and 31 CA. (1) Oncologic and fertility outcome: Complete remission (CR) rate is 94%. With treatment time prolonged to 12, 15 and 18 months, CR rate increases to 85%, 91% and 94%. Pregnant rate is 46.9% and live birth rate is 40.6%. (2) Recurrence and retreatment: After median follow-up of 48 months, fifteen patients relapse (25.4%). Secondary CR rate is 79%, with the similar CR time as primary treatment (34 vs. 26 weeks, P=0.604). Secondary relapse rate is 30% after 48 months’ follow up. (3) Analysis of correlated factors: EC (compared to CAH, RR0.23, P=0.015), complicated with diabetes (RR0.06, P=0.017), BMI≥25kg/m² (RR0.31, P=0.049) are risk factors of CR failure at 6-months treatment. Multivariate analysis shows maintenance therapy significantly decrease recurrence rate (OR0.08, P=0.019). GnRHa combined with progesterone as second-line therapy when mono-agent reacts poorly seems decrease recurrence rate (OR0.013, P=0.143). Assisted reproductive benefits pregnancy rate (54.4% vs. 15.6%, P=0.018).

Conclusion
Fertility-preserving therapy for young IAG1 EC and CAH has high CR rate although is easy to relapse. Retreatment has the similar response as primary treatment. Simultaneous GnRHa could be considered as second-line therapy. We recommend maintenance therapy after CR and consider ART to promote conception.
ENDOMETRIAL CANCER

ESGO7-0181

PREOPERATIVE IMAGING MARKERS AND PDZ-BINDING KINASE TISSUE EXPRESSION PREDICT LOW-RISK DISEASE IN ENDOMETRIAL HYPERPLASIAS AND LOW GRADE CANCERS

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³University of Bergen, Departement of Clinical Medicine, Bergen, Norway

Aims

Distinguishing complex atypical hyperplasia (CAH) from grade 1 endometrioid endometrial cancer (EECG1) has clinical value, particularly in patients who wish to preserve their fertility or in patients with increased risk of perioperative complications due to obesity or co-morbidities. Surgical overtreatment of patients with CAH seems to exist, and this study search to identify imaging and tissue biomarkers to individualize treatment strategies.

Method

Clinicopathological data was available for 277 patients with CAH and EECG1. Preoperative histological diagnosis and radiological evaluation were compared with final histological diagnosis. Imaging characteristics by preoperative magnetic resonance imaging (MRI) and fluorodeoxyglucose positron emission tomography/computer tomography (FDG-PET/CT) were compared with tumor DNA oligonucleotide microarray data, immunohistochemistry findings and clinicopathological annotations.

Results

MRI assessed tumor volume was higher in EECG1 than in CAH (p=0.004) whereas apparent diffusion coefficient value was lower in EECG1 (p=0.005). EECG1 had increased metabolism with higher maximum and mean standard uptake values than CAH (p≤0.002). Unsupervised clustering of EECG1 and CAH revealed differentially expressed genes within the clusters, and identified PDZ-binding kinase (PBK) as a potential marker for selecting endometrial lesions with less aggressive biological behavior.

Conclusion

Both PBK expression and preoperative imaging markers at MRI and PET/CT are promising biomarkers that may aid in the differentiation between suspected EECG1 and CAH preoperatively. These biomarkers should be explored in larger patient series to define the potential role of these markers to accurately identify CAH patients having low risk of concomitant cancer or cancer progression, where conservative treatment might be the preferred treatment.
BUNDLED STRATEGY FOR SENTINEL LYMPH NODE DETECTION IN ENDOMETRIAL CANCER USING FLUORESCENT IMAGING: A PILOT STUDY

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Aims

We developed a bundled strategy for sentinel node detection in endometrial cancer using fluorescent imaging. The aim of this study was to describe and evaluate the value of this strategy for sentinel node detection in endometrial cancer patients.

Method

We performed this sentinel node detection strategy in eighteen patients, who were treated at Yonsei Cancer Center for endometrial cancer. All the patients underwent laparoscopic staging surgery. After bicornual myometrium injection of fluorescent dye indocyanine green (ICG), the patients underwent paraaortic sentinel lymph node (SLN) biopsy. Pelvic SLN biopsy was done after cervical ICG injection. Intraoperative node detection and localization were guided by the PINPOINT® system for real-time imaging.

Results

Fourteen out of eighteen patients with endometrial cancer showed clear localization of paraaortic and pelvic sentinel nodes in relation to the abdominal and pelvic vessels. The paraaortic sentinel nodes and lymphatic flow were successfully localized and removed utilizing the ICG and PINPOINT® system. We observed a tendency of slower and weaker lymphatic drainage in
Conclusion

Our bundled strategy including cornual ICG injection followed by cervical ICG injection and the PINPOINT® system as intraoperative real-time imaging provides excellent detection and clear localization of paraaortic, pelvic sentinel nodes and lymphatic flow in relation to anatomic structures.
ENDOMETRIAL CANCER

ESGO7-0714

SENTINEL NODE BIOPSY (SNB) USING INDOCYANINE GREEN (ICG) AND FLUORESCENCE IMAGING IN ENDOMETRIAL CANCER WITH DA VINCI (SI) A SINGLE INSTITUTION ANALYSIS

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Aims

Surgical staging of apparent uterine-confined endometrial cancers with pelvic and aortic lymphadenectomy has traditionally been performed in order to identify and triage patients that might benefit from adjuvant therapies. However, systematic retroperitoneal lymphadenectomy procedures have been associated with increased morbidities including lymphocysts, lymphedema and varying degrees of neuralgia.

Method

Fourteen patients with endometrial cancer G2 or G3 underwent prospectively robotic hysterectomy with lymphadectomy received SNB mapping with robotic fluorescence imaging. All patients received cervical injections of 4 ml ICG (1.6mg/ml) at 3 and 9 o’clock (2ml on each side, 1ml superficial submucosally, 1ml deep into cervical stroma with 22G spinal needle). the injection was done before port placement and docking of the robotic platform. The time taken from the cervical injection till beginning of the SN operation was medially 20 minutes.

Results

Twelve of fourteen patients had bilateral pelvic or aortic SN detected by fluorescence. The SNB detection rate was 86%. On average 7 (85/12) sentinel nodes were discovered. In only one Patient the pelvic SN was metastasized (1 right, 1 left), systematic lymphadectomy was negative (38). The histology of this Patient: G2 pT1a pN1(S) M0 R0 L1 V0 Pn0. Five patients with endometrial cancer G3 inclusive one serous type had no lymph node metastases.

Conclusion

Fluorescence imaging with ICG detected bilateral SN and metastases and seems to be reliable, safe and practical. Sentinel node mapping has the potential to decrease morbidity and avoid secondary operation and optimize the pathologic assessment of identified nodes in women with endometrial cancer.
ENDOMETRIAL CANCER

ESGO7-0619

ACCELERATED TUMOR PROGRESSION AFTER COMPLETE SURGERY IN PATIENTS WITH ADVANCED ENDOMETRIAL OR OVARIAN CANCER; CASE REPORTS

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2Saitama Medical University International Medical Center, Diagnostic Pathology, Hidaka, Japan

Aims

Surgery is considered as most reliable treatment option against various types of cancers; however, sometimes it causes unexpected results.

Method

We herein report our 2 case experiences with rapid disease progression after complete tumor resection.

Results

Case1: 49 years old woman with stage IIB ovarian undifferentiated carcinoma was treated by surgery including total hysterectomy, bilateral salpingo-oophorectomy, omentectomy and Hartmann’s operation. All tumors were completely resected visually. At post operative days (POD) 29, CT was performed because of uncontrollable fever and existence of multiple tumors at liver, skin, and pelvis were identified. Since then, her disease progressed rapidly and she passed away at POD 46.

Case2: 60 years old woman with stage IIIA endometrial endometrioid carcinoma grade 3 had been achieved complete surgery including total hysterectomy, bilateral salpingo-oophorectomy. At POD 33, CT was performed because of uncontrollable lower back pain, and identified existence of multiple metastases to lung, liver and bone. Her respiratory function was rapidly lost, and she passed away at POD 52.

Conclusion

We experienced 2 cases with accelerated disease progression after complete surgery. Surgical procedure might work as a trigger for rapid disease progression in these cases. Additional evaluation with larger sample size is required to identify the characteristics and etiology of such cases.
LYMPHATIC MAPPING AND SENTINEL-LYMPH-NODE BIOPSY IN ENDOMETRIAL CANCER: A PROSPECTIVE STUDY
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1La Paz University Hospital, Gynaecology Oncology, Madrid, Spain
2MD Anderson Cancer Center, Gynaecology Oncology, Madrid, Spain

Aims

We aimed to assess if the detection rate and diagnostic accuracy by ultrastaging can improve the surgical staging.

Method

A prospective study of incident cases with clinical early-stage EC scheduled for laparoscopic staging surgery at La Paz University Hospital. Patients underwent preoperative SLN mapping with an intracervical injection of radiotracer-Tc-99m the day before surgery and intraoperative dye during surgery.

Results

From February 2012 to February 2017 143 patients were enrolled. Overall detection rate for the dual technique was 94.4% (n=135), bilaterally of 86.6%. 431 SLNs were obtained, mean of 3.2 SLNs per patient, usually in an iliac and obturator location (77%). Diagnostic rates were sensitivity 100%, specificity 95.16%, and NPV 100%.

Twenty-eight (6.5%) metastatic nodes: 8 (1.9%) macrometastases, 17 (4%) micrometastases, 3 (0.7%) ITC. Node metastases were identified in 25 (18.5%) patients, 20 (80%) were confined to SLNs, 65% of which had low tumor burden. In 13 cases (65%) the SLN was the only affected. Diagnostic rates (per patient) of SLN mapping to detect metastases after SLN-ultrastaging were sensitivity 50%, specificity 88.24%, NPV 90.91% and false-negative rate of 7.5%.

Mean follow-up of 55 months, 84.4% disease-free survival, and 93.3% overall survival. 28.6% of relapses had metastatic SLNs (p = 0.03); 65% of the patients with macrometastatic-SLN relapsed (p=0.001). Mean time to relapse of 14.8 months.

Conclusion

Though multicentre studies are underway, the high NPV of the SLN-technique accurately predicts nodal status, which could be considered as an alternative standard for staging early-stage endometrial cancer.
EPITHELIOID TROPHOBLASTIC TUMOR PRESENTING AS AN ISTHMOCELE: CASE REPORT OF A RARE DISEASE

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\textsuperscript{1}Yeditepe University, Obstetrics and Gynecology, Istanbul, Turkey
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\textsuperscript{3}Başkent University, Obstetrics and Gynecology, Ankara, Turkey

Aims

We reported a rare case of epithelioid trophoblastic tumor (ETT) which presented as an isthmocele but was diagnosed as ETT on hystopathologic examination after the operation.

Method

A 38-years-old woman presented to Department of Obstetrics and Gynecology Department at Yeditepe University with complaints of intermenstrual bleeding, pelvic pressure and discomfort for the last 7 months. She had 2 cesarean section deliveries and tubal ligation. Her last delivery was 1 year ago. Her ultrasound examination revealed a 4x3 cm mass with haematoma on the lower uterine segment. Her serum quantitative hCG on the day of surgery was negative. It was diagnosed as isthmocoele. Abdominal hysterectomy was performed due to patients choice.

Results

Histopathologic diagnosis of the hysterectomy specimen revealed epithelioid trophoblastic tumor of the lower uterine segment.

Conclusion

Although ETT is a rare GTD, it should be ruled out with patient presenting with a mass on the lower uterine segment.
ATTITUDE OF WOMEN WITH CANCER TOWARDS OOCYTE CRYOPRESERVATION

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Aims

This study aims to assess and compare the awareness, knowledge, attitude and opinion on oocyte cryopreservation in gynecology and oncology female patients in Sultan Qaboos University Hospital (SQUH).

Method

This is a cross sectional study in a form of a survey that included Omani oncology and gynecology female patients in SQUH in the age group 20-50 years. The data was collected by interviewing the patients. Inclusion and exclusion criteria were considered to select the patients for the study. SPSS and excel were used to analyze the data. The P value and odd ratio were measured to know the different between the two groups.

Results

The results showed that there is a high level of awareness among the oncology patients by 1.69 time than the gynecology patients and that is a significant difference. Also, both the groups have high acceptance of using oocyte cryopreservation for medical reasons with more acceptance in the oncology patients.

Conclusion

This study shows a significant different in the awareness and attitude about oocyte cryopreservation between oncology and gynecology patients. Moreover, the attitudes and opinion also differ between the two groups. The result show that the socio-demographic characteristic affect the awareness and attitude of the Omani females towards fertility and new methods that help infertile or cancer patients to preserve their ability to get pregnant.
ROLE OF PERIPHERAL BLOOD NATURAL KILLER CELLS IN UNEXPLAINED FEMALE INFERTILITY

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Aims

Comparison of the levels of peripheral blood (PB) Natural Killer (NK) cells and its subsets in unexplained infertile women compared to fertile controls.

Method

This prospective study included 31 women with unexplained infertility and 33 healthy fertile women. Blood samples were analysed for the percentage and absolute counts of total blood NK cells and its various subsets.

Results

The percentage of total NK cells (CD56+CD3-) in infertile group was higher (8.12 ± 3.71%) but not significant (p>0.05) compared to fertile group (7.70 ± 4.34). The ratio of CD56dim/CD56bright NK cells was significantly increased in infertile group (31.36 ± 33.20) compared to fertile group (18.06 ± 11.58) (p<0.05). The mean percentage of CD56+ CD16+ NK cells and CD56dimCD16+ NK cells (out of total NK cells) was significantly raised in infertile group (7.04 ± 3.66 and 81.02 ± 18.17 respectively) compared to fertile group (4.96 ± 3.99 and 60.49 ± 0.76 respectively) (p<0.05). The mean percentage and absolute count of CD56+CD16- NK cells showed a significant increase (p<0.05) in fertile group (2.74 ± 3.62 % and 58.91 ± 89.67/ml) compared to infertile group (1.08 ± 1.01 % and 19.65 ± 25.78/ml). The mean percentage and absolute counts of CD56dimCD16- NK cells, showed a significant increase in fertile group (31.86 ± 32.67 % and 54.24 ± 86.80/ml) compared to infertile group (11.31 ± 12 % and 15.91 ± 21.01/ml) (p<0.05).

Conclusion

This study showed that unexplained infertility was associated with alteration of various NK cell subsets, thus providing an insight into the pathophysiology of unexplained infertility.
FERTILITY / PREGNANCY

ESGO7-0905

HORMONAL AND FERTILITY OUTCOME AFTER FERTILITY SPARING SURGERY AND CHEMOTHERAPY FOR OVARIAN NEOPLASMS: A RETROSPECTIVE STUDY

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Aims

Fertility sparing treatment (FST) for premenopausal women in ovarian neoplasms comprises surgical sparing of the gynecological apparatus and adjuvant chemotherapy (AC) according to risk factors. Little is known regarding the interaction between AC and the hormonal and fertility outcome in this population. We evaluated this cohort of patients in terms of during- and post-treatment ovarian function, conception and pregnancy outcome.

Method

A retrospective study was carried out in patients with epithelial (EOC) and non-epithelial (N-EOC) ovarian neoplasms undergoing FST with or without AC. Non parametric tests, univariate and multivariate (adjusted for age, histology, and relapse) logistic regression analyses were performed.

Results

573 patients (206 EOC, 367 N-EOC) treated in the period between 1980 and 2012 were included in this analysis, comprising of 40.3% patients treated with AC. Median follow-up was 12.3y with median age at diagnosis of 26.4y.

Overall, ovarian failure rates was 0.01%, childbearing desire was in 41.5%, with conception success rate of 84.5%.

At multivariate analysis, AC conferred higher risk of during-treatment amenorrhea [OR:18.45(95%CI5.19-65.62), p<0.0001], especially with platinum- etoposide-bleomicine schedule (p=0.0001), whereas post-treatment amenorrhea was rare and similar in both groups(p=0.69). Conception rate was lower in AC population (81.3%v.86.4%), yet not significant [OR:0.55(95%CI0.26-1.14),p=0.11]. Successful pregnancy rate was not affected by treatment (79.8%v.80.3%), [OR:0.94(0.51-1.75),p=0.85].

Conclusion

In this large cohort, AC affects during-treatment amenorrhea, with seemingly no significant impact on conception and successful pregnancy rates. Further follow up warrants more robust information regarding conception rates and non-surgical menopausal age. Pre-treatment counseling should discuss these risks in such young population.
FERTILITY / PREGNANCY

ESGO7-1047

FERTILITY AND SURVIVAL OUTCOME IN A LARGE COHORT OF BORDERLINE OVARIAN TUMORS: A SINGLE CENTER EXPERIENCE

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Aims

Borderline ovarian tumors have excellent oncologic outcome and fertility sparing treatment in young women is indicated. However, pregnancy rate success is affected by multiple gonadal surgeries for relapse and it may be influenced by type of surgery (oophorectomy v. cystectomy). We investigated the effect of surgical fertility-sparing approach on fertility and survival.

Method

Borderline ovarian tumor patients treated at San Gerardo Hospital, Monza between 1978 and 2013 were considered. The effect of type of surgery on recurrence and death was analyzed. A Cox model was used to investigate the association between clinical variables and time to first post-surgical pregnancy, as well as the association between time to first recurrence.

Results

Among a larger cohort, 252 patients had desire of pregnancy and were included in the analysis: 121 patients underwent oophorectomy, 131 cystectomy, with comparable clinicopathological characteristics. Median follow-up time from date of diagnosis was 13.5 years. Results of the Cox model investigating factors potentially associated with recurrence showed: Advanced stage disease as significantly associated with the risk of recurrence (p<0.001), with bilateral cysts patients with higher risk of recurrence (HR= 2.20, IC95%= 1.41-3.44). The inverse weighted probability Cox model showed no effect of type of ovarian surgery on first recurrence (HR0.95; p=0.83), and on fertility (HR0.96; p=0.79). No detrimental effect on pregnancy rates was associated with histology, stage, laterality of the tumor or with a relapsing disease.

Conclusion

Type of surgery was observed not affecting recurrence risk and pregnancy success rate. These reassuring data can aid clinicians and patients tailoring the best treatment strategies.
SIGNIFICANCE OF CYTOGENETIC, ANTHROPOMETRICAL, AND MICROBIAL METHODS FOR THE EARLY DETECTION OF MALE INFERTILITY

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Aims

The research work aims to look for any novel marker including various chromosomal, anthropometric and microbial markers to diagnose male infertility.

Method

Study conducted in two arms between the age group 18-45 years. Arm A composed of healthy control male having 150 volunteers and in B arm 50 infertile males. 30 volunteers from arm A having less than two inches AGD were included in arm B. Hence, the total infertile male in arm B was 80 males. A preliminary investigation was done by Physical examination, Anogenital Distance measurement followed by semen analysis, Lymphocyte culture to rule out chromosomal Anomalies and Microbial culture to investigate the type of microorganism present on genital tract.

Results

From arm B (infertile + <2 inch AGD) males having Anogenital distance < 2 inches 66.25% were found having abnormal sperm morphology, less sperm concentration, motility, viscosity, azospermic, and oligospermic. Microorganisms like staphylococcus aureus (23 %), candida albican (6.5%), streptococcus (13.5%) were the most common microorganisms found present in arm B. Among the infertile males 71.25% revealed abnormal chromosomal pattern as compared with the healthy individuals.

Conclusion

The study signatured with less Anogenital distance and marked chromosomal abnormalities in the infertile male. Moreover, the individuals having less AGD associated with chromosomal defects will certainly identify males at high risk of infertility. This will help the unmarried male individuals to get interventional therapy or may undergo another method of therapeutic modality so that the status of a healthy male partner after marriage may be achieved.
REPRODUCTIVE OUTCOMES AFTER GESTATIONAL TROPHOBlastic NEOPLASIA: A COMPARISON BETWEEN SINGLE-AGENT AND MULTIAGENT CHEMOTHERAPY. RETROSPECTIVE ANALYSIS FROM THE MITO-9 GROUP

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Aims

Gestational trophoblastic neoplasia (GTN) affects young women and is treated by chemotherapy. Possible concerns are the risk of infertility, early menopause, and teratogenic effects. Present study’s aim is to analyze menstrual and reproductive outcomes of women treated with single-agent versus multi-agent chemotherapy for GTN.

Method

One-hundred fifty-one patients were treated. Patients older than 45 years, with placental site/epithelioid trophoblastic tumor, undergoing hysterectomy by patient choice or hCG follow-up coinciding with analysis were excluded. Seventy-five patients were divided into sub-groups according to FIGO score: patients scoring <7, receiving single-agent chemotherapy (group A, n=42); patients scoring ≥7, receiving combination treatment (group B, n=33). Patients' outcomes were compared by univariate and multivariate analyses.

Results

Temporary amenorrhea occurred in 33% of A patients and 66.7% of B (p=0.01). Premature menopause occurred in 3 B patients (0% vs 9%, p=0.02).

Ten B patients underwent salvage hysterectomy.

Pregnancy desire did not differ between the two groups (p=0.555). In A, 57.1% became pregnant; in B, 36.4% did (p=0.060). Instead, pregnancy rate was 52.2% among high-risk patients not undergoing hysterectomy (57.1% vs 52.2%, p=0.449).

There was no difference in miscarriage (p=0.479) and premature birth (p=0.615) rates.

In a multivariate analysis including age, FIGO score, chemotherapy type, Assisted Reproductive Technologies, previous pregnancies and pregnancy desire, only age (p=0.006) and pregnancy desire (p=0.002) were independent factors.

Conclusion

Excluding the risk of premature menopause, a rare side-effect of combined treatments, single-agent and multi-agent chemotherapy can be safely administered to patients with childbearing desire. High-risk patients have worse reproductive outcomes because they undergo hysterectomy more frequently than low-risk patients.
Conization for the treatment of cervical intraepithelial lesion has been linked to an increased risk of preterm delivery. Valid data from Germany are lacking. Our study aimed to investigate the association between conization and the risk of preterm birth in subsequent pregnancies, using data from a German population database.

Method

We performed a retrospective cohort study on data from the German nationwide performance measurement program in healthcare quality. Women with history of conization prior to pregnancy were compared to a control group of women without. Only primiparas with singleton pregnancies were included for analysis. Outcome measures are gestational age at birth, birth weight, neonatal morbidity and perinatal mortality. Data were analyzed using univariate and multivariate statistical methods.

Results

The database included a total of 4,002,503 deliveries between 2009 and 2014. 1,573,200 could be included for analysis. 14,337 women had a history of conization. This group were more likely to be (self-) employed, single, older, had a lower body mass index and a lower mean birth weight of the babies than in the control group [mean (SD), 3.240g (± 603g) vs. 3.307g (±545g), p < 0.0001]. The preterm birth rate was significantly higher after conization compared to the non-exposed cohort (12.2% vs. 7.5%; Chi2 <0.0001). Conization was confirmed to be a significant risk factor for preterm delivery (odds ratio, OR 1.7; 95% CI: 1.65-1.83).

Conclusion

The data of this study are in accordance with the literature. Further analysis of the data should evaluate whether preterm delivery after conization affects the perinatal morbidity and mortality.
EVALUATION OF SERUM HE4 LEVELS IN UNCOMPPLICATED PREGNANCIES

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Aims

This study was undertaken to evaluate HE4 serum concentrations in first, second, and third trimester in uncomplicated pregnancies.

Method

In a retrospectively designed, monocentric study (Department of Gynecology & Obstetrics, General Hospital, Celje, Slovenia, EU), 146 women with uncomplicated pregnancies were included.

HE4 levels were obtained and analyzed with regard to each trimester of pregnancy.

HE4 levels were measured in consideration of reference interval less than 140 pmol/l (Elecsys HE4® assay, Roche Diagnostics Ltd., Rotkreuz, Switzerland).

Data were analyzed by ANOVA (MedCalc Software, Mariakerke, Belgium).

Results

While having practically all HE4 levels within reference range, differences in mean concentrations between study groups were found to be statistically significant (Group I, n=5, < 20 weeks of pregnancy, mean = 41.2 pmol/l; Group II, n = 25, pregnancies between 20-34 weeks of pregnancy, mean = 43.4 pmol/l; Group III, n =116, ≥ 34 weeks of pregnancy, mean = 57 pmol/l, p< 0.001).

Conclusion

Our findings confirmed that HE4 levels in uncomplicated pregnancies were within reference range provided by the manufacturer; however its serum concentration rises significantly in 3rd trimester.
ONCOLOGIC AND OBSTETRIC OUTCOME AFTER VAGINAL SIMPLE TRACHELECTOMY OR LEEP FOR CERVICAL CANCER

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Aims

The purpose of our study is to evaluate oncologic and obstetric outcomes after vaginal simple trachelectomy or the loop electrosurgical excisional procedure (LEEP) for cervical cancer.

Method

The medical records of patients who underwent vaginal simple trachelectomy or LEEP with or without pelvic lymphadenectomy were retrospectively reviewed.

Results

The summary of the patients were presented in Table 1. The median age of patients was 31.1 years, and the median follow-up time was 22.2 months. There was no recurrence during follow-up and none died after treatment. A total of 7 patients attempted conceive after surgery, and 4 pregnancies were achieved in 4 women. Hence, the pregnancy rate among patients who attempted to conceive was 57.1%. Two babies were delivered by cesarean section at 24 and 37 weeks. Two cases of
miscarriage occurred in the second trimester.

**Conclusion**

Our data indicate that LEEP and vaginal simple trachelectomy in stage IA1-IB1 cervical cancer are effective procedures in patients who wish to preserve fertility. However, miscarriage was frequently observed. Thus, future studies should focus on prevention of complications during pregnancy.
PREGNANCY AFTER CHEMOTHERAPY FOR BRONCHOPULMONARY CARCINOMA

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Aims

As the mean age of conception rises, the possibility of an upcoming cancer before parity is higher. Bronchopulmonary carcinoid tumors (BPC) arise from the neuroendocrine Kulchitsky cells and comprise 2-5\% of all primary lung cancers. Chemotherapy agents used as Etoposide (VP-16) and Cisplatin (CDDP) provoke impaired ovarian function, gonadal suppression and they are highly mutogenic and teratogenic. We herein report the case of a woman with two spontaneous conceptions and successful pregnancies after BPC treatment.

Method

A 40-year old unigravida-unipara presents in the Obstetrics Department for consultation of her second pregnancy. 10 years ago she had undergone excision of the middle lobe of her right lung due to atypical pulmonary carcinoma. Four circles of combined chemotherapy followed with VP-16 and CDDP. One year later she gave birth to a healthy child. Spirometry and laboratory exams are normal. Amniocentesis and anatomical ultrasound are normal.

Results

In 36+5 weeks she is admitted due to fetal heartbeat deterioration. A healthy male is born. Pregnancies within 6 months of the end of the chemotherapy compared with those occurring after this period have a higher spontaneous miscarriage rate, while there is no difference in the rate of congenital anomalies. The conception rate is higher in the single agent group, than in double agent chemotherapy.

Conclusion

The rate of treated for cancer patients is getting higher and on the other hand the mean age is lower. That is the reason we have to declare the effects of each type of cancer or each type of treatment on a pregnancy.
ROLES OF CONSERVATIVE SURGERY AND ADJUVANT CHEMOTHERAPY IN OVARIAN SERTOLI-LEYDIG CELL TUMORS: RESULTS FROM A MONOCENTRIC LONG-TERM ANALYSIS OF 23 PATIENTS
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Aims
To determine the management (i.e., conservative surgery and adjuvant chemotherapy) in ovarian Sertoli-Leydig cell tumors (SLCT).

Method
This retrospective analysis included 23 patients treated for ovarian SLCT. A centralized pathologic review of the tumors was conducted.

Results
Patients were referred to or treated in our institution for an ovarian SLCT between 1994 and 2015. The median age at diagnosis was 33 years (range, 4-82). According to the 2014 FIGO classification, tumors were classified as stage Ia (n=15; well-differentiated n=1; intermediate-differentiated n=8; undifferentiated n=4, and undefined n=2), stage Ib (n=1), stage Ic1 (n=5), stage IIc (n=1), and stage IIIc (n=1). Surgery was conservative in thirteen (Ia, n=7; Ib, n=1; Ic1, n=5) and radical in 10 (Ia, n=8; IIc, n=1; IIIc, n=1). Seven patients received adjuvant chemotherapy with a cisplatin-based regimen (Ia, n=2; Ic1, n=3; IIc, n=1) or docetaxel + gemcitabine (IIIc, n=1). Median follow-up was 61 months (range, 15-252). Eight patients experienced a relapse (Ia, n=2; Ib, n=1; Ic1, n=3; IIc, n=1; IIIc, n=1). Of these, 6 had at least one peritoneal carcinomatosis and 4 died (Ic1, n=2; IIc, n=1; and Ia [n=1]. Two patients had a local relapse (one uterus and one ovary) and survived without disease after relapse treatment. The median time between the initial treatment and relapse was 28 months (range 9-70).

Conclusion
Conservative surgery was safe for stage Ia ovarian SLCT. For stages Ic1 and more severe disease, radical surgery and adjuvant chemotherapy should be considered. The best chemotherapy regimen remains to be defined.
RESULTS OF FERTILITY-SPARING SURGERY FOR EXPANSILE AND INFILTRATIVE MUCINOUS OVARIAN CANCERS

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Aims

To determine the results of fertility-sparing surgery in stage I mucinous ovarian cancers analysed according to histotype (infiltrative versus expansile).

Method

Retrospective analysis of patients treated conservatively for ovarian mucinous carcinoma with preservation of the uterus and contralateral ovary from 1976 to 2016. The pathology of the tumours was reviewed by two expert pathologists according to the 2014 WHO classification criteria. Only stage I cancers were studied.

Results

The current study analysed the oncologic and fertility results of 21 cases, 12 with expansile and 9 with infiltrative cancer. All patients had a unilateral tumour and underwent unilateral salpingo-oophorectomy in one-step (n=6) or two-step (n=15) surgeries. All but one had complete peritoneal staging surgery based on cytology, omentectomy, and random peritoneal biopsies. Ten had nodal staging surgery. The FIGO stages were IA (n=9), IC1 (n=6), and IC2 (n=6); the nuclear grades were grade 1 (n=9), grade 2 (n=5), and grade 3 (n=1). Two patients recurred (1 expansile and 1 infiltrative type) 19 and 160 months after surgery. One stage IA, nuclear grade 2 expansile tumour recurred on the spared ovary; the patient remains alive. The other stage IA, infiltrative tumour recurred as peritoneal spread; the patient is alive with evolutive disease. Six patients became pregnant; 4 with expansile tumours and 2 with infiltrative tumours.

Conclusion

The type of mucinous cancer has no impact on the oncologic outcome. Fertility-sparing surgery should be considered for early-stage infiltrative type tumours.
Epidemiology of malignancies diagnosed in pregnancy in Czech Republic

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Aims

Malignancy diagnosed during pregnancy represents a rare diagnosis, but the incidence of such a disease has sharply increased in recent decades. The reason for this tendency is the increased age of women becoming pregnant. Today, 21.9% of women in the EU are older than 35 years at delivery. Exact data on the incidence of malignant disease is sparse and in most cases inaccurate. However, there is a clear trend in coincidence of malignancy and pregnancy and there are some obvious differences between countries and races. Only a few reports are available that used a linkage of national oncological and birth registries to detect patients diagnosed with cancer during pregnancy. The aim of the work was to evaluate the incidence of malignancies diagnosed in pregnancy in Czech Republic.

Method

The desired data were obtained by linking the National oncological register with Birth and abortion register between 1996-2010.

Results

Malignant diseases in pregnancy occur approximately in 20-40 / 100,000 pregnant women. The most common diagnoses in Czech Republic include cervical cancer (5.5 / 100,000), breast cancer (2.58 / 100,000), melanoma (3.05 / 100,000) and haematological malignancies (2.78 / 100,000) and they account for 60-75% of all malignancies detected during pregnancy.

Conclusion

20-40 pregnancies per 100,000 pregnant women is complicated by malignant disease, most often cervical cancer, breast cancer, melanoma and hematologic malignancies.

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THE REPRODUCTIVE OUTCOME AFTER FERTILITY PRESERVING TREATMENT FOR PREMALIGNANT AND MALIGNANT GYNECOLOGIC DISEASES: AN EXPERIENCE OF A TERTIARY CARE CENTER.

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Aims

To evaluate the obstetric outcome of patients who had undergone fertility preserving treatment for gynecologic premalignant and malignant diseases.

Method

The study reviewed the pregnancy course and delivery data of 60 patients, who conceived after fertility sparing treatment for gynecologic premalignant and malignant diseases at Mansoura University Hospital from January 2012 to December 2015.

Results

The mean age of the studied patients was 24.9 years. The median follow up was 13 months (range:1-40). The preceding lesions included gestational trophoblastic neoplasia (GTN), 43 cases (71.7%) while early ovarian carcinoma (14 cases, 23.3 %) and least CIN III (2 cases, 3.3%) and micro-invasive cervical carcinoma (one case, 1.7%). All cases of GTN were treated with single or multiple agents’ chemotherapy. The 3 cases of cervical micro-invasive carcinoma and CIN III were treated with loop electrosurgical excision procedures (LEEP). Cases with stage 1a ovarian cancer were treated with unilateral salpingo-oophorectomy with peritoneal cytology and biopsy of the other ovary. Missed abortion was diagnosed in 4 cases (6.7%). The rate of caesarean delivery (CD) was high (70.9%). Intra-abdominal adhesions during CD were seen in (20.5%) of cases. The neonatal outcome was normal in 53 cases, and 2 cases (3.6%) of had congenital fetal malformations. The poor neonatal outcome was significantly correlated to number of chemotherapy cycles.

Conclusion

The reproductive outcome after fertility preserving treatment of GTN, micro-invasive carcinoma of cervix, CINIII, and stage 1 ovarian cancer is comparable to those of general population. However, there were increased rate of CD, Intra-abdominal adhesions, missed abortion and congenital fetal malformations.
Aims
Increasing numbers of young women are diagnosed with atypical hyperplasia (AH) and endometrial cancer (EC). Many studies have highlighted a treatment allowing fertility sparing management in case of lesion restricted to endometrium. The objectives of this review were: (i) to estimate the oncologic and reproductive outcomes over time (ii) to evaluate the prognostic factors associated with this fertility-sparing management.

Method
We performed a systematic review examining patients with AH or EC restricted to endometrium who underwent a fertility-sparing management. The primary outcomes were the remission, recurrence, progression and pregnancy probabilities. The secondary outcomes were the association of remission, recurrence, progression and pregnancy probabilities with the following factors: age, obesity, previous pregnancy, histology and medical treatment.

Results
A total of 652 patients from 39 studies were included. The remission probability reached a plateau at 12 months after medical therapy (78.4%), whereas the recurrence probability increased continually until five years after remission. Secondary treatment led to remission in 79.2%. The pregnancy probability reached a plateau of 44.1% at 36 months after medical therapy. On the hysterectomy specimen, 12% of patients had a tumour with at least myometrial invasion. In the multivariate analysis, age was associated with a lower probability of remission and EC with a higher probability of progression (compared to AH).

Conclusion
Fertility-sparing management should be re-evaluated if no remission occurs after 12 months. Secondary hormone treatment should be proposed when remission fails to occur after first line therapy. If no pregnancy has occurred after 36 months, hysterectomy should be considered.
IMPACT OF CANCER IN THE MANAGEMENT OF DELIVERY: 10 YEARS OF VARIATIONS
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Aims

To analyze the impact that the pregnancy-related neoplastic disease has on management of deliveries between 2006-2015 in S.Anna Hospital (Turin).

Method

We collected obstetric and oncological data about 205 patients bearing a history of cancer: 59 patients with active-during-pregnancy cancer (ADPC) and 146 patients with pregravidic not-active-during-pregnancy cancer (NADPC).

Results

In ADPC patients the distribution of cancers was: breast (45.8%), haematological malignancies (13.6%), cervical (13.6%), ovarian (5.1%), gastro-enteric (5.1%), melanoma (5.1%), thyroid (3.4%), other tumours (8.5%). We registered 3.4% miscarriage and 15.3% iatrogenic abortion. According to the type of delivery, 22% was vaginal delivery (VD) and 59.3% was cesarean-section (CS). Induction of labour was 14.6%, elective CS was 68.8%; the indication for these procedures was 78.6% oncological. The average gestational age was 35.5 weeks.

In NADPC patients the distribution of cancers was: breast (20.5%), haematological malignancies (22.6%), cervical (5.5%), ovarian (3.4%), gastro-enteric (3.4%), melanoma (6.2%), thyroid (15.8%), other tumours (22.6%). We registered 9.6% miscarriage and 8.2% iatrogenic abortion. The type of delivery was vaginal (43.2%) and cesarean section (39%). Induction of labour was 11.7%, elective CS was 36.7%; the indication for these procedures was 77.5% obstetrical. The average gestational age was 38.3 weeks.

Conclusion

10-years trends in ADPC patients and NADPC patients showed an increase of VD. We noticed a decrease in elective CS and an increase of induction of labour. In 10 years we observed not significative differences about timing of delivery and a contemporary decrease of oncological indications for CS in ADPC and NADPC patients.
ENDOMETRIOSIS-RELATED HEMOPERITONEUM: A DIAGNOSIS TO KEEP IN MIND

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Aims

Endometriosis is an important gynecologic clinical entity, pathologically defined by the ectopic presence of endometrium and frequently associated with pelvic pain, that affects approximately 10% of females of reproductive age. A rare but severe complication of endometriosis is spontaneous hemoperitoneum, severe intraabdominal bleeding that can be life threatening. We report this case to remind to think to endometriosis in clinical presentation of hemoperitoneum.

Method

We retrospectively reported a case of a massive hemoperitoneum from endometriosis in a 35 years-old woman treated in 2017.

Results

A 35-year-old gravida 0 patient was admitted to the hospital for brutally abdominal pain and increased abdominal volume. She had no past medical history.

The patient’s main symptom was a severe stabbing pelvic pain. Examination revealed an ascite, without no needle aspiration performed, remarkable for a diffuse tenderness but no rebound and positive bowel sounds. The pain was steady and diffuse. The patient had a hemorrhagic shock.

the CT scan showed a massive hemoperitoneum. We decided to perform surgery because of the patient's worsening clinical features. The patient underwent a supraumbilical midline laparotomy under general anesthesia. Almost 1,500 mL of blood was aspirated from the peritoneal cavity. Pelvic exploration revealed an adhesive right fallopian tube and ovary with the right uterine wall. Active bleeding from the isthmus of the uterus was observed. After careful confirmation of hemostasis, the abdominal wall was closed.

Conclusion

Although the most common gynecologic cause of hemoperitoneum in a reproductive-age woman is ruptured ectopic pregnancy, endometriosis should also be considered, especially after exclusion of pregnancy.
FERTILITY / PREGNANCY

ESGO7-1270

PREGNANCY ASSOCIATED WITH VULVAR PRECANCEROUS LESIONS

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Aims

Vulvar intraepithelial neoplasia - VIN, should be considered a premalignant condition and is an increasingly problem among smoker women over 35 years old with immunodeficiency, but a very rare condition during pregnancy. The International Society for the Study of Vulvovaginal disease - ISSVD changed the terminology for VIN in 2015 to one similar to WHO's classification. Squamous VIN was classified anterior analog to the cervical CIN in 3 grades and now ISSVD recommends the terms low grade, respectively high grade - vulvar H-SIL.

Method

We present here the case of a non-smoker 25 years old pregnant woman G2P1, with a previous C-section, who was diagnosed when she was 14 weeks of gestation with VIN3, but carcinoma could not be ruled out by vulvar biopsy. Surgical excision was decided and performed. Evolution was complicated with varicella immediately after 20 weeks of pregnancy. No other events were reported until now, when she is still in her second trimester of pregnancy.

Results

In the diagnosis of VIN, colposcopy should be recommended, but biopsy should be performed anyway. When these lesions are diagnosed during pregnancy, treatment should be recommended for women with vulvar H-SIL because of the potential of occult invasion or if cancer is suspected, even if biopsies show vulvar H-SIL. Wide local excision should be performed when invasive cancer cannot be ruled out.

Conclusion

Gestational age and the type of vulvovaginal intraepithelial lesion are the most important factors in determining expectant management or surgical treatment in pregnant women diagnosed with VIN or vulvar carcinoma.
ULTRASOUND GUIDED EMBRYO TRANSFER: SUMMARY OF EVIDENCES TO CLOSE THE OPEN DEBATE.
LITERATURE REVIEW AND META-ANALYSIS

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Aims

To collate all available evidence regarding the application of ultrasound techniques during embryo-transfer (ET). Through a meta-analytic assessment of randomized trials, comparing trans-abdominal ultrasound guided ET (TA-US ET) versus clinical touch (CT ET), we evaluated possible improvement in implantation, clinical pregnancy and ongoing pregnancy/live birth rates and associated reduction of ectopic pregnancy and miscarriage rates.

Method

A systematic literature search and meta-analysis (English written literature) was conducted. The literature search yielded 1522 publications. 32 manuscripts were available for the systematic review of which 12 for meta-analysis. Articles were included only if they reported evaluable data of TA-US guided ET compared to CT on: i) implantation-rate; ii) clinical pregnancy-rate; iii) ongoing pregnancy-rate/live birth-rate; iv) miscarriage-rate; v) ectopic pregnancy-rate.

Results

Meta-analysis demonstrated that implantation rate (OR 0.71, p<0.001; CI 95% 0.63-0.81, I² 0%), clinical pregnancy rate (OR 0.77, p<0.01; CI 95% 0.69-0.86, I² 52%), and ongoing/live birth rate (OR 0.84, p<0.05; CI 95% 0.72-0.97, I² 62%) were all reduced with CT ET compared to TA-US ET. This analysis found no statistically significant differences between CT ET versus TA-US ET for miscarriage and ectopic pregnancy rates.

Conclusion

The effect of TA-US ET on clinical pregnancy rate, implantation rate and ongoing pregnancy are mildly positive. Considering that ultrasound scan is a widely available and cost-effective tool in gynecology and human reproduction field its routine introduction during ET appears to have more benefits than disadvantages. Further studies are needed, indeed, to better understand potential value of this technique in other clinical outcomes such as ectopic pregnancy rate.
PREGNANCY AND ONCOLOGIC OUTCOMES OF BORDERLINE OVARIAN TUMORS: A CASE SERIES WITH LONG-TERM FOLLOW UP
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Aims
The aim of this study was to evaluate the oncologic and reproductive outcomes of young women with borderline ovarian tumours (BOTs) treated by mini-laparotomy or laparoscopy with cystectomy or unilateral salpingooophorectomy (USO).

Method
The medical records of patients with BOTs treated in our Institute between 1997 and 2016 were reviewed retrospectively. All patients included into the study, before surgery declared to have strong pregnancy desire to have one at the present time or in the future. The reproductive outcomes were assessed by telephone interviews.

Results
We found a total of 26 patients with BOTs. The median age at the time of diagnosis was 35 years (range 19-45 years). Fourteen patients (54%) underwent USO and nine (34%) underwent cystectomy; 1 patient (4%) underwent bilateral cistectomy and 2 patients (8%) underwent USO plus contralateral cystectomy (laparoscopy: 21 patients; laparotomy: 5 patients). All patients had clinical FIGO Stage IA, except one (IC); final pathology included 13 (50%) serous types, 12 (46%) mucinous types and 1 (4%) endometrioid type. After a median follow up time of 75 months, only 1 patient relapsed in the other ovary after 24 months from the first surgery. None death was observed. Of all the 26 patients included, 14 (54%) attempted to conceive after surgery and 10 (38%) succeeded.

Conclusion
Conservative surgical treatment seems to be an approach for women with BOTs who wish to preserve fertility. Our results in terms of fertility and pregnancy outcomes were consistent with international English data.
GESTATIONAL TROPHOBlastic DISEASE

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Aims

Gestational trophoblastic disease (GTD) is a condition of uncertain etiology, comprised of hydatiform mole (complete and partial), invasive mole, choriocarcinoma, epithelioid trophoblastic tumor and placental site trophoblastic tumor.

A partial hydatidiform mole develops when dispermy occurs, and the resulting conceptus is triploidy.

The incidence of complete hydatidiform mole is approximately 1 in 1500 pregnancies in the United States. The incidence of partial hydatidiform mole is approximately 1 in 750 pregnancies.

Complete hydatidiform mole is usually due to an androgenetic diploid conception, in which a haploid sperm fertilizes an egg that lacks female chromosomes.

Method

On admission she had irregular vaginal bleeding, lower abdominal pain, syncope, a headache, excessive vomiting, transvaginal expulsion of grape-like vesicles, abnormally enlarged uterus and features of eclampsia.

Results

A 38-year-old woman, Gravida 3, Para 1, with two previous vaginal delivery of a normal female and male infants, who was 17 weeks pregnant was scheduled for emergency surgical treatment. She was diagnosed with a hydatidiform mole and eclampsia in our hospital for further treatment.

Pre-treatment beta human chorionic gonadotropin (β-HCG) level was extremely high 1 183 900 mIU/ml. The obstetricians considered septic complications from the partial hydatidiform mole and we decided to perform an emergency Sectio parva.

Two weeks after delivery, the serum β-hCG level was 11 341 mIU/mL and normalized gradually within two months without any citotoxic therapy.

Conclusion

Partial mole hydatidosa (PMH), as a milder form of GTD can go along with malignant complications with fatal consequences.
FERTILITY / PREGNANCY

ESGO7-0168

ONCOLOGY RESULTS AFTER LESS RADICAL FERTILITY SPARING SURGERY (SENTINEL LYMPH NODE MAPPING FOLLOWED BY LAPAROSCOPIC PELVIC LYMPHADENECTOMY AND SIMPLE TRACHELECTOMY

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Aims

There are a lot of surgical techniques how to preserve fertility. We present oncological results after laparoscopic lymphadenectomy and simple tracheectomy.

Method

85 women with cervical adenocarcinoma(18-21.2%), adenosquamous(4-4.7%) or squamous(63-74%) carcinoma smaller than 2 cm that doesn’t exceeded half of stromal invasion, were included into study. Sentinel lymph node mapping(SLNM) was performed in all patients. If frozen section of SLN was negative, pelvic lymphadenectomy and simple tracheectomy were performed.

Results

We included seven women with IA1 LVSI positive tumor, 14 with IA2 tumor and 64 with IB1 tumor. LVSI were diagnosed overall in 36(42.4%) women. Cone biopsy preceded fertility sparing surgery in 67(78.8%) women. 39(58.2%) women had residual disease after conisation. Fertility was spared in 71(83.5%) women. Three women underwent radical hysterectomy for positive margins. Three women decide underwent vaginal hysterectomy less than 6 month after surgery for different reasons. Eight women underwent radical hysterectomy because of positive SLN(frozen section 7 cases, imunohistochemistry 1 case). Blue dye was used for SLNM in first 9 cases and combination of blue dye and radiocoloid Tc99 in subsequent 76 cases. Detection rate in cases when combination was used, were 100%. Three(4.2%) women had local recurrence and they are after treatment without evidence of disease. Adenocarcinoma was diagnosed 3 year after primary treatment in one woman that had originally squamous carcinoma. She died of disease.

Conclusion

SLN mapping followed by pelvic lymphadenectomy and simple tracheectomy is safe procedure in small cervical cancers. Recurrence rate is 4.2% and we don’t mentioned any death after this procedure.
PREGNANCY RESULTS AFTER FERTILITY SPARING SURGERY – SIMPLE TRACHELECTOMY AND PELVIC LYMPHADENECTOMY IN 85 WOMEN.
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Aims

Currently increase age of first delivery in developed countries and increase number of women with cervical cancer that wish pregnancy. There are a lot of different surgical techniques how to save fertility. We present pregnancy results after laparoscopic lymphadenectomy and simple vaginal trachelectomy.

Method

85 women with squamous cell, adenocarcinoma or adenosquamous carcinoma with tumor smaller than 2 cm and infiltrating less than half of cervical stroma were included into study from 1999–2016. Mean age was 28.0 years. They were subdivided into three groups by period when surgery was performed (1999-2005, 2006-2010, 2010-2016).

Results

85 women were included into study, fertility was spared in 71(83.5%). Three(4.2%) women aren’t planning pregnancy, 58(81.7%) wished pregnancy and 44(75.9%) of them became pregnant. Ten women are planning pregnancy. 39 women delivered 45 babies (33 term deliveries, 4 deliveries 24-32w of pregnancy, 8 deliveries 33-36w of pregnancy). Four women underwent interruption, one had extrauterine pregnancy, seven women miscarried in first trimester (four of them 2times) and three in second trimester (two of them 2times). In first period 14 women from 20 delivered 14 babies, none of these women currently plan pregnancy. In second period 16 women from 28 delivered 21 babies, two women are planning pregnancy. In third period 10 women from 23 delivered 10 babies and 8 women are planning pregnancy and 3 are pregnant.

Conclusion

Pregnancy results after simple trachelectomy and laparoscopic lymphadenectomy are good. Pregnancy rate is 75.9% and 62% of women delivered babies. Only 8.8% women delivered before 32w of pregnancy.
FERTILITY / PREGNANCY

ESGO7-1139

APPROACH TO ADNEXAL MASSES DURING CAESAREAN SECTION
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Aims

Removal of incidentally detected adnexal masses during caesarean section is a challenging issue for obstetricians. There is only a few study in the literature comparing the removal of these adnexal masses during caesarean section or later removal. In this study, we aimed to evaluate our cases with incidentally detected adnexal masses during caesarean section retrospectively.

Method

A total of 45 incidentally detected adnexal masses and removed during caesarean section over a five year period were included in this study. Age, gravida, histopathological results of all patients were recorded from the medical records.

Results

Mean age of the patients were 30.23±9.1 years and median gravida were 2(1:5). According to the histopathological findings; corpus luteum cyst was detected in 10 (22.3%) patients, serous cysts or cystadenomas in 8 (17.8%) patients, mucinous cystadenomas in 7 (15.6%) patients, endometriomas in 5 (11.2%) patients, borderline serous cystadenoma in 4 (8.9%) patients, mature cystic teratomas in 3 (6.6%) patients, inclusion cyst 3 (6.6%) in patients, paraovarian-paratubal cysts 2 (4.4%), fibroma in 1 (2.2%) patients, serous adenocarcinoma in 1 (2.2%) patient, mucinous adenocarcinoma in 1 (2.2%) patient. Bilateral salpingo-oophorectomy were performed for malign cases.

Conclusion

Adnexal mass detected during caesarean section is a rare condition. Although they are mostly benign, it can be borderline or malignant. We suggest that excision of these masses should be considered during caesarean section to avoid the risk of malignancy and also subsequent surgery could be performed for staging for selected malignant cases.
UNUSUAL GESTATIONAL CHORIOCARCINOMA ARISING IN AN INTERSTITIAL PREGNANCY

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Aims

Choriocarcinoma is a highly malignant trophoblastic neoplasm. Its association with ectopic pregnancy is very rare and usually with aggressive behavior. We will try to specify its characteristics.

Method

We report a new case arising in an interstitial pregnancy occurring in a 46-year-old woman.

Results

The patient was admitted for severe pelvic pain and abundant metrorrhagia. One month ago, she had had a laparoscopic resection of an interstitial pregnancy subsequent to failure of chemotherapy by methotrexate. The raise of serum βhCG level and the hyperechoic intrauterine mass were in favor of gestational trophoblastic disease. Urgent laparotomy was performed for circulatory collapse. Hysterectomy was done. Histological examination revealed a choriocarcinoma. The patient underwent chemotherapy. Two years later, neither metastasis nor recurrence was detected.

Conclusion

The current trend of the treatment of ectopic pregnancy by conservative surgery requires adequate monitoring of βhCG and careful examination of pathologic specimens to avoid misdiagnosis of ectopic gestational trophoblastic disease.
TAILORED THERAPY FOR FERTILE WOMEN WITH ENDOMETRIAL CANCER: THE DUTCH EXPERIENCE

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Aims

To evaluate the oncological and obstetrical outcomes after the introduction of a nationwide protocol for tailoring therapy in young women with endometrial cancer (EC) with the wish to preserve fertility.

Method

Patients with low-grade, stage I endometrioid EC were treated with progesterones. Staging was done by physical examination, ultrasound and contrast enhanced MRI. Strict follow-up rules were defined. Complete response (CR) was defined as two subsequent endometrial biopsies with normal histo-pathological findings.

Results

33 patients were treated since the introduction of the protocol. Mean age: 33 yr. Mean BMI: 28 kg/m². The majority (n = 23, 70%) was treated with medroxyprogesterone 200 mg/day. Mean follow-up: 44 months (median 33 months). CR was obtained in 61% (20 /33). Mean time to CR was 8 months (median 7.5 months). Recurrence rate was 65% (13/20). Mean time to recurrence after end of therapy was 13.4 months (median 11 months). CR after re-treatment for recurrence was 67 % (6/9). Recurrence after second course: 50 % (3/6). Mean time to recurrence: 23.3 months (median 15 months). 17 pregnancies resulted in 7 deliveries and 2 current third trimester pregnancies in 7 patients. Five out of 15 patients undergoing hysterectomy had no residual disease, 10 had grade 1 disease (9 stage 1A, 1 stage III). One patient suffered from ovarian recurrence after hysterectomy with USO (18 months after hysterectomy).

Conclusion

The results confirm previous findings in literature on efficacy and safety of fertility preserving therapy in endometrial cancer. Women should be informed about recurrence rates after complete response.
Aims

The aim of the study was to evaluate the fertility of women after laparoscopic procedure for endometriosis-associated infertility.

Method

Laparoscopic correction of endometriosis defect. 50 patients were operated because of ovarian endometriosis. Data were obtained from medical records (diagnostic tests, medical reproductive and surgical history, clinical status during surgery). The survey included issues related to the birth rate of women during the 24-month period after surgical treatment (conception, subsequent pregnancy, relapse of endometriosis).

Results

The endometriosis group (EG) was divided into two subgroups: women with a single endometrioma and women with endometrioma and coexisting peritoneal endometriosis. The study showed a slightly lower risk of pregnancy in the group of advanced endometriosis compared with the group of a single endometrioma. A 24-month follow-up period revealed 35 women with a single endometrioma, became pregnant and gave birth to healthy children by caesarean section at 39-40 weeks gestation (70%). 15 (30%) patients did not have a pregnancy.

Histological analysis performed in all 50 cases revealed the presence of endometriosis in 45 women (90%).

Conclusion

The degree of pregnancy in endometriosis-associated infertility after cystectomy of the endometrioma is much lower. That is why the decision on surgical treatment among women of childbearing should be well thought out because of the risk of subsequent surgery in the future.
INSULIN RESISTANCE AFFECTS THE THERAPEUTIC EFFECT OF FERTILITY-SPARING TREATMENT IN PATIENTS WITH ENDOMETRIAL ATYPICAL HYPERPLASIA

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Aims

To evaluate the effect of progestin combined with hysteroscopy on fertility-sparing treatment of endometrial atypical hyperplasia (EAH) and cancer (EC). And to investigate the impact of insulin resistance on the therapeutic effect.

Method

One hundred and forty-eight EAH patients and 36 stage IA, grade 1 EC in Ob&Gyn Hospital of Fudan University from September 2011 to June 2016 were retrospectively investigated. All patient received high dose progestin combined hysteroscopy therapy. Therapeutic effect was evaluated by hysteroscopy every 3 month during treatment.

Results

The median age of the EAH was 33 (8) years, and that of EC was 31 (9) years. 40.54% EAH and 52.78% EC showed insulin resistance. 43.24% EAH and 44.44% EC were considered overweight (BMI ≥ 25kg/m²). 104 of the 148 EAH patients (70.27%) showed CR after 6 months’ treatment and 95.85% (129/136) achieved CR after 12 months’ treatment. 69.44%(25/36) and 94.12%(32/34) of EC patients achieved CR after 6 and 12 months of treatment. The mean length of treatment for achieving CR was 5.36 months and 5.44 months in EAH and EC patients respectively. The CR rate was significantly higher in EAH patient without IR (67.31% vs. 59.09%, p=0.003) at 6 month of treatment. EAH patients with both IR and BMI ≥ 25kg/m² had the lowest therapeutic effect at 6 month of treatment (51.22% vs. 68.42% for IR+BMI-, 76.92% for IR-BMI-, and 86.96% for IR-BMI+, p=0.009).

Conclusion

Insulin resistance and higher BMI negatively affect the therapeutic effect of fertility sparing treatment of EAH.
CAN TUMOR MARKERS HE4 AND CA125 BE USEFUL IN DIFFERENTIATION INTRA-PELVIC FROM EXTRA-PELVIC ENDOMETRIOSIS?

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Aims

The aim of the study was to compare the serum level of tumor markers HE4 and CA125 between group of patients with intra-pelvic endometriosis (IPE) and group of patients with features of extra-pelvic endometriosis (EPE).

Method

A total of 67 patients were included in the retrospective study. The serum level of HE4 and CA125 was measured for each patient before surgical intervention. The final diagnosis of endometriosis was established according to histological examination of endometriosis foci. Patients were divided into two groups according to anatomic localization of endometriosis. The first group included patients with only features of intra-pelvic endometriosis. The second group include patients with features of extra-pelvic endometriosis with or without intra-pelvic endometriosis. U Mann-Whitney test was used in statistical analysis.

Results

The age range was 20-59, with a mean of 36.1 years, standard deviation (SD) = 8.7 years. A total of 52 (77.61%) patients had only intrapelvic endometriosis while 15 (23.39%) had extra-pelvic endometriosis. The mean of serum level of HE4 in IPE and EPE group was 48.21 (SD 14.29) pmol/L and 47.41 (SD 10.81) pmol/L, respectively. The mean of serum level of CA125 in IPE and EPE groups was 64.14 (SD 63.51) U/ml and 62.75 (SD 41.64) U/ml, respectively. The serum level of HE4 and CA125 didn’t differ significantly between IPE and EPE groups (p level 0.875 and 0.718, respectively).

Conclusion

Both tumor markers HE4 and CA125 were not useful for differentiation the main localization of endometriosis whether intra-pelvic or extra-pelvic.
MISCELLANEOUS

ESGO7-0332

MULTIPLE GIANT MANIFESTATIONS OF CONGENITAL LYMPHANGIOMA CIRCUMSCRIPTUM, A CASE REPORT
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Aims

Objectives: Vulvar lymphangioma circumscriptum is a rare benign disorder of lymphatic channels which is mostly acquired following pelvic lymphadenectomy or radiotherapy. Herein, we present a rare case of congenital lymphangioma with multiple extremely enlargement

Method

Case report: A G2L2 33-year-old woman attended our clinic with large verrucous warty masses in labia major, perinea and end-portion of spine measuring about 15x7cm, 9x7cm and 8x8cm respectively. Notably, her right upper and left lower limbs had gross congenital lymphedema. Since puberty she noticed vesicular lesions which gradually progressed in subsequent years till the past three years, after the second delivery, significant enlargement of lesions occurred. The masses were removed by superficial partial vulvectomy with a qualified margin and repaired without skin graft.

Results

Several months follow-up revealed normal healing and no recurrence.

Conclusion

Conclusion: congenital lymphangioma can be triggered by hormonal stimulating situations like puberty and pregnancy. So it is rather to visit the affected cases timely in order to excise these lesions before massive enlargement. In our experience, a superficial partial vulvectomy without skin graft can be a sufficient procedure of course, with meticulous approach during and after surgery.
MISCELLANEOUS

ESGO7-1215

A PROSPECTIVE STUDY EVALUATING THE EFFICACY OF SURGICAL CARE BUNDLE IN REDUCING SURGICAL SITE INFECTIONS IN LAPAROTOMIES PERFORMED FOR GYNAECOLOGICAL MALIGNANCIES

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Aims

To investigate whether implementing a care bundle, defined as a set of evidence-based practices performed collectively, can reduce 30-day surgical site infections (SSI) in women undergoing laparotomy for gynaecologic malignancies

Method

The surgical site infection reduction care bundle consisting of 14 processes throughout the surgical encounter, including preoperative, intraoperative, post-operative and post discharge elements were implemented at Amrita Institute of Medical Sciences from January 2016. Some practices were established earlier and some new interventions like patient education, sterile closing tray and staff glove change for fascia and skin closure, dressing removal at 24–48 hours etc, were incorporated.

End points measured were the rate of Superficial SSI, Deep SSI, organ space SSI, length of hospital stay due to SSI and 30 day re admission rate.

The infection rate in intervention period was compared with the infection rate of the patients undergoing laparotomy in the pre intervention period.

Results

Overall 30-day surgical site infection rate significantly reduced from 19.5% (43/220) in the pre-intervention period to 5.8% (6/104) in the intervention period (P <0.001). Superficial SSI rate significantly reduced from 15.9% to 5.8% (P =0.11). There was no organ/space infection seen during the intervention period. Prolonged hospital stay rate due to SSI reduced from 2.3% to 0.9%. None of the patients during the intervention period were readmitted with SSI.

Conclusion

Implementation of an evidence-based surgical care bundle was associated with substantial reduction in surgical site infection in patients undergoing laparotomy for gynaecological malignancies.
MISCELLANEOUS

ESGO7-0856

SYNTHESIS OF A THERANOSTIC AGENT: RADIOIODINATED PEGYLATED PLGA-INDOCYANINE CAPSULES AND IN VITRO DETERMINATION OF THEIR BIOAFFINITY ON OVARIAN, CERVICAL AND BREAST CANCER CELLS

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Aims

The aim of current study is to synthesize atheranostic (multi-functional) agent, which is targeted on ovary, cervical and breast cancer types with diagnosis and treatment potential and to determine its bioaffinity by using in vitro methods.

Method

Indocyanine (ICG) was preferred as the first modality of our agent due to its fluorescence properties. Then, ICG was encapsulated with PEGylated PLGA (IPP). Additionally, Paclitaxel (PAC) was conjugated with IPP (IPPP) to target the agent to reproductive organs like ovary, cervix and breast. Lastly, IPPP was radiolabeled with 131I as the second modality of developed theranostic agent. In vitro incorporation and cytotoxicity assays, and fluorescent imaging assays were performed.

Results

Incorporation values of 131I-ICG and 131I-IPP were similar on all cell lines during study period. 131I-IPPP has higher incorporation values than 131I-PAC on MCF-7, MDAH-2774 and HeLa cells at all time points. The highest uptake values are observed for 131I-PAC and 131I-IPPP at 240 min on MDAH-2774 cells as 18.88 ± 2.24 and 22.05 ± 2.85, respectively. The incorporation values of 131I-IPPP at 30 min on MCF-7 and MDAH-2774 cells were higher 1.70 and 1.62 times than 131I-PAC.

The cellular uptake study confirmed the high binding efficiency of 131IIPPP with MDAH-227 cells. Fluorescence microscopy demonstrated that both ICG and IPPP successfully bound target cancer cells.

Conclusion

The designed compound(IPPP), which has fluorescence capability (from Indocyanine), encapsulated structure (with PEGylated PLGA), included an anticancer drug (Paclitaxel) for targeting and radionuclidic tracer (131I) content for tracing, has bioaffinity and promise for diagnosis and therapy on ovarian, cervical and breast cancer cell lines.
Aims

OBGETIVES: Granulosa cell tumors of the ovary are derived from the sex cords and the ovarian stroma. The objective of this study is review the incidence, natural history and prognosis of this type of tumor.

Method

The study group included 3 patients with granulosa cell tumor treated by the Gynecologic Oncology division at Principe de Asturias Hospital over a period of 1997 - 2017. A retrospective review was performed. Data was collected on clinical and pathological features, treatment, recurrence and survival rate.

Results

This study includes 3 patients with the diagnosis of granulosa cell tumor of the ovary treated between 1997 and 2017. Median age at diagnosis was 50 years (25-79). The stage according to FIGO was Ia in the 3 cases. Median tumor size was 60 mm (40-80). Post-menopausal bleeding was diagnosed in one case, and hypermenorrheas in the other two cases, with endometrial hyperplasia in all cases (100%). Two patients were treated with primary radical surgery, and the youngest patient with conservative surgery. The 3 patients are alive with no evidence of disease, except the youngest patient who presented a pelvic recurrent disease 14 years after the primary surgery. The treatment realized was radical surgery and adjuvant chemotherapy. Ten years survival rate was 100%.

Conclusion

Granulosa cell tumors are uncommon neoplasms that are characterized by late recurrence and high survival rates. Their extreme rarity represents a limitation in our understanding of their natural history management, and prognosis.
ADVANCED STAGE ENDOMETRIAL STROMAL SARCOMA DIAGNOSED DURING PREGNANCY: A CASE REPORT

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Aims

Endometrial stromal neoplasia is a rare malignancy of uterus. It is usually seen in perimenopausal ages. It is usually not seen during antenatal or postnatal period. There are few cases of endometrial stromal sarcoma found incidentally on placenta specimens and presented with postpartum hemorrhage. There is only one case presented during pregnancy but it was undifferentiated endometrial sarcoma.

Method

We present a case of 27-year old woman who had myomectomy 4 years before pregnancy and misdiagnosed as myoma uteri, but actually had endometrial stromal sarcoma. She presented with multiple abdominal masses during 20th week of pregnancy. A biopsy was obtained by interventional radiology during pregnancy from one of the masses and the result was low grade endometrial stromal sarcoma. At 34th week of pregnancy cesarean was done. On abdominal exploration, there were tumoral implants on the uterus, in the abdominal wall, on transvers colon and on cecum. A total hysterectomy with bilateral salpingo-oophorectomy, cecal and partial colonic resection and anastomosis, debulking of intraabdominal and abdominal wall masses with bilateral pelvic lymph node dissection was done. No macroscopic residual tumor was left. Pathologic studies revealed endometrial stromal sarcoma. She received progesterone treatment with megestrol acetate 160 mg/day.

Results

not available

Conclusion

Uterine fibroids, endometrial carcinoma and other uterine sarcomas should be differentiated from ESS. If the right diagnosis could had been done and hormonal therapy was administered after the initial surgery, recurrence might had been not occurred.
MISCELLANEOUS

ESGO7-0725

A CASE OF UTERINE TUMOR RESEMBLING OVARIAN SEX CORD TUMOR TREATED WITH UTERINE WEDGE RESECTION

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Aims

Uterine tumor resembling ovarian sex cord tumors (UTROSCT) are infrequent forms of uterine tumors. It should be distinguished from endometrial stromal tumors with sex cord like elements (ESTSCLE) since the latter one is more aggressive and the outcome is poorer. Hysterectomy with or without adnexectomy is the preferred choice of treatment. Fertility preserving treatment options are getting common in the last decade for young patients. Hysteroscopic resection of the tumor is the most frequent approach. To our knowledge this is the first case of UTROSCT who was treated with uterine wedge resection.

Method

We describe here a case of 26-year-old nulligravid woman with menometrorrhagia whose ultrasonographic examination revealed 4 cm submucous myoma. Abdominal myomectomy was done but the pathological result was UTROSCT. An abnormal lesion was detected in her control ultrasonography and PET/CT. She then underwent uterine wedge resection with clear surgical margins. She is being followed up for 6 years with no evidence of disease.

Results

not available

Conclusion

UTROSCT is usually seen in elderly women. Conservative management can be an option for younger women who have fertility desire. It seems like it is an acceptable choice since the tumor has low malignant potential. More cases are needed to support the safety of fertility preserving treatment and the outcome.
A LONGITUDINAL STUDY OF CHANGES IN PATIENT PERCEPTION OF CHEMOTHERAPY SIDE EFFECTS IN BREAST AND OVARIAN CANCER PATIENTS - A PROSPECTIVE TRIAL.

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Aims

Knowledge regarding changes of patient perception of chemotherapy side effects (CSE) over the complete treatment period is limited. In this longitudinal prospective study, we aimed to evaluate potential changes. Interim analysis results will be presented.

Method

Breast (BC) and ovarian cancer (OC) patients were recruited before start of chemotherapy. At three different visits (before (T1), week 12+/-3 (T2), and at the end of chemotherapy (T3)) patients were asked to identify out 72 cards displaying potential physical and non-physical CSE the ten most burdensome and rank them finally to top five by severity. The top five most troublesome effects at each visit are reported.

Results

In total, 141 patients (95 BC and 45 OC) were recruited. Median age was 54 years (range 24-80). All three interviews were completed by 113 patients, so far. Over the complete observation period “affects my family/partner” and “difficulty sleeping” were among the top five severe side effects. “Feeling of not coping” and “nausea” were ranked only at T1 but not at T2/T3. “Loss of hair” was ranked at T1/T2, but no longer at T3. In contrast, “numbness in limbs” became relevant in T2/T3 (table 1).

Conclusion

Data from this study demonstrate that patient perception of CSE changes over the treatment period. However, social concerns like “affecting family/partner” and “sleeping disorders” remain long-lasting problems.
MISCELLANEOUS

ESGO7-0493

CHANGE OF PATIENT PERCEPTIONS OF CHEMOTHERAPY SIDE EFFECTS IN BREAST AND OVARIAN CANCER PATIENTS

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Aims

In 1983, 1993, and 2002 results of studies identifying patient perceptions and individual ranking of chemotherapy side effects (CSE) were reported. We aimed to update this survey and evaluate changes in patient perceptions a further decade later.

Method

Patients with breast (BC) and ovarian cancer (OC) planned for chemotherapy were recruited in this prospective study. At week 12 +/- 3 weeks after chemotherapy initiation patients were asked to identify from 72 cards displaying potential physical and non-physical CSE the ten most burdensome and ranking them finally to top five by severity. Results are reported for the entire group and in comparison to published data. Additionally, socio-demographic and clinical characteristics were evaluated.

Results

In total, 126 patients (85 BC and 41 OC) were interviewed. The most severe CSE reported was “difficulty sleeping” compared to “vomiting” in 1983, “nausea” in 1993, and “affects my family/partner” in 2002 (table 1). “Loss of hair” remained a top concern over all studies. The most severe CSE in BC patients was “loss of hair” in contrast to “difficulty sleeping” in OC patients.

Conclusion

Patient perceptions of CSE have changed markedly compared with previous studies. Especially taxane related CSE are reported more frequently. However, “loss of hair” has remained an unsolved problem over decades. Ranking the most severe CSE by cancer type demonstrated clinically relevant differences.
ANGIOMYOFIBROBLASTOMA OF THE RETRORECTAL REGION: A CASE REPORT

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Aims

Angiomyofibroblastoma (AMF) is an uncommon, benign neoplasm that most commonly involves the vulvovaginal region. We herein report a case of a 44-year-old woman with a pelvic AMF which showed a benign clinical course.

Method

Case

A 44-year-old woman was initially admitted to the Department of Gynecologic Oncology, School of Medicine Akdeniz University in December 2016. The patient presented with pelvic pain for the last 8 months. A palpable, solid mass was identified on the left lateral wall of the vagina. Bimanual examination showed a 8x7 cm mobile mass in relation to the adjacent tissues, associated with vagina in the retrorectal region. The mass was a well-circumscribed soft tissue mass with heterogeneous internal echoes. The patient underwent operative removal of the tumor. On microscopy a well-circumscribed lesion was seen and composed of spindled to epithelioid cells. There were alternating hypo and hypercellular areas. Randomly distributed blood vessels were present and a perivascular concentration of the stromal cells was appreciated. On immunohistochemistry, the stromal cells were positive for desmin and vimentin. Actin and S 100 staining of stromal cells was negative. The stromal cells were also positive for estrogen receptor (ER) and progesterone receptor (PR). The blood vessels were well-highlighted by smooth muscle actin (SMA).

Results

Angiomyofibroblastomas are benign with little or no tendency for local recurrence. A careful histopathological examination of the vaginal lesions helps in differentiating angiomyofibroblastomas from other mesenchymal tumors.

Conclusion

It is important to identify this entity so that the patient can be saved from unnecessary follow-up and intervention post excision.
Aims

To analyse patients’ opinion about communication with a surgeon before and after the surgical treatment of endometrial cancer using the CAHPS®.

Method

Perspective cohort study of 57 (response rate 79.2%) patients treated for endometrial cancer in Lithuanian University of Health Sciences Hospital. The translated CAHPS® and Rosenberg Self-Esteem Scale (group A – low self-esteem, <15 points (n=10), group B – moderate and high self-esteem, >15 points (n=47)) was used with 2 additional questions about pain. χ² tests were made, data was considered statistically significant if p<0.05.

Results

Results were analyzed according to composites of CAHPS®. 79.8% of patients were informed fully about preparation for the surgery. 38.6 % were informed fully about the treatment and visual aids were disclosed. Surgeon communicated very well before the surgery in 86.9% of cases. 96.5% of surgeons were attentive on the day of surgery and 53.1% disclosed information fully on how to recover. 91.2% of surgeons communicated very well after the surgery. Answers to the survey were not different between groups except that surgeon’s visit before the surgery made more patients calm in group B (97.8% versus 77.8%, p=0.048). Patients in group A felt pain 4 weeks after the surgery more often (100% versus 46.8%, p<0.001).

Conclusion

Overall surgeons communicated very well with the patients, but information was not always disclosed. CAHPS® results were similar among patients with different self-esteem. Surgeon’s visit before the surgery made less patients with low self-esteem calm and pain 4 weeks after the surgery was related with low self-esteem.
Aims
The differential diagnosis of axillary tumors will be discussed on the basis of a case of axillary schwannoma.

Method
Symptoms, diagnosis, anatomical findings and histological findings as well as potential therapeutical approach will be presented. We searched the Medline for english articles using axillary schwannoma, axillary peripheral neural sheath tumor, brachial plexus tumors, axillary swelling, sonographic appearance schwannoma, and radiologic appearance schwannoma as key words.

Results
Schwannomas are tumors of the nerve sheath, they evolve from swann-cells of myelinised nerves. Ususally, axillary schwannomas present as a slow growing mass without pain or neurological deficiencies. Usually, they have a capsule. In sonography they appear like clearly defined cysts without blood flow. Pathognomonic is a hyperintensity in periphery of a clearly defined cystic mass in T2 weighting in MRI. We identified three further case reports describing cystic axillary schwannoma.

Conclusion
An axillary schwannoma represents a very rare condition, especially presenting as a cystic mass. Tumors of the nerve sheath should be considered in the diagnostic work-up.
MISCELLANEOUS

ESGO7-0803

PROGNOSTIC ROLE OF PLASMA FIBRINOGEN IN PATIENTS WITH UTERINE LEIOMYOSARCOMA – A MULTICENTER STUDY

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Aims

Fibrinogen plays an important pathophysiological role in tumor cell progression and development of metastases in different types of cancer. The aim of the present study was to evaluate the value of pre-treatment fibrinogen plasma levels as a prognostic biomarker in patients with uterine leiomyosarcoma (ULMS).

Method

Data of women with ULMS were extracted from a multi-center database. Pre-treatment fibrinogen plasma levels were measured. The association between fibrinogen plasma levels and clinico-pathological parameters was investigated and univariate and multivariable survival analyses were performed.

Results

A total of 70 patients with ULMS was included into this analysis. Mean (SD) pre-therapeutic fibrinogen plasma level was 480.2 (172.3) mg/dL. Patients with advanced tumor stage had higher fibrinogen levels (p=0.02). Five-year overall survival (OS) rates in ULMS patients with increased fibrinogen levels were 25.0% compared to 52.9% in ULMS patients with normal fibrinogen. Univariate survival analyses revealed that elevated fibrinogen plasma levels (p=0.003), advanced tumor stage (p<0.001) and high histological grade (p=0.004) were associated with unfavorable OS. In multivariable analysis, only histological grade (p=0.07) was independently associated with survival.

Conclusion

Elevated fibrinogen plasma levels were associated with advanced disease and unfavorable prognosis in women with ULMS in univariate survival analysis. After validation in future studies fibrinogen might be a useful biomarker for tumor stage and prognosis in ULMS patients.
MISCELLANEOUS

ESGO7-1276

AN ONCO-GERIATRIC SCREENING TO TAILOR TREATMENT IN ELDERLY PATIENTS WITH GYNAECOLOGIC MALIGNANCIES IN A MULTIDISCIPLINARY UNIT

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Aims

To evaluate the feasibility of an Onco-geriatric screening tool and subsequent therapeutic decisions in a Gynaecologic Oncology Multidisciplinary Unit.

Method

The screening tests consisted of Barthel, Pfeiffer and G8 scales, conducted by the specialized Nurse. The screening was positive if the woman was older than 85yo, or if 75-85yo with 2 risk factors: Barthel test <90, >2 mistakes in Pfeiffer scale and G8 test with ≤14 points, and lack of social resources. After a positive screening, a comprehensive geriatric assessment was recommended, and the oncologist decided the most appropriated treatment.

Results

Seventeen patients were included in the analysis since November/2015 to April/2017, with a median age of 82 yo. They were distributed in 2 cervical, 5 endometrial, 5 ovarian and 5 vulvar tumors; 59% of cases in advanced disease. Tests results were: 94% patients had Barthel <90, 11.8% >2 mistakes in Pfeiffer scale and G8 test with ≤14 points, and lack of social resources. After a positive screening, a comprehensive geriatric assessment was recommended, and the oncologist decided the most appropriated treatment.

Conclusion

Gynaecologic oncology frail patients can be appropriately selected with an Onco-geriatric screening test that permits patients to benefit from a tailored treatment.
THE CURIOUS CASE OF A DEVIANT MOLE: A CASE OF AN INVASIVE MOLE METASTATIC TO THE OVARY

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Aims

To emphasize the rarity of the case and how it can present differently, posing diagnostic dilemma.

Method

A case report of a metastatic invasive mole.

Results

This is a 33 year old, G3P1 (1021), presenting with left lower quadrant pain. The positive pregnancy test and previous complete mole, lead to Gestational Trophoblastic Neoplasia, probably ruptured vs. Ectopic Pregnancy. Transvaginal ultrasound showed an anteverted, homogenous uterus; hyperechoic, intact endometrium; normal size ovaries; complex mass posterior to the uterus measuring 6.0 x 2.64 x 4.87 cm with multiple cystic spaces; fluid in the cul-de-sac, 22cc volume. Emergency exploratory laparotomy was done. On laparotomy, a right ovarian mass exuding vesicular tissues and a bluish-black discoloration at the right postero-lateral aspect of the uterus were noted. With these findings, total abdominal hysterectomy with right salpingo-oophorectomy was performed. Histopathologic examination revealed an invasive mole metastatic to the ovary.

Conclusion

Invasive mole metastasizing to the ovary is not an impossibility, simply because of the adjacency of both organs. This is a manifestation that truly, invasive mole, can invade or overrun any organ for that matter, far or near, as the latter in our case, the neighboring ovary. The impression of GTN at any given time and place, should tweak the curiosity in us, “What and where it is this time?” And this time, it is the ovary!
IS SURGICAL TUMOR FRAGMENTATION AN INDEPENDENT PROGNOSIS FACTOR IN THE OVERALL SURVIVAL OF UTERINE SARCOMAS?

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Aims

To evaluate clinicopathologic data and prognostic factors for patients with uterine sarcomas (US), with special emphasis on uterine fragmentation during surgery.

Method

Retrospective analysis of all consecutive patients with US treated between 1990-2016. During this period 1,863 patients with uterine malignancies were diagnosed, of which 1,681 were excluded for endometrial carcinoma and 85 for carcinosarcomas, so finally the study sample included 97 patients (5.2% incidence). Survival rates were analysed using the Kaplan-Meier method.

Results

The distribution by histological-type was: 46.4% leiomyosarcoma; 23.7% high-grade ESS; 17.5% low-grade ESS; 11.3% adenosarcomas and 1% liposarcoma. Median age was 52 years (25-90) and 49.5% were premenopausal. The most frequent preoperative diagnosis was uterine fibroids in 49.5%. Tumor surgical rupture occurred in 25.9% of cases. FIGO stages I-II and III-IV were identified in 74% and 26% of patients, respectively. Median tumor size was 8 cm (2-40). EFS rates after 2, 5, and 10-years were 71%, 57%, and 53% respectively, with a median time of 63 months (95%CI, 35.5-90.4). OS rates after 2, 5, and 10-years were 66%, 53%, and 38% respectively, with a median time of 19 months (95%CI, 1-43.7). Multivariate analysis showed that stage; histological type and surgical tumor rupture were independent prognostic factors [(OR7.9; CI95% 1.6-38.2; p=0.01); (OR5.3; CI95% 2.1-13; p<0.0001) and (OR2.6; CI95% 1.1-6.5; p=0.03)].

Conclusion

US are rare but aggressive tumors whose prognosis is strongly influenced by FIGO-stage, histological-type and tumor surgical rupture. Efforts should be made to avoid any type of uterine fragmentation during surgery since it seriously compromises the prognosis of this pathology.
MISCELLANEOUS

ESGO7-0750

INCIDENCE AND SURVIVAL OF GYNECOLOGIC CARCINOSARCOMAS IN ISRAEL
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Aims

Gynecologic carcinosarcoma is a rare and aggressive tumor. Following latest immunohistochemically studies the carcinosarcomas are considered subtypes of carcinomas but seem to have a distinct natural history and presumably worse prognosis. The aim of this study is to report the incidence and outcome of gynecologic carcinosarcomas in Israel.

Method

Records of gynecologic carcinosarcomas diagnosed between 1980-2014 were extracted from the Israeli National Cancer Registry and classified according to ICD-03. Age-standardized incidence rates (ASRs), 1&5 year and overall survival rates were calculated according to anatomical site, population group, stage and grade at diagnosis.

Results

935 new gynecologic carcinosarcomas were diagnosed in Israel between 1980-2014. During the last 15 years there was a substantial increase in ASR from 8 to 11 per million females with a significantly higher incidence in Jewish compared to Arab population (13 vs 4 per million females respectively). Incidence was highest in women 55-75 years old and extremely low in women younger than 30 years old. The most common anatomical site was uterus (83%) followed by ovary (11%). The survival rates increased significantly between 1985-1990 and 2010-2014 but were lower than the survival rates for sarcomas. There was no significant difference in survival rates between the populations.

Conclusion

Gynecologic carcinosarcomas seem to have a distinct behaviour in regard to incidence, age at presentation and survival rates compared to gynecological sarcomas. This is to our best knowledge the first study evaluating this rare histologic subtype in Israeli population and provides important information for clinical practice and further research.
RARE CASE OF PRIMARY SEROUS CARCINOMA OF PERITONEUM IN PATIENT PREVIOUSLY TREATED WITH TOTAL HYSTERECTOMY AND BILATERAL SALPINGOOPHORECTOMY DUE TO CINIII

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Aims

The aim of our study is to present a rare case of primary serous peritoneal carcinoma in a patient who had previously undergone a total hysterectomy with bilateral salpingoophorectomy due to high grade cervical intraepithelial neoplasia (CINIII).

Method

A 53-years-old woman attended our clinic for further investigation of high CA-125 levels found during the typical follow-up. The pathological report of hysterectomy specimen revealed free surgical margins and no malignancy. Three years postoperatively, elevated levels of CA-125 and HE4 (418.1 and 185 respectively) were present, while the endoscopic evaluation of gastrointestinal track and pap-smear test were normal. Abdominal MRI indicated small quantity of ascites in the pouch of Douglas and the space of Morison, as well as multinodularity on the greater omentum.

Results

The patient underwent diagnostic laparoscopy. The perioperative assessment confirmed the existence of free peritoneal fluid in the pouch of Douglas and multiple nodules measuring few millimeters in diameter in the parietal peritoneum and the diaphragmatic surfaces. The greater omentum was widely invaded. No ovarian tissue was recognized. The histological analysis of the relevant biopsies revealed a low differentiated malignant neoplasm. Given the immunohistochemical examination, the history of the patient and the laboratory findings, the diagnosis of a primary serous peritoneal carcinoma was set. MDT decided for the patient to be treated with chemotherapy (carbo taxol).

Conclusion

Despite its rarity, PPC should always be included in the differential diagnosis of every patient with laboratory and/or imaging indications, independently of previous salpingoophorectomy, due to its aggressive course.
CLINICAL AND LABORATORY CHARACTERISTICS OF PRIMARY PERITONEAL SEROUS CARCINOMA
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Aims
To present the clinical and laboratory characteristics of patients with primary peritoneal serous carcinoma (PPSC).

Method
This is a retrospective study of 19 patients with PPSC who were treated between 2002 and 2017 in Metaxa Memorial Cancer Hospital, Piraeus, Greece. Our electronic database and medical notes were retrospectively studied for each individual.

Results
The median age of the patients was 64.8 years ranging from 44 to 76 years. Clinically PPSC presented with abdominal distention and pain (17/19 cases), constipation (6/19), while 14 patients complained of loss of appetite. Two of the patients did not report any symptoms and the only findings suggesting the disease were an abnormal cervical smear and elevated Ca-125 levels respectively. All patients except for one had abnormal values of CA-125 at the time of initial diagnosis, ranging from 119 to 12767.3 U/ml with a median value of 1719.2 U/ml. HE4 was measured in the most recent 4 patients and the average was 372.85 pmol/l. Median values of NLR (neutrophil-to-lymphocyte ratio) and PLR (platelet-to-lymphocyte ratio) were calculated and the median values were found to be 5.94 and 140 respectively. Postoperative PCI (peritoneal cancer index) ranged from 6 to 20 (average: 13). Optimal debulking was achieved in 5 cases. All patients were staged as IIIC PPSC and received standard carbo-taxol chemotherapy, whereas Avastin was added in 5 recent cases. Median overall survival was 24.5 months.

Conclusion
PPSC is a rare neoplasm that mimicks ovarian cancer, has poor prognosis and requires multidisciplinary management.
PRIMARIE PERITONEAL CARCINOMA DIAGNOSED IN ABNORMAL PAPANICOLAOU TEST

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Aims

To report a rare case of primary peritoneal carcinoma detected by an abnormal cervical smear.

Method

A 59-year-old woman presented with granular atypia on routine Papanicolaou smear. Transvaginal ultrasound depicted an endometrial thickness of 8mm and free peritoneal fluid. Bilateral salpingoophorectomy had been performed 15 years ago due to endometriosis. Ca-125 was found 119 U/ml. Endocervical and endometrial curetage was scheduled and the pathology report showed an adenocarcinoma with focal squamous differentiation and uncertain further classification. Abdominal MRI detected multinodularity of the great omentum, great amount of ascites and possible endometrial tumor.

Results

The patient underwent exploratory laparotomy, which confirmed the existence of ascites, wide omental involvement and small implants of the tumor on the pouch of Douglass and the bladder serosa. Extensive debulking was performed to R1 disease. Histological and immunohistochemical analysis revealed extended infiltration of the great omentum and the external cervical surface consistent with primary peritoneal serous carcinoma. Atrophic endometrium was found. Pelvic washings showed metastatic adenocarcinoma. The patient postoperatively received adjuvant chemotherapy.

Conclusion

Abnormal pap smear could rarely be suggestive of extrauterine malignancies, such as peritoneal cancer.
MISCELLANEOUS

ESGO7-0498

MISCELLANEOUS INCIDENCE AND SURVIVAL OF GYNECOLOGIC SARCOMAS IN ISRAEL

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Aims

Survival after gynecologic sarcomas is known to be poor, although limited data are available on the subject. A recent British report showed a substantial survival increase, explained perhaps by improved therapies. The aim of this study is to report the incidence and outcome of gynecologic sarcomas in Israel.

Method

Records of gynecologic sarcomas diagnosed between 1980-2014 were extracted from the National Israeli Cancer Registry and classified according to ICD-03. Age-standardized incidence rates (ASRs), 1&5 year and overall survival rates were calculated according to anatomical site, morphology subtype, population group, stage and grade at diagnosis.

Results

1271 new gynecologic sarcomas were diagnosed in Israel during 1980-2014, with incidence increasing between 1980-2010 years up to ASR of 15.7 per million females in 2010. ASR was significantly lower in the Arab compared to Jewish population (7.7 vs. 16.4 per million females in 2010 respectively), with a more substantial increase during the years. Incidence was highest in women 40-65 years old. The most common histologic diagnosis was leiomyosarcoma (47%) and most common anatomical site was uterus (89%). The observed survival rates were comparable to previous reports in literature, with no difference between the Jewish and Arabic populations.

Conclusion

Although the incidence of gynecologic sarcomas in the Israeli population is higher than in European populations, the distribution of histologic types and anatomic sites is similar. We found no significant difference in survival rates between Arabic and Jewish population through the years. These results provide important information regarding gynecologic sarcoma incidence and survival in Israel.

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Aims

To review the outcomes of different urinary diversion techniques following post radiotherapy pelvic exenteration for recurrent/persistent gynaecological cancers.

Method

The current study pertains to those patients undergoing urinary diversion following pelvic exenteration between August 1993 to December 2013. These diversions were performed by a urological consultant. Data regarding age, type of cancer, previous treatment, time and site of recurrence, surgical details and complications as well as follow-up and long term sequelae were collected.

Results

There were a total of 86 patients who underwent pelvic exenteration between the study dates. Of these 60 underwent a urinary diversion procedure (69.7%). 31 had cervical cancer (51.7%), 12 vaginal cancer (20%), 9 endometrial cancer (15%) and 8 were vulval cancer (13.3%). Of these 60 cases 13 (21.6%) had a Mitrofanoff continent urinary diversions, 45 (75%) had an ileal conduit, 1 (1.7%) had a transverse colonic conduit and 1 (1.7%) had a Mainz-Sigma II procedure. Common early complications included UTI and stenosis of the Mitrofanoff. Later complications included revision of Mitrofanoff (5), and stones requiring percutaneous removal (1). There was one anastomotic leak [from an ileal conduit], treated conservatively. 41 (68%) patients have since died of disease [median time to death after exenteration being 18 months (3 months to 13 years)], and 18 (30%) are alive with 1 lost to follow up. Median follow up was 10 years (7 months to 20 years).

Conclusion

In our cohort of 60 patients undergoing pelvic exenteration over a 20-year period, there was a very acceptable rate of complications related to urinary diversion.
VULVAL/VAGINAL RECONSTRUCTION FOLLOWING PELVIC EXENTERATION: A 20-YEAR EXPERIENCE AT THE ROYAL MARSDEN HOSPITAL

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Aims

To review the outcomes of vulval/vaginal reconstruction following post radiotherapy pelvic exenteration

Method

The current study was based on those patients having vulval/vaginal reconstruction following pelvic exenteration between August 1993 to December 2013. These reconstructions were performed by a consultant plastic surgeon. Data regarding age, type of cancer, previous treatment, time and site of recurrence, surgical details and complications as well as follow-up and long term sequelae were collected.

Results

A total of 86 patients underwent pelvic exenteration between the study period. 25 underwent vulval/vaginal reconstruction (29%). Thirteen had vulval cancer (52%), 6 vaginal cancer (24%) 5 had cervix cancer (20%), and 1 (4%) had endometrial cancer. The vaginal and vulval reconstructions were 12 (48%) VRAM or ORAM flaps, in 7 (28%) patients the bladder dome was used to create a neovagina, 2 lotus petal flaps, 1 latissimus dorsi, 1 gluteal flap and 2 vaginal reconstructions utilising the large bowel. Early complications included wound infections and flap necrosis – one returned to theatre for debridement, 2 partial treated conservatively. Later complications included phantom symptoms (1) and 1 later incisional hernia repair following VRAM flap. Fifteen (60%) patients have since died of disease and 9 (36%) are alive with 1 lost to follow up. Median follow up was 48.9 months (7 months to 20 years). Median time to death post-surgery was 14 months (7.8 months to 8 years).

Conclusion

In our series, vaginal reconstruction was not commonly requested or performed. This may reflect the recognised poor functional results from neovaginal reconstruction following pelvic radiotherapy.
MISCELLANEOUS

ESGO7-1033

ROBOT-ASSISTED SURGERY IN ELDERLY AND VERY ELDERLY WOMEN AFFECTED BY GYNECOLOGICAL MALIGNANCIES: OUR SINGLE INSTITUTION EXPERIENCE ABOUT INTRAOPERATIVE AND POSTOPERATIVE OUTCOMES

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Aims

To assess the role of robotic surgery for the management of elderly patients with gynecological malignancies.

Method

Between December 2015 and March 2017, 112 patients underwent robotic-assisted laparoscopic surgery procedure for gynecological malignancies were retrospectively evaluated. 41 patients age> 75 years (very elderly group) were compared with 71 patients age from 65 to 74 years (elderly group). Demographic, operative and perioperative outcomes were analyzed retrospectively.

Results

The mean age was 68 years (range, 65-74 years) in the elderly group and 77.0 years (range, 75-87 years) in the very elderly group. There were no differences between two groups in body mass index, preoperative comorbidities and ASA (p 0.247).

Patients underwent surgery for different gynecologic oncological disease: 12 (11%) cervical cancer, 2 (1%) ovarian cancer, 98 (88 %) endometrial cancer.

The types of surgical procedures performed were: 112(100%) radical hysterectomies with bilateral salpingo-oophorectomy, 44 (39%) pelvic lymphadenectomy, 11 (10%) aortic lymphadenectomy, 5 (4.5%) total omentectomy, and 2 (1.8%) pelvectomy. No difference were revealed between the two groups in terms of estimated blood loss, median operative time, median hospital stay and conversion rate. Rate of pulmonary failure was higher in elderly group (4% vs 0%). There were no between-group differences in postoperative infectious morbidity, cardiovascular complications, reoperation and intensive care unit admission.

Conclusion

The perioperative complication rate of robotic-assisted surgery are comparable in very elderly women and elderly women. This study support the feasibility and the role of robotic surgery in elderly and very elderly patients affected by gynecological cancers.
A COMPARATIVE ANALYSIS ON THE INFUSION REACTION OF PACLITAXEL BETWEEN ORIGINAL AND GENERICS DRUG IN GYNECOLOGIC CANCER

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Aims

The purpose of this study was to compare to the present of Infusion Reaction between Original and Generics drug in Gynecologic Cancer of Ramathibodi Hospital

Method

Four hundred and forty six patients were recruited from Gynecology Oncology Department in Ramathibodi hospital. The patients who had received Paclitaxel chemotherapy cycle 1. This study were retrospective study from 1 January 2013 to 31 December 2015. The patients received Generic drug 219 cases (cervix cancer 62 case, ovary cancer 89 case and endometrium cancer 68 case) and Original drug 227 cases (cervix cancer 35 case, ovary cancer 125 case, endometrial cancer 64 cases and other 3 cases)

Results

Eighty three patients who met inclusion criteria of Infusion Reaction after paclitaxel injection (Generic drug forty one patients and Original drug forty two patients). 78 cases were noted as mild reaction and 5 cases presented severe reaction of anaphylactoid. The average age of patients received Generic drug was 55-64 years number 78 cases and received Original drug was 55-64 years number 96 cases.

Conclusion

The results of this study demonstrated the Infusion Reaction of Paclitaxel between Original and Generic drug are equivalent when they are used in the first line of treatment for Gynecology Cancer.
SERVICE UTILISATION IN A NEWLY ESTABLISHED INDIAN HEREDITARY CANCER CLINIC

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2Tata Medical Centre, Breast Oncosurgery, Kolkata, India
3Tata Medical Centre, Genomics, Kolkata, India
4Tata Medical Centre, Palliative care and Psycho oncology, Kolkata, India

Aims

Testing for hereditary gynaecological and breast cancers is a relatively recent inclusion in treatment protocols, but little data is available from developing countries.

Method

A Women’s Clinic for Family Cancers was established in 2016. Women diagnosed with breast, ovarian or endometrial cancer who met international guidelines for genetic testing were offered counselling. Those who consented underwent Next-Generation Sequencing. Individuals had an option to consult a psychologist before and after testing. We present an analysis of service utilisation and summary of test results.

Results

In total 129 individuals were counselled. 80 affected with breast, ovarian, endometrial or colon cancer and 7 unaffected family members underwent testing. Twenty four (27.6%) tested positive for known germline mutations, and another 8 (9.2%) had variations of unknown significance (VUS). 45 reports were normal. Of 80 individuals affected with malignancy, 20 had only ovarian cancer, 39 only breast cancer, 6 both breast and ovarian cancers, and 6 had other malignancies. Among 25 patients with ovarian cancer, 15 had abnormal results, 8 (32%) with known mutations (5 BRCA1, 3 BRCA2). Among 52 patients with breast cancer, 7 (13.5%) had BRCA1 or BRCA2 mutations. Overall, 15 (18.6%) tested patients were diagnosed with HBOC Syndrome and 9 (11.3%) had other inheritable genetic abnormalities (MLH1, PMS2, MSH2, ATM, TP53, PALB2).

Conclusion

Frequent germline mutations were identified in patients who consented to be tested, although many were classified as VUS. Cascade testing was not widely taken up.
ENHANCED RECOVERY AFTER SURGERY (ERAS) FOR GYNAECOLOGY CANCER PATIENTS: OUR SGH EXPERIENCE

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²Singapore General Hospital, Obstetrics and Gynaecology, Singapore

Aims

We adapted the existing Enhanced Recovery After Surgery (ERAS) Programme in SGH to accommodate our patients undergoing major complicated gynaecology cancer surgery.

Our programme required all our patients to attend pre-op anaesthetic assessment. Laparoscopic surgery was done, where appropriate. We optimised patient’s nutrition pre-operatively and reduced the fasting period with high glucose/electrolyte drinks and intravenous hydration. Multimodal analgesics was employed to reduce opiates requirement. Early reintroduction of diet and mobilisation were encouraged.

We present the ERAS results of patients undergoing major cancer surgery under 1 consultant in 2016.

We wanted to evaluate ERAS programme for gynaecology cancer patients on

- efficacy of the programme
- safety and readmission rate
- Rate limiting factors

Method

All women undergoing major surgery for gynaecological cancer in 2016 were included. Our cohort consisted of 101 women.

Our endpoints measures include:

- Length of hospital post-oper stay (LOS)
- Readmission rates
- Safety issues

Results

The average length of stay is 7 days, with 61% women going home on 5th post-op day. Twenty four women underwent concomitant bowel surgery, accounting for 62% of LOS >5 days. While complications and social issues contributed to longer stay, most were related to stoma care.

There was no reported aspiration pneumonia from the pre-operative drinks.
Readmission rate was less than 5%.

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<th>No (op major)</th>
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<td>Extra mammary Paget's disease</td>
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<tr>
<td>Krukenberg</td>
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<td>Advanced rectal/ caecal cancer</td>
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<tr>
<td>Ovary/peritoneal cancer</td>
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<td>Pseudomyxoma Peritonei</td>
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<td>2</td>
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<td>Urethral ca</td>
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<td>1</td>
</tr>
<tr>
<td>Recurrent cancer</td>
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<td>9</td>
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<tr>
<td>Vaginal cancer</td>
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<td>pelvic clearance with peritoneectomy</td>
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**Conclusion**

We have demonstrated benefits and safety of ERAS in gynaecology cancer patients. We plan to improve our practice by holding classes on stoma care before the operation.
PATIENTS’ ACCEPTABILITY OF DIFFERENT SCREENING TESTS FOR GYNAECOLOGICAL MALIGNANCY IN LYNCH SYNDROME CARRIERS

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Aims

To evaluate patients’ acceptability of different screening tests for gynaecological malignancy in Lynch syndrome carrier

Method

All the Lynch Syndrome carriers who were referred to our center for gynaecological malignancy screening were invited to participate in this study. The subjects’ perception and experience of different screening methods – endometrial aspiration, transvaginal ultrasound and blood tests for Ca125 were assessed by a self-administered questionnaire immediately after the clinic visit. Beck Anxiety Inventory (BAI) was also administered to subjects immediately before the consultation and also when the subjects returned for the test results.

Results

Sixty-four patients were included in this study. The patients’ perception of the effectiveness of different screening methods was shown in Table 1. Most patients reported mild discomfort only with the three screening tests (Table 2). Moderate or severe anxiety was present in 6 (9.5%) and 2 (3.2%) patients respectively before the first consultation. There was no statistically significant difference in the BAI score when they returned for the results.

\begin{table}
\centering
\begin{tabular}{|l|c|c|}
\hline
 & Endometrial Cancer & Ovarian Cancer \\
\hline
Pelvic Examination & 79.7\% & 78.1\% \\
Ca125 & 75\% & 76.6\% \\
Cervical smear screening & 79.7\% & 71.9\% \\
Endometrial aspiration & 81.3\% & 76.6\% \\
Transabdominal ultrasound & 67.2\% & 71.9\% \\
Transvaginal ultrasound & 71.9\% & 68.8\% \\
\hline
\end{tabular}
\caption{The percentage of patients who perceived that the screening method is effective in screening for Endometrial or Ovarian cancer}
\end{table}
Conclusion

The screening tests for gynaecological malignancy were acceptable to most of the Lynch syndrome carriers, but moderate or severe anxiety was present in over 10% of the subjects.
INCISIONAL NEGATIVE PRESSURE WOUND THERAPY IN ONCOLOGICAL PATIENTS.
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1Bellvitge University Hospital, Gynecology, Barcelona, Spain
2Hospital Sant Joan de Déu, Gynecology, Barcelona, Spain

Aims
This study evaluates the efficacy of negative – pressure therapy in prevention of complications in the surgical site in surgical oncologic patients.

Method
All major oncologic procedure performed with a laparotomy incision performed in two years. We performed a retrospective descriptive cohort study. We evaluated two cohorts, patients undergoing surgery in 2014 and cohort in 2016. The goals of the statistical analyses were to assess the wound complications and days of hospitalization were distributed differently between the incisional negative pressure wound therapy group (INPWT) and the NON-INPWT group.

Results
We included 147 patients. Of the total of patients, 39.6% of the patients used this dispositive. (mean of days to use it was 3 days). The total complication rate in our sample was 21.1%.

Rates of surgical complications in patients treated with INPWT was 2.7% compared with patients which no use INPWT was 18.4% (p=0.000) Performing a stratified analysis of complications; Infection (p=0.001), seroma (p=0.005), dehiscence (p=0.001) and were observed significant differences with a lower incidence of complications in INPWT group, an exception hematoma which no significant difference was found.(p=0.063).

Evaluating the hospital stay, we obtain a decrease in two days of admission, with statistically significant differences. (p=0.048)Conclusion

Prophylactic use of closed-wound negative pressure therapy may decrease wound complications in oncological patients.
LEIOMYOSARCOMA, A DISTRICT GENERAL HOSPITAL EXPERIENCE OF ITS IMAGING AND DIAGNOSIS

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²Salisbury District General Hospital, Histopathology, Salisbury, United Kingdom
³Salisbury District General Hospital, Gynaecology, Salisbury, United Kingdom

Aims

We present several cases of uterine leiomyosarcoma imaged at our institution and highlight the challenges in diagnosing these rare tumours.

Method

Leiomyosarcoma represents approximately 5% of all uterine malignancies. Its non specific appearance on imaging make it notoriously difficult to diagnose radiologically. A high level of clinical suspicion and correlation with symptoms is necessary for prompt diagnosis. We present several cases of uterine leiomyosarcoma and discuss the imaging findings common to these tumours and pitfalls in their diagnosis. We compare these to some benign leiomyomas which have a varied appearance and can complicate the diagnosis of cancer.

Results

Several cases of predominantly post menopausal women ultimately diagnosed with leiomyosarcoma are presented with ultrasound, CT and MR imaging. These are compared to non malignant leiomyomas and other non gynaecological sarcomas for reference. Although imaging cannot be conclusive in its diagnosis, some common features are highlighted when investigating this malignancy.

Clinical ‘red flags’ include rapid increase in size of a pre-existing fibroid, new pressure symptoms in post menopausal women and postmenopausal bleeding.

Imaging appearances are varied but some consistent features are seen including heterogeneous signal change on MR, heterogeneous enhancement post IV contrast, ill defined borders, ascites and enlarged nodes. Metastases may be seen in a later diagnosis.

Conclusion

Although difficult to diagnose on imaging alone we found that some features were consistently seen with a proven histological diagnosis of leiomyosarcoma. Clinical symptoms should raise the possibility of this cancer, however radiology can be supportive and aid prompt diagnosis.
LAPAROSCOPY: A TOOL IN DIAGNOSIS OF MALIGNANT PERITONEAL MESOTHELIOMA AS A RARE CAUSE OF ASCITES – CASE REPORT

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¹University Medical Center Ljubljana, Department of Gynecology, Ljubljana, Slovenia
²University Medical Center Ljubljana, Department of Pathology, Ljubljana, Slovenia

Aims

Malignant mesothelioma is an uncommon tumor that usually arises in the pleural cavity. Malignant peritoneal mesothelioma is a rare entity. It can masquerade as an ovarian epithelial neoplasm, with similar presenting clinical symptoms and imaging findings. The golden standard is histologic examination.

Method

Case report: 77 years old female found to have ascites and pleural effusion. The patient denied any previous exposure to asbestos. CT scan revealed carcinosis of peritoneum of unknown origin. Citology exam of pleural effusion revealed mesothelial proliferations with cytologic atypia. We perform a diagnostic laparoscopy and found diffuse carcinomatosis of upper and lower peritoneal cavity. Although the malignant proces was concluded to be inoperable, we perform bilateral adnexectomy, peritoneal biopsy and partial omentectomy aiming to get histological diagnosis and as part of staging disease.

Results

Histopatological examination revealed malignant mesothelioma. The patient was referred to medical oncology where she underwent four cycles of cisplatin and gemcitabin.

Conclusion

Malignant peritoneal mesothelioma is extremely rare entity and usually have similar clinical presentation as ovarian cancer, therefore these patients will likely present to gynecologist. In our case the patient went to surgery for suspected ovarian cancer, but histological examination revealed malignant mesothelioma. Our case report highlights that malignant mesothelioma should be considered as differential diagnosis in case of ascites, pleural effusion and suspected ovarian cancer. Laparoscopy in case of suspected ovarian cancer and differential diagnosis such as malignant peritoneal mesothelioma is a safe and cost effective diagnostic modality and in combination with histologic examination is key to definitive diagnosis.
GASTROINTESTINAL STROMAL TUMOURS (GIST) MIMICKING A HUGE OVARIAN NEOPLASM IN NORTH-EAST INDIA.

A. Baruah

Gastrointestinal Surgery, Gauhati Medical College and Hospital, Obstetrics and Gynaecology, Guwahati, India

Aims

1. GIST do not have any unique clinical signs and symptoms or unique appearance in USG. If a pelvic mass is detected, the possibility of a non-gynaecological tumour like GIST has to be considered.
2. A timely referral to get better surgical treatment and post-operative chemotherapy or radiotherapy in a tertiary care centre.

Method

A 50 years old female, P5+0, post-menopausal, came with pain abdomen and lump lower abdomen for 4 months. Swelling over the left side initially which later attained huge size up to the umbilicus within a short duration. Patient lost about 5kgs in 4 months. Mass was about 15x15 cm² size, firm and mobile.

Results

Apart from routine investigations of blood and urine, she underwent USG whole abdomen which showed a predominantly solid ovarian tumour 12.5x8x11.3cm³ in size, without ascitis. MRI Pelvis revealed a well defined encapsulated heterogeneously enhancing mass lesion abutting the anterolateral wall of uterus and distal ileal loop with internal haemorrhage and necrotic areas. Laparotomy revealed 15x12x10cm³ mass arising from ileum about 40cm proximal to ileocaecal junction. Resection of the mass and end-end anastomosis was done. Histopathological report- high grade GIST. Immunohistochemistry was CD117/C-KIT positive.

Conclusion

GIST may mimic gynaecological pelvic masses like ovarian malignancy especially in postmenopausal women. Although, GIST do not have a unique USG characteristic, if a pelvic mass is detected in clinical practice, with unusual clinical signs the possibility of non-gynaecological tumours like GIST related to small bowel has to be considered.
A NEW DIAGNOSTIC ALGORITHM FOR THE MANAGEMENT OF UTERINE MASSES: THE UMG (UTERINE MASS MAGNA GRAECIA) RISK SCORE

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¹University Magna Graecia, Unit of Obstetrics and Gynecology - Department of Experimental and Clinical Medicine - University "Magna Graecia" of Catanzaro - Italy, Catanzaro, Italy
²University Magna Graecia ok Catanzaro, PhD School of PhD Programmes Life Sciences and technologies-, Catanzaro, Italy
³University Magna Graecia oggi Catanzaro, Unit of Obstetrics and Gynecology- Department of Experimental and Clinical Medicine-, Catanzaro, Italy
⁴University of Trieste, Department of Life Sciences, Trieste, Italy
⁵University "Magna Graecia" of Catanzaro- Italy, Unit of Obstetrics and Gynecology- Department of Experimental and Clinical Medicine, Catanzaro, Italy

Aims

To identify a reliable non-invasive predictive tool to classify uterine masses according to the risk of malignancy.

Method

The charts of 3107 patients who underwent surgical treatment for uterine masses at our institution between 2004 and 2016 were retrospectively reviewed. Clinical, biochemical, imaging, surgical and pathological data of 2750 women with uterine fibroids and 43 patients with uterine sarcomas were analysed. The statistical relationships between relevant characteristics and the final pathology were analysed.

Results

In univariate analyses, a small set of possible predictors (age; CA125, LDH-1% and LDH-3% isoenzyme serum levels; central and peripheral vascularization of the uterine mass) was identified (p<0.005). Regression tree analysis and model selection revealed that the best predictive score [herein called the "uterine mass Magna Graecia (UMG) score"] was associated with LDH-1% and LDH-3% isoenzyme serum levels. Moreover, considering the presence or absence of central vascularization in women with a "UMG score">29, it was possible to classify patients into three different risk categories, coded for mnemonic reasons as green (≤29), yellow (>29 without the presence of central vascularization) and red (>29 with the presence of central vascularization). With an area under the ROC curve of 99.9%, 99.6% specificity, 100% sensitivity and a negative predictive value of 100%, the UMG score represents an accurate tool for excluding oncologic risk in uterine masses.

Conclusion

We have identified an easy and inexpensive score we used to reliably classify more than 2750 patients with uterine masses with a negative predictive value in excluding the risk of sarcoma of 100%
"REAL WORLD" FACTORS IMPACTING ON TIMING OF ADJUVANT TREATMENT IN PATIENTS WITH GYNAECOLOGICAL CANCER

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²Velindre Hospital, Oncology, Cardiff, United Kingdom

Aims
To evaluate timing of adjuvant treatment in gynaecological cancer.

Method
A retrospective study of consecutive patients with gynaecological cancer undergoing adjuvant treatment, presenting to a tertiary cancer centre during two 4-monthly time-intervals in 2013 and 2016. Patients were identified from Welsh Cancer Services records. Main outcome measures included timing of adjuvant treatment and reasons for treatment delay.

Results
Of 321 patients operated for presumed gynaecological cancer, 100 women undergoing adjuvant therapy were identified. Most women were treated for endometrial or ovarian cancer (51%; 40%), while a minority had cervical or vulval cancer (6%; 3%). Commencing adjuvant treatment >8 weeks following surgery occurred amongst endometrial, ovarian, cervical and vulval cancers in 51%, 15%, 33.3% and 100% respectively. For ovarian cancer, this occurred in primary surgery in 23.8% and for interval debulking in 5.3% (p<0.001).

In endometrial cancer, reasons for commencing adjuvant treatment >8 weeks included referral to oncology unit closer to home (28%), availability of radiotherapy treatment slots (24%), postoperative complications (20%), histopathology required 2º opinion (8%), and in one case respectively ambivalence towards treatment requiring further counselling, referral for 2º MDM opinion, patient unwell, delay in postoperative staging. In ovarian cancer: 2º histopathological opinion (60%) or postoperative complications (20%). In cervical cancer: referral to oncology unit closer to home (16.7%) and awaiting postoperative staging investigations (16.7%). All vulval cancers started adjuvant treatment >12 weeks following surgery due to postoperative complications.

Conclusion
Adjuvant treatment commencement >8 weeks was a common occurrence, necessitating improvements in cancer pathways. A trial to investigate impact on survival is desirable.
FIRST RESULTS OF THE GERMAN PROSPECTIVE REGISTRY FOR GYNECOLOGICAL SARCOMAS (REGSA): A COLLABORATION OF NOGGO, AGO STUDY GROUP, AGO KOMMISSION UTERUS, AGO KOMMISSION OVAR, ARO

**Aims**

The aim of this register is to prospectively collect data of patients with gynecological sarcomas to describe their course of disease, diagnostics and therapies.

**Method**

An electronic case report was designed to register clinical data from patients in Germany such as disease, surgery, therapy and success of therapy after informed consent.

**Results**

Within 20 months 170 patients from 87 sites have been included into the study. 152 of the patients are evaluable. Patients were between 24 and 87 years old (mean 56 years), 106 of them with primary diagnosis and 46 with recurrent disease. There were 74 leiomyosarcomas, 33 endometrial stromal sarcomas (high grade 11, low grade 22), 6 undifferentiated uterine sarcomas, 9 adenosarcomas and 23 others (e.g. rhabdomyosarcoma among others). 15 patients presented with distant metastases at primary diagnosis. Vaginal bleeding was the most common symptom for diagnosis followed by stomach pain. 18 patients showed no symptoms at the time of initial diagnosis. 49 women had myoma diagnosed in advance to the initial diagnosis of sarcoma. In 88 patients with primary diagnosis (43 leiomyosarcomas, 22 endometrial stromal sarcomas, 3 undifferentiated uterine sarcomas, 6 adenosarcomas and 14 others) surgery has been performed - in 13 cases (14.8%) with morcellation. Morcellation was conducted in 8 leiomyosarcomas, 4 endometrial stromal sarcomas and 1 STUMP.

**Conclusion**

Due to a first analysis of the patients’ data there has been insight into characteristics of gynecological sarcoma patients and their treatment. Morcellation was performed in a non-neglectable number of patients with sarcoma. Further follow up is ongoing.
WEEKLY PACLITAXEL IN REFRACTORY CHORIOCARCINOMA

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Aims

Gestational trophoblastic disease (GTD) ranges from pre-malignant hydatidiform moles to aggressive choriocarcinoma. We report a case of refractory gestational choriocarcinoma successfully treated with weekly paclitaxel.

Method

We describe a Nigerian patient with the diagnosis of gestational choriocarcinoma. We report symptoms, histological findings, FIGO score when first diagnosed, the progression of human chorionic gonadotropine while treated as well as the outcome and follow-up.

Results

The patient presented (VIG/VIP, B-HCG of 516.821 U/l, FIGO score 12, liver, pulmonary and splenic metastases) showed an increase of human chorionic gonadotropin during thirteen cycles of EMA/CO (actinomycin, etoposide, methotrexate, cyclophosphamide, vincristine) despite early decline. Therefore the patient received three cycles of BEP (bleomycin, etoposide, cisplatin) while human chorionic gonadotropin was still high, followed by five cycles of cisplatin and ifosfamide which showed a further decrease of human chorionic gonadotropin. However to achieve human chorionic gonadotropin values in the normal range, eighteen cycles of weekly paclitaxel were necessary. The follow-up showed no signs of recurrence until April 2017.

Conclusion

Choriocarcinoma is a rare and highly malignant disease. Weekly paclitaxel is an option in refractory disease.
MISCELLANEOUS

ESGO7-0817

YOLK SAC TUMOR OF THE CLITORIS IN A FIFTEEN-MONTHS-OLD CHILD
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Aims

Extragonadal yolk sac tumor as a possible and rare diagnosis in pediatric patients with clitoromegaly will be discussed on the basis of a case of a fifteen-month-old child that was treated at the university hospital of Mainz, Germany.

Method

We describe a young girl aged fifteen months with the diagnosis of a yolk sac tumor of the clitoris. We report symptoms, histological findings, staging and therapeutic approach. Due to MedLine and PubMed research we found our case to be the 17th described case of vulvar yolk sac tumor and only the third described case of clitoral yolk sac tumor.

Results

The patient presented (prepuberal child, no pre-existing conditions, normal development) showed a growing tumor of the clitoris which was first noticed in September 2016. The tumor was successfully resected by local excision, histologically showing to be a yolk sac tumor. The staging scans showed no signs of further metastases. The patient began a chemotherapy with cisplatin, etoposide and ifosfamide in November 2016.

Conclusion

Vulvar yolk sac tumors are uncommon malignancies. Especially the prepuberal age and the rare localisation at the clitoris make this case worth presenting. Yolk sac tumors must be considered as a possible cause of clitoral enlargement in the prepuberal population.
THE FEASIBILITY OF LAPAROSCOPIC SURGERY AND SAME-DAY DISCHARGE IN GYNECOLOGIC ONCOLOGY FOR OBESE AND VERY OBESE PATIENTS

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Aims

Surgical interventions are the mainstay of treatment for many gynecological cancers. Minimally invasive surgery offers many potential advantages, including same day discharge. However, performing laparoscopic pelvic surgery in obese patients remains challenging.

Objective: To examine the feasibility and safety of performing laparoscopic gynecologic-oncology procedures with same day discharge in obese and morbidly obese patients.

Method

A retrospective study of patients who underwent laparoscopic surgeries by a gynecologic oncologist from January 2012-June 2016, at a designated cancer centre. Using BMI, patients were categorized as non-obese (BMI<30 kg/m\textsuperscript{2}), obese (BMI30-40kg/m\textsuperscript{2}) and morbidly obese (BMI≥40 kg/m\textsuperscript{2}). Intra and post-operative complications and length of hospital stay were recorded. Group differences were compared with Kruskal-Wallis nonparametric test or Fisher exact test. Univariate and multivariate regressions were done for same day discharge.

Results

Of 497 patients, 288 were non-obese (58%), 162 obese (33%) and 47 morbidly obese (9%). Complex surgical procedures were performed in 58.0% of obese patients and 55.3% of morbidly obese patients. Conversion to laparotomy occurred in less than 9% of all patients with no group differences. Low intra-operative (9-11%) and severe post-operative (2%) complication rates were observed with no group differences. Of 182 (36.7%) patients who had same day discharge, younger age and shorter procedure length increased the likelihood of same day discharge success (p<0.01). Obese patients had a much lower rates of same day discharge compared to non-obese patients (30.2% vs. 69.8%, OR 3.2).

Conclusion

While laparoscopic gynecologic-oncology procedures for obese patients are safe and feasible, much lower success of same day discharge was observed.
MISCELLANEOUS

ESGO7-1024

EXPRESSION AND THE PROGNOSTIC RELEVANCE OF P53, BCL-2, BAX AND KI-67 IN UTERINE LEIOMYSARCOMA

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Aims

Uterine leiomyosarcomas (LMS) are rare, aggressive gynecological malignancies. The aim of our study was to evaluate the expression of p53, Bcl-2, Bax and Ki-67 and their prognostic relevance.

Method

A retrospective chart review was done to 198 patients with LMS from 1971 to 2016. Immunohistochemical (IHC) staining for 20 patients was performed for p53, Bcl-2, Bax and Ki-67. Negative and positive IHC staining was scored for each marker. Survival was determined from the time of initial diagnosis to last follow-up.

Results

Ten (50%) patients with LMS expressed p53. P53+ patients mostly had multiple metastases, compared to p53− patients with solitary metastases (60% against 20%) (p<0.05). Eleven (55%) patients expressed Bcl-2 and 4 (20%) expressed Bax. In Bcl-2+ patients distant metastases were observed in 45.5%, compared to Bcl-2− patients, we observed metastatic disease in 77.8% (p=0.068). Expression of ki-67 was observed in 15 patients (75%).

Conclusion

LMS patients with p53 expression had a poorer survival compared to LMS patients with negative expression (p53− 26.7±18.4% and p53+ 80.0±12.6%) (p<0.05). On opposite, the disease-free survival is better in bcl-2+ patients, compared to patients, who don’t express bcl-2 (47.2±19.6% and 28.1±18.0%, respectively (p>0.05). We didn’t observe statistical significant difference in survival depending on Bax expression. LMS patients with Ki-67 expression had a poorer survival compared to LMS patients with negative expression (34.9±13.1% and 60.0±20.7%), respectively (p>0.05). Our study indicates that p53 expression may serve as a prognostic marker for LMS patients.
COST UTILITY ANALYSIS OF METHOTREXATE VERSUS ACTINOMYCIN-D IN LOW RISK GESTATIONAL TROPHOBLASTIC NEOPLASIA

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Aims

To determine the most cost effective first line regimen for women with low risk gestational trophoblastic neoplasia (GTN) (WHO risk score 0-4 and no choriocarcinoma).

Method

Markov decision model (1000 patients) was used to analyze published data GOG 174. Arm 1 was weekly methotrexate at 30 mg/m² weekly while arm 2 was actinomycin-D 1.25mg/m² biweekly. Costs were based on average sale price (ASP) +6%. Utility values were determined by rating scale.

Results

The mean cost of therapy for methotrexate arm was $11,970/quality adjusted cure (95%CI $11,149-$12,791). The mean cost of the actinomycin-D arm was $26,865/quality adjusted cure ($26,780-$26,950). Weekly methotrexate dominated actinomycin-D as first line therapy.

Conclusion

First line therapy of low risk GTN should be weekly methotrexate.
MISCELLANEOUS

ESGO7-1136

ONCOLOGICAL OUTCOME OF SURGICAL TREATMENT IN PATIENTS WITH RECURRENT UTERINE CANCER—A MULTICENTER RETROSPECTIVE COHORT STUDY

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3MD Anderson Cancer Center, Department of Gynecologic Oncology, Madrid, Spain
4Masaryk University, Institute for Biostatistics and Analyses, Brno, Czech Republic
5Cerrahpasa Medical School- Istanbul University, Department of Obstetrics and Gynecology- Division of Gynecologic Oncology, Istanbul, Turkey
6Oscar Lambret Center, Département de Cancérologie Gynécologique, Lille, France
7National Cancer Institute, Department of Gynecologic Oncology, Bratislava, Slovak Republic
8Sapienza University of Rome, Department of Gynecology- Obstetrics and Urology, Rome, Italy
9University Medical Center Utrecht, Department of Gynecological Oncology, Utrecht, The Netherlands
10Baskent University School of Medicine, Division of Gynecologic Oncology- Department of Obstetrics & Gynecology, Ankara, Turkey
11La Paz University Hospital, Gynecologic Oncology Unit, Madrid, Spain

Aims

To assess survival impact of salvage surgery in recurrent cervical or endometrial cancer and to determine prognostic variables for improved oncological outcome

Method

Retrospective multicenter analysis of medical records of 518 patients with cervical (N=288) or endometrial cancer (N=230) who underwent surgical treatment for disease recurrence and who had available at least one year follow-up

Results

Median survival reached 57 and 112 months after surgical treatment of recurrence in patients with cervical and endometrial cancer (p=0.036). Histological subtype had significant impact on overall survival, with the best outcome in endometrial- endometroid cancer (120 months) followed by cervical squamous-cell carcinoma, cervical adenocarcinoma or other types of endometrial cancer (81 vs. 35 vs. 35 months; p<0.001). Site of recurrence did not significantly influence survival in cervical cancer (81, 45, 35, and 45 months for vagina, pelvis, lymph nodes, abdomen) nor in endometrial cancer (56, 48, 120, 112 months for vagina, pelvis, lymph nodes, abdomen). Stage at the first diagnosis, tumor grade, lymph node status at recurrence, PFI after first diagnosis, free resection margins were associated with improved OS on univariate analysis. On multivariate analysis, stage at first diagnosis and resection margins were significant independent predictive parameters of improved oncological outcome

Conclusion

Long-term survival can be achieved after surgical treatment in selected patients with recurrent cervical and endometrial cancer. Excellent results can be obtained, especially in patients with endometrial cancer, even if site of recurrence is in lymph nodes or in abdomen. Achieving free resection margins is the most significant prognostic factor in both types of cancer
VASCULAR INJURIES DURING PELVIC AND PARAORTAL LYMPH NODE DISSECTION – LAPAROSCOPIC MANAGEMENT

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²LISOD – Israeli Oncological Hospital, gynecology, Kyiv, Ukraine

Aims

Major vessels injury during laparoscopic surgery is rare but very dramatic complication. Almost always it required conversion to laparotomy for completion of hemostasis. We represent our experience in performing laparoscopic hemostasis after vascular injuries during pelvic (PLND) and paraaortal (PALND) lymph node dissection.

Method

In 2010-2017 we performed 267 PLND and 396 PALND. Among them 581 single-region dissection: 226 PLND and 355 PALND, while 41 - both regions. Indications: cervical – 130(20,9%), endometrial – 122(19,6%), ovarian – 15(2,4%), colorectal – 343(55,1%), other malignancies – 12(1,9%). We obtained 7 major vascular injuries (1,1%): 2 – aorta, 2 - vena cava inferior, 2 – v.ilia, 1 – a.ilia. All vascular injuries occurred in patients with history of chemoradiotherapy, and there weren’t any in primary treated patients. In all cases we performed laparoscopic hemostasis. To achieve hemostasis we used next steps: 1) pressure of vascular wound; 2) round dissection of vessel and applying of vascular clamps for injuries longer than 2mm; 3) suturing the vascular damage (prolene 5/0).

Results

Size of vascular damage: up to 2mm in 5, 5 and 8mm in 2 cases of vena cava injury. Average time from injury to completion of hemostasis - 17min (11-34). The estimated blood loss – 150ml (45-700). There was no need for transfusion. Median hospital stay in case of vascular injury was 4,9 days versus main group (4,5). No thrombotic complications and death occurred.

Conclusion

Vascular injury of major vessels during lymphadenectomy is rare but very serious complication that can be successfully treated laparoscopically by experienced surgeon.
EXTRAPERITONEAL PARA-AORTIC LYMPHADENECTOMY BY ROBOT-ASSISTED LAPAROSCOPY WITH DAVINCI XI SYSTEM VS. CONVENTIONAL LAPAROSCOPY

Aims

This study aimed to compare the outcomes of extraperitoneal para-aortic lymphadenectomy (EPL) performed by robot-assisted laparoscopy (EPLRL) with the DaVinci Xi system, to conventional laparoscopy.

Method

A retrospective case-control study was conducted to evaluate the outcomes of 18 patients submitted to EPLRL matched to patients submitted to laparoscopic-EPL (1:2). Data regarding patient's characteristics, type of surgery (infra-renal/infra-mesenteric lymphadenectomy), operating time, surgical complications, lymph nodes and post-operative stay were collected.

Results

Fifteen patients who underwent EPLRL and 30 patients who underwent laparoscopic-EPL were included. Three cases in the robot group were excluded due to pneumoperitoneum and one conversion to transperitoneal lymphadenectomy. There were no differences regarding age, BMI and OMS between both groups. There was no significant difference in the operating time (180 vs. 150min, p=0.28), lymph nodes (16 vs. 17, p=0.54) or post-operative stay (1 vs. 2days, p=0.49) between the robotic and laparoscopic approach. The estimated blood losses were similar: 50cc (30-300) in the robot group and 30cc (10-200) in the laparoscopic group. In the robot group there were one lesion of the left mesoureter (a ureteral stent was placed without sequel) and a 22.2% rate of pneumoperitoneum. In the laparoscopic group there were 2 cases of lymphocele (surgical drainage or under Ct scanner).

Conclusion

There were no major difference between the surgical outcomes and both approaches. The 22.2% rate of pneumoperitoneum with EPLRL may be due to the placement of the 4th trocar.
GESTATIONAL TROPHOBLASTIC DISEASE: ALTERNATIVE TREATMENT OPTIONS?

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²University of Miami, Pathology, Miami, USA
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Aims

Gestational trophoblastic neoplasia (GTN) usually has high cure rates. However, in patients presenting with advanced disease, only 60-70% achieve complete remission with current chemotherapies. We present a case of choriocarcinoma and introduce a novel treatment option.

Method

Case X medical records were reviewed and treatment history summarized. Molecular genomic testing was performed to identify potential targetable pathways.

Results

Ms X is a 26 y.o presenting with stage IV choriocarcinoma with a WHO score of 18 initiating treatment with multi-agent EMA-CO every 2 weeks. Patient developed brain metastasis on treatment, received gamma knife therapy and changed to EMA-EP regimen. Treatment was complicated by grade 3 thrombocytopenia requiring treatment delays resulting in rising beta HCG levels (Table 1). Molecular testing demonstrated PD-L1 IHC positive, 2+ (90%), TP53 exon 7, G245S mutation, Her2/Neu IHC positive 3+ (30%), TOP2A IHC positive 1+ (90%) and RRM1 IHC negative 2+ (10%). Based on results, treatment with PD1 inhibitor was given with normalization of BHCG following two cycles and near complete response.

Table 1. BHCG Trend

<table>
<thead>
<tr>
<th>Date</th>
<th>Serum BHCG level</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/28/16</td>
<td>63,000</td>
</tr>
<tr>
<td>9/22/16</td>
<td>461</td>
</tr>
<tr>
<td>9/29/16</td>
<td>377</td>
</tr>
<tr>
<td>10/5/16</td>
<td>751</td>
</tr>
<tr>
<td>10/17/16</td>
<td>848</td>
</tr>
<tr>
<td>10/24/16</td>
<td>699</td>
</tr>
<tr>
<td>11/7/16</td>
<td>169</td>
</tr>
<tr>
<td>11/14/16</td>
<td>119</td>
</tr>
<tr>
<td>11/21/16</td>
<td>128</td>
</tr>
<tr>
<td>11/28/16</td>
<td>157</td>
</tr>
<tr>
<td>12/5/16</td>
<td>101</td>
</tr>
<tr>
<td>12/14/16</td>
<td>117</td>
</tr>
<tr>
<td>12/21/16</td>
<td>163</td>
</tr>
<tr>
<td>12/27/16</td>
<td>178</td>
</tr>
<tr>
<td>1/3/17</td>
<td>345</td>
</tr>
<tr>
<td>1/18/17</td>
<td>697</td>
</tr>
<tr>
<td>2/8/17</td>
<td>72</td>
</tr>
<tr>
<td>2/28/17</td>
<td>1</td>
</tr>
<tr>
<td>3/22/17</td>
<td>1</td>
</tr>
<tr>
<td>3/27/17</td>
<td>1</td>
</tr>
<tr>
<td>4/11/17</td>
<td>1</td>
</tr>
</tbody>
</table>

Conclusion

Targeted therapy with PD-1 receptor blockade may be a more efficacious and tolerable treatment option than current standard multi-agent chemotherapies. Prospective clinical trials should explore this therapy.
WHERE IS THE BLUE LYMPH NODE? A TEACHING VIDEO PRESENTING STEP BY STEP THE TECHNIQUE FOR LAPAROSCOPIC SENTINEL LYMPH NODE DETECTION WITH INDOCYANINE GREEN (ICG)

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Aims

Minimal invasive sentinel lymphadenectomy (SLN) is a modern technique to evaluate tumor spread and tailor adjuvant treatment in gynecological cancers. Indocyanine green (ICG) with near infrared optic systems seem to lead to higher bilateral detection rates compared to technetium +/− patent blue and shows an excellent safety profile.

Method

The laparoscopic SLN biopsy technique with ICG has been applied in the University Hospital of Berne in endometrial and cervical cancer since 2012. Until March 2017 over 180 such operations were performed with bilateral detection rates of over 90%. Over time the technique has been optimized. Selected cuts from videos of these operations were summarized to a video. This video is made to present a step by step demonstration on how to successfully find the SLN. Also, more difficult cases are presented and discussed.

Results

A learning video for a successful laparoscopic bilateral detection of the SLN with near infrared optic system is presented.

Conclusion

Laparoscopic SLN biopsy with ICG is an easy learnable technique and shows high bilateral detection rates and is also effective in more difficult cases.
MISCELLANEOUS

ESGO7-0801

METASTATIC TUMORS OF CLITORIS-A LITERATURE REVIEW
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Aims

The metastatic tumors of the clitoris are an extremely rare phenomenon. Here, we present a literature review in an attempt to ensure sufficient awareness of the occurrence of pain in the vulvas and masses in the clitorises of patients with malignant tumours.

Method

We performed a thorough search of PubMed that focused on the metastases of various primary tumours to the clitoris. Vulval malignancy with clitoral extension was excluded.

Results

The identified primary tumours that spread to clitoris were, in decreasing order of prevalence, from the urinary system (31.58%, 6/19), cervical carcinoma (21.05%, 4/19), endometrial carcinoma (15.79%, 3/19) and from the digestive system (15.0–79%, 3/19). Metastases from other sites were relatively rare.

Conclusion

A swollen painful vulva should draw sufficient attention and should not be roughly attributed to the primary tumour or inflammation in patients with malignant tumours.
SCHWANNOMAS OF FEMALE GENITALIA - A REVIEW OF THE LITERATURE

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Aims

We present an illustration of the distribution sites of schwannomas in the female genital tract and summarize the association of pregnancy conditions with pelvic schwannomas.

Method

Review the literature.

Results

In total, 63 schwannomas arising from the female genital tract have been reported. 73.02% (46 cases) were located in the lower genital tract, and 26.98% (17 cases) were located in upper genital tract. The site distribution was, in decreasing order of prevalence, vulva (26.98%, 17/63), cervix (23.81%, 15/63), clitoris (12.70%, 8/63), vagina (9.52%, 6/63), broad ligament (7.93%, 5/63) and other sites. Eight cases of pelvic schwannomas occurred during pregnancy. Seven of the women delivered by Cesarean section, and three cases resected the schwannoma concomitantly. Four cases underwent exploratory laparotomy, but the mass was not identified in two of the cases (Table 1).

Conclusion

Schwannomas in the female pelvis are very rare. Cesarean section was the main delivery method in cases of pregnancy with pelvic schwannoma. Exploratory laparotomy and Cesarean section are not effective for finding and resecting the pelvic schwannoma during pregnancy given the poor exposure due to the gravid uterus. Given the rarity of such cases, the association of fertility and pelvic schwannoma is unknown.

Table 1. Characteristics of reported schwannomas in pregnancy

<table>
<thead>
<tr>
<th>No</th>
<th>Reported year</th>
<th>Age</th>
<th>Found weeks</th>
<th>Size (cm)</th>
<th>Delivery method</th>
<th>Exploratory laparotomy</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2010</td>
<td>29</td>
<td>12</td>
<td>4.1-12.4</td>
<td>C.B.</td>
<td>Not performed</td>
<td>Laparoscopic resection, Cesarean section</td>
</tr>
<tr>
<td>2*</td>
<td>2011</td>
<td>19</td>
<td>22</td>
<td>12-18</td>
<td>Vaginal birth</td>
<td>22 weeks resection</td>
<td>Laparoscopic resection at 22 weeks, PRBSO at 35 weeks, and vaginal birth</td>
</tr>
<tr>
<td>3</td>
<td>2008</td>
<td>52</td>
<td>11</td>
<td>6-6.10</td>
<td>C.R.</td>
<td>15 weeks but not found</td>
<td>Conservative, no resection</td>
</tr>
<tr>
<td>4</td>
<td>2007</td>
<td>53</td>
<td>13</td>
<td>7.5-7.8-8.9</td>
<td>C.B.</td>
<td>17 weeks but not found</td>
<td>Resection during C.S.</td>
</tr>
<tr>
<td>5</td>
<td>2005</td>
<td>32</td>
<td>21</td>
<td>8-9.10</td>
<td>C.B.</td>
<td>Not performed</td>
<td>Found during C.S., Biopsy posterior, C.S. than laparoscopic resection</td>
</tr>
<tr>
<td>6</td>
<td>1990</td>
<td>19</td>
<td>20</td>
<td>5.2-5.8-7</td>
<td>C.B.</td>
<td>20 weeks found but no resection or biopsy</td>
<td>Resection during C.S.</td>
</tr>
<tr>
<td>7</td>
<td>1979</td>
<td>35</td>
<td>30</td>
<td>5-8-11</td>
<td>C.B.</td>
<td>Not performed</td>
<td>Resection during C.S.</td>
</tr>
<tr>
<td>8</td>
<td>1978</td>
<td>20</td>
<td>30</td>
<td>3-4-4</td>
<td>C.B.</td>
<td>Not performed</td>
<td>Biopsy in C.S. and laparoscopic resection, C.S.</td>
</tr>
</tbody>
</table>

*This paper was not included in Table 1.
C.S.: Cesarean section, PRBSO: probe rupture of membranes

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FACTORS PREDICTING SEXUAL DYSFUNCTION IN THAI PATIENTS WITH CANCER AFTER TREATMENT

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Aims

Purpose of this research was to study factors predicting sexual dysfunction in Thai patients with cancer after treatment.

Method

This study was a cross-sectional research. Samples included 55 females with breast cancer and 55 males with cancer at prostate, bladder, colon and rectum. They were all completed treatment for 6 months - 2 years from a university hospital, and 2 cancer hospitals during March – June 2013. The instruments were (1) the personal information and disease related treatment (2) Dyadic Adjustment Scale developed by Kasemkitawatana (1993) (3) World Health Organization quality of life – Thai version (WHOQOL-BREF-THAI) (2002). (4) the Sexual Health Dysfunction developed by Kumdaeng (2007). Alpha Cronbach’s coefficient were .89, .90, and .89 for Dyadic Adjustment, WHOQOL-BREF-THAI, and Sexual Health Dysfunction respectively. Data were analyzed by descriptive and multiple regression.

Results

Results found that gender, affection expression and love, and social dimension of quality of life could predict the sexual dysfunction at .01 level, whereas age, treatment, disease, marital status, and other dimensions of QOL could not predict the sexual dysfunction in patients with cancer after treatment.

Conclusion

Results showed that female patients with breast cancer seemed to suffer from sexual dysfunction more than male who had cancer. Affection and love and support from spouses had negative influence on sexual dysfunction. These results can be used as evidence-based to provide and improve sexual health in patients with cancer after treatment especially in women with breast cancer.
DISTRIBUTION OF HIGH-RISK HPV TYPES IN WOMEN WITH VULVAR CANCER IN KAZAKHSTAN

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3SEMA hospital, Division of Gynaecological Oncology, Almaty, Kazakhstan

Aims

HPV is a known factor for some vulvar cancers. The objective was to evaluate the distribution of hrHPV types in vulvar cancer samples obtained from Kazakhstani women.

Method

A total of 64 archival formalin-fixed paraffin-embedded (FFPE) tissue samples obtained from the same number of Kazakhstani women with histologically confirmed invasive squamous cell carcinoma of the vulva were included in the study. DNA was extracted using a DNA Mini Kit (Qiagen, Hilden, Germany), following our in-house protocol. Detection of hrHPV types was performed using a RealTime High Risk HPV Test (Abbott, Wiesbaden, Germany), which enables concurrent separate genotyping of HPV16 and HPV18 and pooled detection of 12 other hrHPV types: HPV31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, and 68.

Results

Out of 64 samples tested, 2 (3.1%) were excluded from the analysis due to invalid results for amplification of beta-globin. In total, 20/62 (32.3%) samples tested positive for the presence of hrHPV types. HPV16, HPV18, and other hrHPV types were present in 17/20 (85.0%), 1/20 (5.0%), and 2/20 (10.0%) samples, respectively. Only single infections were detected.

Conclusion

To the best of our knowledge, this is the first study to evaluate the distribution of hrHPV types among Kazakhstani women with vulvar cancer. Approximately 32% of samples tested positive for the presence of hrHPV types, of which HPV16 (85.0%) was the most common hrHPV type detected, suggesting HPV vaccine could have a substantial impact on the incidence rate of vulvar cancer in Kazakhstan. However, further studies are needed to confirm our observations.
MISCELLANEOUS

ESGO7-1001

PRIMARY PARAMETRIAL DIFFUSE LARGE B-CELL LYMPHOMA SIMULATING A LOCAL ADVANCED CERVICAL CARCINOMA: A CASE REPORT

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2 Son Espases University Hospital, Hematology and Hemotherapy, Palma de Mallorca, Spain

Aims

We present a case of a 30 year-old woman with an unusual clinical presentation of a lymphoma involving uro-gynaecological structures.

Method

Case report.

Results

30 year-old woman with a history of high blood pressure in the last two years; a blood text reveals an altered creatinine level; to study the kidney functional alteration, a TC is performed and ureterohydrenephrosis is observed and the renal gammagraphy evidences a residual right kidney function of 14%. The MRI suggests the diagnosis of a cervical neoplasia because of the presence of a 4-cm parametrial mass with fibrotic characteristics and irregular borders causing terminal ureter stenosis and pathological signal in the anterior portion of cervix and first proximal part of anterior vagina. Endocervical biopsy and exocervical cytology were normals. In the physical exploration we detect a stony, fixed, asymptomatic mass between right pelvic wall and uterus; we performed a diagnostic laparoscopy opening the right posterior broad ligament, identifying a pearly parametrial mass involving right ureter which we biopsied. The anatomopathological examination reveals a diffuse large B-cell lymphoma non germinal center type and the patient is remitted to the Hematologist and she is in treatment with R-CHOP-Lenalidomide.

Conclusion

We report a case of a rare uro-gynecological presentation of a NHL that should always be considered in the differential diagnosis in such cases.
LATERALLY EXTENDED ENDOPELVIC RESECTION FOR THE PELVIC SIDE WALL TUMORS: EXPERIENCE FROM A PROSPECTIVE COHORT STUDY

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Aims

To evaluate the efficacy and safety of laterally extended endopelvic resection (LEER) for removing the pelvic side wall tumors in a prospective cohort study.

Method

We enrolled patient with primary (n=12) and recurrent (n=10) diseases between March 2014 and April 2017. All patients showed tumor invasion to the pelvic side wall by gynecologic examination and preoperative imaging studies. We evaluated the feasibility of LEER by using the learning curve related with surgical outcomes. Furthermore, we investigated survival after LEER, and relevant complications.

Results

Among a total of 22 patients, 16 (72.9%), 3 (13.6%), 1 (4.5%), 1 (4.5%) and 1 (4.5%) showed cervical cancer, ovarian cancer, endometrial stromal sarcoma, Müllerian adenosarcoma and malignant melanoma. Among all patients, 16 patients (72.7%) showed negative resection margin and 18 (81.8%) preserved at least one pelvic organ after LEER. Perioperative outcomes improved as our experience of LEER increased in recurrent diseases despite no change in primary diseases. After LEER, grade 2 or 3 neuropathy, hydronephrosis, infected lymphocele, grade 3 lymphedema developed in 7 (35%), 1 (5%), 4 (20%), 2 (10%) and 2 (10%) patients without no treatment-related death. In locally advanced cervical cancer, LEER showed similar survival outcomes to primary chemo-radiation, and response to neoadjuvant chemotherapy was related with better survival.

Conclusion

LEER may require a training period for improving surgical outcomes. It can be considered to be feasible and safe for patients with the pelvic side wall tumors if no effective alternative to control local tumors (No. NCT02986568).
MISCELLANEOUS

ESGO7-0440

MANAGEMENT OF LEIMYOSARCOMA: A SURVEY OF MEMBERS OF THE KOREAN GYNECOLOGIC ONCOLOGY GROUP (KGOG)
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⁵Korea Cancer Center Hospital- Korea Institute of Radiological & Medical Sciences, Obstetrics & Gynecology, Seoul, Republic of Korea

Aims

To investigate current clinical management of leiomyosarcoma (LMS) in Korea

Method

We conducted a web-based survey of members of the Korean Gynecologic Oncology Group (KGOG) on their treatment of LMS.

Results

In total, 75 of 277 (27.1%) members responded to the survey. For surgical treatment of stage I LMS, 26.8% indicated total hysterectomy (TH) only, 16.9% TH with bilateral salpingo-oophorectomy (BSO). Also, lymph node dissection (LND) was indicated by 54.9% of respondents, while 46.5% stated that BSO could be omitted in young patients. More than half of the respondents (57.7%) recommended against adjuvant treatment. For stage I LMS diagnosed after morcellation, 79.2% of respondents recommended LND, 56.4% recommended adjuvant therapy. As for advanced-stage LMS, in cases of complete resection, adjuvant chemotherapy was preferred by 63.1%. For incomplete resection, combined radiotherapy/chemotherapy was the most preferred adjuvant therapy (63.1%).

Conclusion

Among KGOG members, there are many discrepancies in current clinical management of LMS. A large-scale prospective study to establish treatment guidelines is needed.
THE CLINICOPATHOLOGICAL STUDY OF 21 CASES WITH UTERINE SMOOTH MUSCLE TUMORS OF UNCERTAIN MALIGNANT POTENTIAL: CENTRALIZED REVIEW CAN PURIFY THE DIAGNOSIS.

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²Hacettepe University Faculty of Medicine, Department of Clinical Pathology, Ankara, Turkey
³Hacettepe University Faculty of Medicine, Department Obstetrics and Gynecology, Ankara, Turkey
⁴Etlik Zubeyde Hanım Research and Training Hospital, Department of Clinical Pathology, Ankara, Turkey

Aims

To investigate the clinicopathological features and factors associated with recurrence in patients with uterine smooth muscle tumor of uncertain malignant potential (STUMP).

Method

Forty-six cases diagnosed between 2000 and 2014 from two tertiary centers underwent blind slide review. Initial diagnosis included smooth muscle tumors with equivocal diagnosis, STUMPs and cases that were named as leiomyosarcomas (LMS) or low grade LMS despite not fulfilling the Stanford criteria. (Figure-1)

Results

In total, 21 patients with a final diagnosis of STUMP were available. 15/22 of (68.1%) patients with an initial diagnosis of STUMP, 4/18 (22.2%) of cases with an equivocal smooth muscle tumor diagnosis and 2/6 of (33.3%) cases with an initial diagnosis of LMS were interpreted as STUMP after slide review (Table 1). The mean age at diagnosis was 43 years (range 20-64 years). The mean follow-up time was 65.9 months (range 10-154 months). Four (19.0%) patients developed recurrent disease. Recurrent tumors were LMS in 3 (75%) patients. One (4.8%) patient with recurrence succumbed to disease (Table 2). There was no difference in patients’ age (p=1.0) or type of initial surgery (uterus conserving versus hysterectomy) (p=0.57) between patients who recurred and did not recur.
### Table 1. Comparison of initial paraffin section results with slide review diagnoses

<table>
<thead>
<tr>
<th>Initial paraffin section results</th>
<th>Diagnosis after slide review</th>
<th>STUMP</th>
<th>Leiomyomas with biome标志</th>
<th>Leiomyosarcomas</th>
<th>Benign leiomyomas variants*</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smooth muscle tumors with an equivocal diagnosis*</td>
<td>4</td>
<td>6</td>
<td>0</td>
<td>8</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>STUMP</td>
<td>15</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Leiomyosarcoma</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>8</td>
<td>5</td>
<td>12</td>
<td>46</td>
<td></td>
</tr>
</tbody>
</table>

**STUMP:** Smooth muscle tumor of uncertain malignant potential.

*This category includes cases with an equivocal diagnosis or cases that have an initial benign diagnosis with a remark on possible malignant outcomes by the initial pathologist.

*A case of intravenous leiomyosarcoma initially diagnosed as STUMP was included in this category.

### Table 2. Clinical, pathological features and outcomes of patients with STUMP diagnosis according to slide review.

<table>
<thead>
<tr>
<th>Case</th>
<th>Clinical Data</th>
<th>Initial Diagnosis</th>
<th>Histology</th>
<th>Immunostain</th>
<th>Type</th>
<th>Mitotic Index</th>
<th>Recurrence</th>
<th>Metastasis</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>35, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>2</td>
<td>30, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>3</td>
<td>32, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>4</td>
<td>37, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>5</td>
<td>38, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>6</td>
<td>39, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>7</td>
<td>40, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>8</td>
<td>41, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>9</td>
<td>42, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>10</td>
<td>43, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>11</td>
<td>44, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>12</td>
<td>45, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>13</td>
<td>46, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>14</td>
<td>47, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>15</td>
<td>48, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>16</td>
<td>49, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>17</td>
<td>50, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>18</td>
<td>51, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>19</td>
<td>52, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
<tr>
<td>20</td>
<td>53, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
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<tr>
<td>21</td>
<td>54, FNH</td>
<td>STUMP</td>
<td>Leiomyoma</td>
<td>HMB-45</td>
<td>None</td>
<td>2-3</td>
<td>Yes</td>
<td>No</td>
<td>Death</td>
</tr>
</tbody>
</table>

---

**Conclusion**

Most cases with uterine STUMPs have favorable oncological outcomes, however; some may have a more aggressive clinical course associated with recurrence and death. Uterine mesenchymal tumors other than ordinary myomas and overt sarcomas deserve a second opinion in centers with experience because the real diagnosis may vary significantly.
CESAREAN SCAR CHORIOCARCINOMA, A CASE REPORT AND REVIEW OF LITERATURE

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²Vajira Hospital Navamindradhiraj University, Pathology, Bangkok, Thailand

Aims

Reported clinico-pathological findings of a patient with gestational choriocarcinoma occurring at unusual site of cesarean scar.

Method

A case of cesarean section scar gestational choriocarcinoma who treated at our institute was review.

Results

A 52-year old woman with previous cesarean section had abnormal uterine bleeding after abortion 2 weeks ago. Her serum beta-hCG elevated from 1,448 to 4,315 mIU/ml. An ill-defined heterogenous echoic hypervascularized lesion sized 2.27x1.85 cm with high doppler signal at lower uterine segment extending into myometrium was observed from Transvaginal ultrasonography (Fig 1). Provisional diagnoses were cesarean scar pregnancy or gestational trophoblastic tumor. She decided to have abdominal hysterectomy.

Intraoperative finding reported a 3 cm hemorrhagic lesion at right lateral aspect of lower uterine segment extending from endometrial surface through the serosal surface (Fig 2). Other areas were unremarkable. Histopathologic examination reported choriocarcinoma (Fig 3) and she was diagnosed a GTN(I:3). She declined postoperative adjuvant chemotherapy and attached to a surveillance program. She was doing well with normal beta-HCG levels for 25 months after surgery.
Cesarean section scar choriocarcinoma is extremely rare disease with only 5 cases found from English MEDLINE database search between 1996 and 2016. Our case had shortest time to develop choriocarcinoma after abortion. The patient was closely monitored until 25 months after diagnosis when she was doing well without any evidence of disease despite no adjuvant chemotherapy treatment.

**Conclusion**

Cesarean section scar choriocarcinoma is extremely rare disease with only 5 cases found from English MEDLINE database search between 1996 and 2016. Our case had shortest time to develop choriocarcinoma after abortion. The patient was closely monitored until 25 months after diagnosis when she was doing well without any evidence of disease despite no adjuvant chemotherapy treatment.
ENDOARTERIAL CHEMOTHERAPY AND TRANS–ARTERIAL CHEMOEMBOLIZATION IN GYN CANCER PATIENTS WITH PELVIC RELAPSES IN PREVIOUSLY IRRADIATED ZONES.

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¹Russian scientific center of roentgenradiology, Brachytherapy, Moscow, Russia
²Russian scientific center of roentgenradiology, Endovascular Technologies, Moscow, Russia

Aims

Pelvic relapse is a fatal outcome for majority of GYN cancer patients, with severe complications of tumor progression, low life quality, ≤10-20% significant response to conventional therapy. Endovascular chemotheraphy can overcome tissue and vessel changes for tumors in previously irradiated zones.

Method

8 pelvic relapsed patients after 40-84Gy irradiation were included, 4 (50%) - with cervical, 1 (12,5%) – uterine, 2 (25%) – vulvar, 1 (12,5%) – ovarian cancer recurrences, localised centrally in 2 (25%) pts, lateral or centro-lateral with pelvic wall involvement – in 6 (75%). All relapses were symptomatic, with severe pain in 6 (75%), bleeding – in 4 (50%), severe lymphedema in low extremities – 3 (37,5%). Endoarterial prolonged infusions of Cisplatin 75-100mg/m² were performed in all 8 (100%) pts., twice – in 6 (75%) pts with 18–21 day intermission, chemoembolization (Hepasphere®) with Carboplatinum AUC3-4 – in 2 (25%).

Results

Clinical response RECIST 2.0 was achieved in 7 (87.5%) pts., no complete response, PR >50% – in 3 (37,5%) pts, 25–45% of tumor volume reduction – in 4 (50%) pts. Local progression with bladder and rectal fistulas was diagnosed in 1 (12.5%). Salvage surgery was performed successfully in 2 (25%) pts in 6-10 weeks, interstitial brachytherapy or hypofractioned IMRT – in 5 (62,5%) pts in 2-6 weeks after endovascular procedures.

Conclusion

Endoarterial chemotherapy and trans–arterial chemoembolization are the perspective ways to improve overall results and life quality for GYN cancer patients with loco-regional relapses in previously irradiated zones, opening new treatment options for salvage therapy.
CARCINOMA FALLOPIAN TUBA AS INCIDENTAL FINDINGS; A CASE REPORT

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²Hospital Lazarevac, obgyn, Belgrade, Serbia
³Military Academy, chirurgico, Belgrade, Serbia

Aims

Primary Fallopian tube cancer (PFTC) is a very rare gynecological malignancy. It accounts for 0.14% to 1.8% of all female genital malignancies. The most common age is between 40 to 65 years. The etiology of PFTC is unknown and often mistaken for pelvic inflammatory disease or ovarian cancer. On the other side we discover this carcinoma when the disease has spread or by accident.

Method

64 years old postmenopausal woman admitted in our hospital because of total vaginal prolapse of uterus. Ultrasound examination showed normal genital organs for ages, without any free fluid in abdominal cavity. We performed vaginal hysterectomy with bilateral adnexectomy. Operative and post operative course was duly passed.

Results

Histopathological examination of removed genital organs revealed small (0.5mm) poorly differentiated adenocarcinoma of the left Fallopian tube without lymphovascular invasion and without lamina propriae involvement. The other organs were healthy. The tumor marker Ca 125 and CEA were normal. We did laparoscopy to do staging and performed partial omentectomy and there was no malignant changes.

Conclusion

In our case we would like to show and recommend if we do vaginal hysterectomy in postmenopausal women it should be benefit for patients to perform and bilateral adnexectomy because of possibility like this case showed.
IMPLEMENTATION OF AN ENHANCED RECOVERY PROGRAM IN GYNAECOLOGIC SURGERY: PRELIMINARY RESULTS FOR ONCOLOGICAL INDICATIONS.

E. LAMBAUDIE\textsuperscript{1}, C. LAPLANE\textsuperscript{1}, C. BRUN\textsuperscript{2}, L. N’GUYEN DUONG\textsuperscript{2}, J.M. BOHER\textsuperscript{3}, C. JAUFFRET\textsuperscript{1}, G. BLACHE\textsuperscript{1}, S. KNIGHT\textsuperscript{1}, E. CINI\textsuperscript{1}, G. HOUVENAEGHEL\textsuperscript{1}, J.L. BLACHE\textsuperscript{2}

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Aims

Enhanced Recovery Program (ERP) is a multimodal approach of perioperative patient’s clinical pathways that results in a faster recovery after surgery and decreased length of stay (LOS).

The objective of this study is to evaluate the results of the implementation of ERP in gyn oncological indications on LOS, morbidity and readmissions.

Method

A prospective observational study was performed at Paoli-Calmettes Institute Cancer Center (Marseille, FRANCE) between December 2015 and June 2016. All the patients referred for hysterectomy and/or pelvic or para-aortic lymphadenectomy for gynaecological cancer were managed with a standardized ERP. Our results were compared to a control group including 100 patients, previously managed in our center between April 2015 and November 2015, without ERP.

Results

A total of 100 patients were included. 87% of the procedures were performed by conventional or robotic assisted laparoscopy. The readmission rate was 6% and the total complication rate was 25% (2% intraoperative, 3% major (grade III, IV) and 20% minor (grade I, II) according to Clavien Dindo classification). After ERP implementation, median length of stay of our cohort was significantly reduced (3.15 days vs. 3.89 days; \( p=0.002 \)), particularly for laparoscopic approaches (2.67 days vs 3.33 days; \( p=0.0005 \)). The percentage of patients discharged before 2 days increased (45% vs. 24%; \( p=0.002 \)) without increasing major complications rates.

Conclusion

ERP in gynaecological surgery is safe and feasible. We demonstrate the interest of patient centered clinical pathway to standardize outcomes and reduce length of stay in respect with patients’ safety, particularly in gyn oncological indications.

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HYSTERECTOMY IN POLAND - CHANGES IN THE SURGICAL APPROACH.

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Aims

The aim of the study was to evaluate the changes in the incidence of different surgical approach to hysterectomy in Poland after the U.S. Food and Drug Administration (FDA) warning statement discouraging the use of power morcellation.

Method

Using data from the Polish National Health Institution (NFZ) we calculated and compared the incidence of different types of hysterectomies performed in 2011-2015.

Results

We identified a total 182,384 women who underwent inpatient hysterectomy between 2011 and 2015. In this period of time we observed a decrease of 18% in the incidence of total number of abdominal hysterectomies (TAH) (from 24626 in 2011 to 20121 in 2015) and increase of the surgeries performed laparoscopically (TLH) by 155% (from 62 in 2011 to 166 in 2015). The number of supracervical hysterectomies (SLH) increased in years by 151% (from 788 in 2011 to 1983 to 2014) then declined by 69% (632 in 2015). The number of procedures performed vaginally (VH) was stable over the whole analyzed period.

Conclusion

The number of inpatient hysterectomies performed in Poland has declined substantially over the past 5 years. There was a rising trend in the incidence of TLH comparing to abdominal approach. There was observed a significant decrease in the number of SLH in 2015 that could be related to the Food and Drug Administration Morcellation Warning issued in November 2014.
MISCELLANEOUS
ESGO7-1189

EFFICACY OF RAD-P53 COMBINED WITH CHEMOTHERAPY IN THE TREATMENT OF RECURRENT UTERINE SARCOMA

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Aims

The aim of this study was to investigate the clinical effect of rAd-p53 combined with chemotherapy in advanced or recurrent uterine sarcoma.

Method

The clinical data of 12 patients with advanced or recurrent uterine sarcoma, who received treatment with rAd-p53 combined with chemotherapy in our hospital between 2009 and 2015 were retrospectively analyzed. We estimated the overall remission rate [complete response (CR) + partial response (PR)], clinical effective rate [CR + PR+ stable disease (SD)], progression-free survival (PFS), and evaluated treatment safety and toxicity reactions.

Results

Of the 12 patients, no one achieved CR, 8 achieved PR, 3 achieved SD, and 1 achieved progressive disease. The overall response rate was 66.7%, effective rate was 91.7%. During follow-up, the overall median PFS was 13.0 months. Four patients received surgery opportunity again and 2 cases with liver metastatic lesions received CR. Treatment-related adverse reaction is self-limiting fever.

Conclusion

Therefore, rAd-p53 combined with chemotherapy was able to effectively control advanced or recurrent uterine sarcoma, and is considered to be a safe and effective candidate treatment for this type of tumor.
MISCELLANEOUS

ESGO7-1246

ANALYSIS AND TREATMENT OF 45 PLATINUM-ALLERGIC GYNECOLOGIC MALIGNANT TUMORS

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Aims

This study aimed to explore the potential risk factors of platinum allergy and follow-up treatment to provide a reference for the clinical prevention and treatment of platinum-allergic reactions in patients with gynecological tumors.

Method

The study retrospectively analyzed 45 cases of platinum-allergic reactions that occurred in Shengjing Hospital affiliated to China Medical University from August 2010 to July 2016. Analysis of risk factors included the cumulative dose, treatment course and time intervals.

Results

The cumulative carboplatin dose in allergic patients ranged from 900 mg to 10250 mg (average: 4845 mg). The 45 allergic reactions occurred between the 3rd and 25th course of treatment (average: 11.4 courses). The average re-treatment interval of carboplatin allergic patients was 28.1 months, including 93.3% of patients with platinum re-treatment interval of more than 1 year. The allergic reaction occurred in the 2nd or 3rd course of re-treatment in 26 patients, accounting for 70.3% of all patients with recurrence. Seventeen patients were subjected to desensitization therapy, among which 13 cases were well tolerated.

Conclusion

Patients who received more than 8 courses of carboplatin or a cumulative dose of more than 3500 mg were the high-risk population for platinum allergy. The 2nd and 3rd treatment course after restarting carboplatin treatment after an interval time of more than 1 year was the high incident period of carboplatin allergy. Skin tests should be conducted in patients with high risk of carboplatin allergy. In cases of carboplatin allergy, patients could receive carboplatin or oxaliplatin desensitization therapy.
THE RESULTS OF TREATMENT WITH HIGH-DOSE CHEMOTHERAPY AND PERIPHERAL BLOOD STEM CELL SUPPORT FOR GESTATIONAL TROPHOBLASTIC NEOPLASIA

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**Aims**

Most women with gestational trophoblastic neoplasia (GTN) are cured, but a small number become refractory to all standard chemotherapy regimens. The value of high-dose chemotherapy (HDC) with peripheral blood stem cell support (PBSCS) and the optimal number of courses (1 or 2) for refractory choriocarcinomas and poor prognosis PSTT/ETTs is unclear.

**Method**

Databases of two referral centers for GTN were searched. All patients treated with HDC between 1994 and 2015 were eligible for the study. Patient files were analyzed and tissue samples were retrieved for genetic evaluation. In total 32 patients were identified.

**Results**

The majority of the patients were initially high-risk according to their FIGO score and had multiple lines of chemotherapy and surgery. Twenty-two patients were treated with 1 course HDC and 10 patients with 2 courses. An hCG response occurred in 44% (14/32), and overall, 41% (13/32) of the patients remained disease free after HDC. Thirty-two percent of the patients treated with 1 course HDC survived compared to 60% of the patients treated with 2 courses, (p=0.244).

**Conclusion**

HDC with PBSCS appears to be active in salvaging selected patients with poor prognosis PSTT/ETTs and drug resistant choriocarcinomas. Whilst two courses of HDC seem more beneficial for survival, this may be explained by tumour stage, clinical performance status and toleration of the first course of treatment. HDC should only be given in centers with adequate experience, both in treatment of patients with GTN and in administration of HDC.
MISCELLANEOUS

ESGO7-0043

QUALITY OF LIFE AND DEPRESSION IN GYNECOLOGIC ONCOLOGY PATIENTS RECEIVING CARBOPLATIN AND PACLITAXEL

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Aims

To study the effects of treatment with Carboplatin and Paclitaxel on quality of life and depression of gynecologic oncology patients at Ramathibodi hospital.

Method

Subject of this descriptive research are to examine the quality of life and depression in gynecologic oncology patients after treatment with the third cycle of Carboplatin and Paclitaxel. Sixty nine patients were recruited from the gynecologic oncology department of Ramathibodi hospital. The instruments used in study were 1. Demographic data form, disease and treatment questionnaires, 2. Function Assessment Cancer Therapy - Ovarian questionnaires (FACT-O) v4.0 and 3. Thai Depression Inventory (TDI), were used for assessing the quality of life and depression of the patients within 7 days after receiving the third cycle of Carboplatin and Paclitaxel protocol.

Results

The results revealed the top five factors affecting the patient’s quality of life which were exhaustion, a decrease of friendship, a problem of coping with illness, a decrease of enjoyment and a decrease of libido. Also, a decrease of libido, insomnia, physical symptoms such as tachycardia, anorexia and feelings of worthlessness were identified as the top five symptoms found in the depressive aspect.

Conclusion

With these results, the psychosocial effects of this regimen on gynecologic oncology patients are highlighted and can be the considering factors for approaching the holistic treatment.
MISCELLANEOUS

ESGO7-0102

ENTEROSORPTION AS A SUPPORTIVE TREATMENT DURING EXTERNAL RADIOTHERAPY IN PATIENTS WITH UTERINE AND CERVICAL CANCER

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Aims

The most common adverse reactions of external pelvic radiotherapy include: frequent stools, frequent urination, dysuria, tenesmus, abdominal pain and blood count changes. To reduce them, patients should mind their diet, take enough fluids and use medications. One of the possibilities is Enterosgel, a selective enterosorbent.

Method

We administered Enterosgel as a part of a clinical study “The role of Enterosgel in prevention of gastrointestinal adverse reactions of percutaneous radiation”. 90 patients with uterine or cervical cancer, treated by external pelvic radiotherapy, were divided into 2 groups: the first group included 46 patients who were given 45 g of Enterosgel per day, and the second group included 44 patients who didn’t take Enterosgel. We monitored the following parameters: ECOG, body weight, diarrhoea, nausea, leukocytes, thrombocytes and erythrocytes count and potassium and sodium levels.

Results

There was no statistically significant difference between the two groups for blood count, electrolytes levels and ECOG. We found a statistically significant difference for body weight, number of diarrheal stools and number of days without nausea. Compared to patients who weren’t taking Enterosgel, patients in Enterosgel group lost 0.49 to 2.17 kg less (p-value = 0.00234), had 0.47 to 6.29 less diarrheal stools (p-value = 0.02325), and had 1.03 to 5.71 less days with nausea (p-value = 0.00558).

Conclusion

Preliminary results indicate that Enterosgel can be recommended as a supportive treatment during pelvic radiation, because it is well tolerated and effectively reduces gastrointestinal problems and weight loss. However, additional studies that will include more patients are needed.
MISCELLANEOUS

ESGO7-0407

RIVER FLOW INCISION: A MODIFIED INCISION TECHNIQUE FOR DECREASING MORBIDITY OF ILIO-INGUINAL DISSECTION

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Aims

Ilio-Inguinal LND is an important component of surgical treatment for Ca Penis, Vulva, Primary cutaneous cancer, STS, melanoma etc. Skin flap necrosis is one of the most common complications after IILND with reported frequency up to 65% in published literature. Our experience with a modified surgical approach of River flow incision has been most successful in eliminating flap necrosis.

Method

A modified skin incision was used to perform IILND in 74 prospective patients. Irrespective of primary histology or timing, same technique was used in all cases. Two curvilinear parallel skin incisions were made; each sited about 4 cm above and below inguinal ligament. Flaps were raised below Scarpa’s fascia. LND was performed in both inguinal and iliac basin with a standard technique. All Patients were followed up prospectively for 30 days after surgery and complications if any, were recorded according to Clavein-Dindo System of reporting surgical complications.

Results

74 patients underwent 104 IILND from July 2012 till Dec 2016. Unilateral dissection was performed in 44 patients and 30 underwent bilateral ILND. There was only one instance of flap necrosis/loss. Complications recorded were Seroma (14.4%), Lymphedema (4.8%), Surgical site infection (4.8%), Deep vein thrombosis (2.7%), partial wound dehiscence (7.9%), partial skin flap loss (2%) all corresponding to Clavein–Dindo Grade 1 & 2.

Conclusion

‘River Flow’ Incision is a simple but effective surgical modification which has enabled us to perform therapeutic ILND safely. Avoidance of flap necrosis, significantly decreased morbidity and almost no learning curve are highlights of this modification of surgical technique.
COST IMPLICATIONS OF DELAYS IN DISCHARGE DUE TO SOCIAL REASONS FOLLOWING GYNAECOLOGICAL ONCOLOGY SURGERY

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Aims

To identify reasons for delayed discharge for patients who are medically fit for discharge and cost implications of such delays.

Method

Retrospective study of all 295 cases that underwent surgery by the gynaecological oncology team at The Christie, between 1/1/2016 and 31/7/2016. We excluded minor, day cases and joint procedures for non gynaecological primary cancers. Data collection included patient demographics, level and complexity of surgery, surgical outcomes (peri and post-operative morbidity, mortality, length of hospital stay, readmissions), reasons for delays in discharge. Analytical reports of costs from finances were retrieved in order to calculate cost implications.

Results

We reviewed all cases with length of hospital stay above the 3rd interquartile per type of surgery and identified 9 cases (4.1%) who although deemed fit for discharge stayed as inpatient for a cumulative total of 62 days (mean 6.9 days/case). Reasons for delayed discharge were attributed 20% to Occupational Therapy and 80% to social services. The additional cost was calculated to £49133, an average cost of £792.5 / day.

Conclusion

Early identification of needs and timely referrals can potentially reduce delayed discharges and reap associated financial benefits as well as benefit patients. Enhanced Recovery Nurse can facilitate communication with the appropriate teams to ensure timely discharges. Since then we implemented pre-op assessment and initiation of referral processes.
MISCELLANEOUS

ESGO7-1002

IDENTIFICATION OF INGUINO-FEMORAL SENTINEL LYMPHNODE IN VULVAL CANCER: SINGLE INSTITUTE EXPERIENCE

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Aims

to investigate the implications of biopsy taking prior performing identification and excision of inguino-femoral sentinel Lymphnode in vulval cancer, according to ESGO guidelines.

Method

Retrospective study of all patients with presumed stage 1 vulval cancer who underwent identification and excision of inguinal sentinel lymph node in our institute, between 1/3/2015 and 31/1/2017. Data collection included patients demographics, tumour location and characteristics, lymphoscintigraphic and histopathological features, and surgical outcomes.

Results

We identified 30 cases of median age 63.1 years (range 34-92 y.o). Preoperative imaging excluded distance disease. Tumour has been previously excised in 46.7% of the cases. Identification of a both hot and blue lymph node was achieved in 93.3% cases. In 2 (6.7%) cases a sentinel lymph node could not be identified by lymphoscintigraphy and therefore a full lymphadenectomy was performed. Both cases were from the subgroup of patients with previously excised primary tumors, with a failure rate of 14.3% vs 0% of those with incisional biopsies, p<0.05. None of them had final positive lymph nodes. 3 out of 28 (10.7%) sentinel lymph nodes were positive. There were no cases (0%) with groin wound healing problems, lymph cyst or lymphoedema. There were no grade 3-4 complications or deaths (0%). There is no groin recurrence in a median of 11 months follow up (range 1-22).

Conclusion

It is important to counsel patients regarding the failure to surgically identify the sentinel lymph node, in case that an excisional biopsy has been performed, and proceed with full lymphadenectomy.
MISCELLANEOUS

ESGO7-0520

ROLE OF GLYCOSYLTRANSFERASE C2GNT FOR THE EVASION MECHANISM OF NATURAL KILLER CELL IMMUNITY IN THE CHORIOCARCINOMA CELL

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Aims

The Core2 O-glycan on the certain cancer cell surface is known to be correlated with the metastasis of cancer strongly. We focus on the core2 β1, 6-N acetylglcosaminyl transferase (C2GnT) which forms Core2 O-glycan and examined it about evasion mechanism through the NK cell immunity in the choriocarcinoma cell.

Method

We investigated C2GnT expression in GTDs and placentas by immunohistochemistry. Western blot were performed for expression levels of C2GnT protein in choriocarcinoma cell lines (Jar, BeWo, JEG3), EVT cell line (HTR-8/SVneo), and tissues of hydatidiform mole and placenta of various gestational weeks. We established C2GnT knockout in choriocarcinoma cells in vitro by CRISPR-Cas9 system. (1) We confirmed suppression of C2GnT expression in knockout cells compared to control cells using Western blot. (2) NK cell cytotoxicity against those cells were assayed. (3) Major histocompatibility complex class I-related chain A (MICA) expression were assayed by Western blot. (4) Poly N-acetyllactosamine in core2 branched oligosaccarides were evaluated by Immunoprecipitation.

Results

C2GnT was highly expressed in trophoblasts of choriocarcinoma but not in hydatidiform mole. (1) Expression level of C2GnT protein in knockout cells were significantly reduced compared to controls. (2) C2GnT-knockout cells were more efficiently killed by NK cells than controls at several effector:target ratios. (3) MICA expression were no difference with both cells significantly. (4) MICA in C2GnT knockout cells were less O-glycosylated comopared to control cells.

Conclusion

These findings suggest that the choriocarcinoma cell escaped from NK cell immune system by mechanism of glycosilation for cell surface O-glycan and acquired a high metastaticity.
LAPAROENDOSCOPIC SINGLE SITE SURGERY OF EXTREMELY LARGE OVARIAN CYSTS: USE OF ANGIOCATHETER

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Aims

To evaluate the efficiency and feasibility of Laparoendoscopic single site (LESS) surgery using Angiocatheter in patients with palpable large (>15cm) ovarian tumors above umbilicus and report our initial experience.

Method

Retrospective study. Thirty-one patients underwent LESS-surgery with use of angiocatheter for large ovarian tumors between March 2011 and August 2016. Through vertical 1.5-2 cm incision within the umbilicus, the tumor was punctured by angiocatheter and the cystic contents were aspirated by connecting suction. After aspiration the catheter was removed, and a suction tip was put for removal of remnant fluid. Incision seals pulse string. All LESS procedures were performed using a rigid 0°, 5-mm scope and conventional, rigid, straight laparoscopic instruments.

Results

We reviewed the medical records of 31 patients with large ovarian tumors and evaluated the clinical characteristics and operative outcome. The median maximal diameter of preoperative cysts was 18cm. The median operative time was 150mins and median blood loss was 100ml. Three cases (9.7%) were diagnosed as malignant disease and seven cases (22.6%) as borderline disease on frozen sections. Fertility sparing cytoreductive surgery (3 patients) and laparoscopic surgical staging (3 patients) were performed, and one patient was converted to open surgery due to advanced stage. No tumor spillage during use of catheter and no complications were observed, but cyst rupture occurred in 1 case (3.2%). Median follow up period was 22 months and no recurrence was until now.

Conclusion

LESS-surgery using angiocatheter for the management of large ovarian cyst is feasible, with no perioperative complications, faster recovery and better cosmetic results, and is very useful for initial diagnosis for extremely large cyst.
COMBINED RUPIVACAINE PERI-INCISIONAL INJECTION AND INTRAPERITONEAL NEbulization: A NEW EFFECTIVE TOOL IN PAIN CONTROL AFTER LAPAROSCOPIC SURGERY IN GYNECOLOGY: A RANDOMIZED CONTROLLED CLINICAL TRIAL

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Aims

To evaluate the efficacy of intraoperative topical ropivacaine in the control of post-operative pain in the first 48 h after operative laparoscopy for benign adnexal or uterine pathologies.

Method

We conducted a prospective, randomized, double-blind, placebo-controlled clinical trial. Patients received a standard dose of topical ropivacaine (injected at the three portal sites and atomized in the abdominal cavity) or placebo. We measured the intensity of pain in the first 48 hours using VAS (visual-analogue-scale). Moreover we evaluated shoulder tip pain, the request for rescue analgesics, time to discharge from recovery room, time to mobilizing on the ward and time to return to daily activities. Patients were divided in two groups (Group_A: benign adnexal pathologies; Group_B: benign uterine diseases) and assigned to Subgroup_1 (ropivacaine) and Subgroup_2 (placebo).

Results

A total of 187 women were included: 93 in Group_A and 94 in Group_B. Forty-seven patients entered Subgroup_A1, 46 Subgroup_A2, 48 Subgroup_B1 and 46 Subgroup_B2. Subgroup_A1 experienced lower post-operative pain at 4 (p=0.008) and 6 h (p=0.001) as well as a faster return to daily activities (p=0.01) in comparison with Subgroup_A2. Both Subgroup_A1 and Subgroup_B1 showed lower shoulder tip pain (respectively, p=0.032 and p=0.001) as well as shorter time to mobilizing on the ward after surgery (respectively, p=0.001 and p=0.01). The remaining variables analysis did not show significant results.

Conclusion

Combined topical analgesia with ropivacaine could represent a new safe and effective tool in the control of post-operative pain in gynecological laparoscopic surgery. Given the greater benefits for adnexal surgery, this strategy may be more suitable for this class of patients.
MISCELLANEOUS

ESGO7-1190

THREE OR MORE PRIMARY MALIGNANCIES INCLUDING THE FEMALE GENITAL TRACT
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Aims

Objective. To identify clinical features of women who developed three or more primary malignancies including genital tract (GT) cancers.

Method

Methods. We retrospectively studied women with three or more primary malignancies including GT cancer who were treated since 2001 to 2016.

Results

Results. Of the 16 patients, 15 developed triple cancers and 1 quintuple cancers. The most common GT cancer was endometrial cancer (n=13), and 4 of the patients had synchronous ovarian cancer. Cervical and peritoneal cancer were observed in 2 and 1 patient, respectively. Fifteen patients developed non-GT cancer as their first cancer. The age at diagnosis of first cancer ranged 21-69 years (median, 52 years), and the age at diagnosis of the first GT cancer ranged 46-80 years (median, 65 years). The most common non-GT cancer was breast cancer (n=9), followed by colon (n=5), gastric (n=3) and thyroid cancer (n=3). Subsequent non-GT cancers were observed only in endometrial cancer patients (n=5: gastric, breast, lung, pancreas, and external ear). Six patients had a first-degree relative with gastric or colon cancer, and one had a first-degree relative with breast cancer. Two breast cancer patients treated with tamoxifen developed endometrial cancer. Quintuple cancer (esophagus, tongue, breast, cervix, and low-pharynx) developed in an ex-smoker.

Conclusion

Conclusions. The most common GT cancer in patients with three or more primary malignancies was endometrial cancer. Hereditary factors, tamoxifen, and older age appear to be associated with developing these cancers. Smoking and HPV infection seem to be linked with multiple cancers in a cervical cancer patient.
ADENOCARCINOMA NOT OTHERWISE SPECIFIED OF THE SALIVARY GLAND METASTASIS TO A UTERINE LEIOMYOMA

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Aims

We report a case of high grade adenocarcinoma of the parotid gland metastatic to a uterine leiomyoma.

Method

A 68-year-old female with history of high grade adenocarcinoma of her right parotid gland was referred to our department because of a pelvic mass. MRI imaging of the lower abdomen revealed a mass on the posterior uterine wall measuring 7x5cm probably leiomyoma. PET-CT revealed increased 18F-FDG uptake in the uterus (SUVmax 11.1) and multiple nodules in both lungs. A total abdominal hysterectomy and bilateral salpingo-oophorectomy was performed. Macroscopically, the uterus was enlarged with a large leiomyoma located on the posterior uterine wall. On section, a yellowish distinct lesion was noticed at the center of the leiomyoma, measuring 2.8cm.

Results

On microscopic examination the leiomyoma was infiltrated by a high grade adenocarcinoma. Its morphology as well as immunohistochemical study indicate secondary involvement of leiomyoma in the adenocarcinoma otherwise specified (NOS) of the parotid gland.

Conclusion

The diagnosis of secondary involvement of leiomyoma in the adenocarcinoma NOS of the parotid gland. Adenocarcinoma NOS not of the salivary gland is a highly malignant tumor that gives distant metastases to bone, lung, liver and lymph nodes and rarely to skin, brain, thyroid and stomach. Metastasis to uterine leiomyoma is uncommon. The most frequent extragenital tumors that give metastases to leiomyomas are carcinomas of the breast, colon, stomach, pancreas, gallbladder, the lung, thyroid, urinary bladder and melanoma of the skin. To our knowledge no similar case has ever been reported in the English literature.
DIFFERENCES OF C-TYPE LECTIN RECEPTORS AND THEIR ADAPTOR MOLECULES IN THE PERITONEAL FLUID OF PATIENTS WITH ENDOMETRIOSIS AND GYNECOLOGIC CANCERS

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Aims

Endometriosis, although not malignant, has clinically demonstrated properties of invasiveness and metastasis. The immunological differences between endometriosis and malignant gynecologic tumors were analyzed by assessing C-type lectin receptors and immunoglobulin secretion in peritoneal fluid of these patients.

Method

The levels of expression of C-type lectin receptors mRNAs, including those encoding Dectin-1, MR1, MR2, DC-SIGN, Syk, Card 9, Bcl 10, Malt 1, src, Dec 205, Galectin, Tim 3, Trem 1, and DAP 12, were measured by real time polymerase chain reaction in peritoneal fluid of 43 patients with benign masses (control group), 45 patients with endometriosis, and 44 patients with gynecologic (ovarian, uterine, and cervical) cancers. In addition, the concentrations of IgG, IgA and IgM were measured by enzyme-linked immunosorbent assays (ELISA).

Results

Compared with the gynecologic cancer group, the level of Bcl 10 mRNA was significantly lower, and the levels of MR1, MR2, Syk, Card 9, Malt 1, Dec 205, Tim 3, and DAP 12 mRNAs significantly higher, in the endometriosis group (p<0.05 each). The level of MR2 & DAP 12 mRNA in the endometriosis group was significantly higher than in the control groups (p<0.05), whereas the level of galectin mRNA in the endometriosis group was similar to that in the gynecologic cancer group (p<0.05). IgA and IgG concentrations in peritoneal fluid were significantly lower in the gynecologic cancer than in control group (p<0.05 each).

Conclusion

C-type lectin receptors and immunoglobulins act cooperatively and are closely associated in the pathogenesis of endometriosis and gynecologic cancers.
LAPAROSCOPIC SINGLE-SITE SURGERY(LESS) FOR LARGE SUSPICIOUS MALIGNANT ADNEXAL TUMORS USING SW KIM’S TECHNIQUE: COMPARE TO CONVENTIONAL LAPAROTOMY

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Aims

To evaluate laparoscopic single-site surgery(LESS) using special technique(SW Kim’s Technique) for large suspicious malignant adnexal tumors and compare the surgical outcomes with laparotomy.

Method

Between January 2013 and December 2016, 40 patients underwent LESS (group A), 27 patients underwent laparotomy (group B). To avoid the specimen being suctioned in abdominal cavity, we used a 30X30cm or 50X50cm sized large LapBag. To remove huge ovarian tumors without spillage, we used SW Kim’s technique (Figure 1).

Results

Patient characteristics and operative time were not significantly different in the two groups. The post-operative hospital stay was significantly shorter for group A than group B [median 2 days (1 – 9) vs. 5 days (3 – 15); P < 0.001]. In terms of intraoperative complications, 1 patient in group A had bleeding. In group B, 1 patient had bowel injury and 2 patients had cyst rupture. The postoperative complications, 1 patient in group A and 1 patient group B had fever. Adnexa tumors in group A included 28 benign (70%), 8 borderline (20%), and 4 malignant (10%; 2 mucinous carcinomas, 1 immature teratoma, 1 clear cell carcinoma) tumors; and in group B included 14 benign (51.85%), 5 borderline (18.52%), and 8 malignancy (29.63%; 3 mucinous carcinomas, 1 immature teratoma, 4 clear cell carcinomas) tumors. There was no recurrence in group A but 1 recurrence in group B.

Conclusion

This study showed LESS was safety and feasible in large suspicious malignant adnexal tumors.
KEystone flap was developed by Felix Behan in 1995, since that time, this technique has been applied in numerous body regions for its several demonstrated advantages.

Aims

Keystone flap was developed by Felix Behan in 1995, since that time, this technique has been applied in numerous body regions for its several demonstrated advantages.

Method

This is the first reported case describing the technique of bilateral Keystone perforator island flaps (KPIF) to close a wide defect after radical vulvectomy in irradiated patient.

Results

A 47 year old nulliparous woman, with a previous history of FIGO Stage IIB squamous cell cervical carcinoma (2012) treated with radical surgery followed by adjuvant chemoradiotherapy. Four years later (2016), she presented a lesion of 3 cm size of the lower right labia majora close to the midline. Punch biopsy was performed which revealed: moderately differentiated squamous cell carcinoma. No inguinal lymphadenopathy was noted and TC scan of the chest and abdomen was negative for distant metastases. The patient underwent radical vulvectomy with bilateral inguinal-femoral lymphadenectomy followed by vulvoplasty using bilateral Keystone island flap (see Fig.1). The KPIF is a curvilinear shaped trapezoidal design flap, which essentially comprises two conjoined V-Y flaps in opposing directions. The surgical wound is measured in two size, and the reconstruction must be elliptic, with the axis parallel to the skin nerves and veins and perforating of the art and the perineum. The long axis is chosen on the orientation of the defect and the tension lines. Therewere no post-operative complications. Aesthetically, the patient was satisfied with the result of surgery. After six months of follow up the patient is free of disease

Conclusion

Keystone flaps seems to be easy to design, elevate, and offer rapid fasciocutaneous closure in wide vulvo-perineal defect after radical vulvectomy.
ROLE OF INTRAOPERATIVE ULTRASOUND TO EXTEND MINIMALLY INVASIVE SURGERY FOR TREATMENT OF RECURRENT GYNECOLOGICAL CANCER

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Aims

To describe the potential role of intraoperative ultrasound (US) in the detection and localization of recurrent disease in gynecological cancer patients during minimally invasive surgery (MIS) (either laparoscopy or robotic).

Method

From November 2015 to February 2017, 51 patients with isolated recurrent disease candidate for secondary cytoreductive surgery were treated by MIS in our Institution. Recurrent tumor was preoperatively assessed at clinical examination, transvaginal and transabdominal sonography and radiological evaluation (CT scan/MRI/PET), in all women.

Results

12 of 51 (23%) women needed intraoperative US. Original disease was distributed as follows: 5 (42%) ovarian, 4 (33%) endometrial, 1 (8%) uterine sarcoma, 1 (8%) cervical and 1 (8%) vaginal cancer. Recurrence was localized at vaginal cuff in 5 cases (42%), pelvic lymph nodes in 3 cases (25%), abdominal wall in 2 cases (17%), pelvic peritoneum in 2 cases (17%). Intraoperative US was able to identify the lesion in all women, allowing MIS (83% laparoscopy and 17% robotic) complete cytoreduction, with no conversion to laparotomy. Median operative time was 150 min (range, 77-280) (including US examination). No intraoperative and postoperative complications occurred. Median length of recovery was 2 days (range, 1-4) and median time to start adjuvant treatment (chemo/radiotherapy) was 25 days (range 22-40). Histological examination confirmed the presence of recurrence in 11 of 12 cases (92%), while the remaining case showed inflammatory tissue.

Conclusion

One of four patients (25%) with single gynecological cancer recurrence needs intraoperative ultrasound to benefit from MIS for complete secondary cytoreduction.
MISCELLANEOUS

ESGO7-0031

IMPLEMENTATION OF AN ENHANCED RECOVERY AFTER SURGERY (ERAS) PROGRAM: THE MD ANDERSON CANCER CENTER EXPERIENCE

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Aims

To evaluate perioperative outcomes of patients undergoing exploratory laparotomy for gynecologic indications in an Enhance Recovery after Surgery (ERAS) program and compare to those receiving traditional perioperative care (pre-ERAS)

Method

All consecutive patients managed under an ERAS program undergoing exploratory laparotomy between 11/3/2014 and 10/26/2016 were compared to historical controls (May to October, 2014). Interventions included, allowing oral intake of fluids up to 2 hours before induction of anesthesia; perioperative euvolemia as well as opioid-sparing analgesia; and ambulation and regular diet on the day of surgery. Wilcoxon rank-sum and Fisher's exact tests were used

Results

A total of 518 enhanced recovery patients were compared with 74 patients in the control group (pre-ERAS). ERAS resulted in a 1-day reduction in hospital stay (median LOS pre-ERAS: 4 days [range, 2-27] vs. ERAS: 3 days [range, 1-43], p<0.01) with stable readmission rates (pre-ERAS: 14.1% vs. ERAS: 12.9%, p=0.85). ERAS resulted in a 73.6% reduction in median postoperative morphine equivalents during the first 3 days after surgery with no significant difference in mean pain scores between the pre- and post ERAS cohorts. No differences were observed in postoperative complications between pre-ERAS and ERAS groups respectively (29.6% vs. 25.7%, p=0.47; GU: 21.1% vs. 18.3%, p=0.63; Hematologic: 16.9% vs. 11.8%, p=0.25). Overall compliance with all components of the ERAS protocol was 70% (range, 40-85%)

Conclusion

Implementation of an ERAS program was associated with reduced LOS with stable readmission and perioperative complication rates and reduced overall opioid consumption. Further study is warranted to determine impact on progression free survival
AN AUDIT OF THE USE OF INFERIOR VENA CAVA (IVC) FILTERS IN A GYNAECOLOGICAL-ONCOLOGY CENTRE IN ESSEX, UK.

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Aims

IVC filters are used in GynaeOncology patients who have a current or recent incidence of venous thrombo-embolism. We studied the safety and efficacy of pre operative insertion of IVC Filters in Gynaecological Oncology patients.

Method

A retrospective analysis of IVC Filters use in 27 consecutive patients at the cancer centre at Southend University Hospital during the years 2010-2016. Most individuals had recent or current thromboembolic events or anticoagulation was contraindicated pre-operatively.

Results

Of the 27 patients, 23 were symptomatic with a history of active Venous Thrombo-Embolism(VTE) and 4 had incidental findings of a VTE on imaging during the workup of a cancer diagnosis and treatment planning.

The mean age of the patients was 65 years (49 to 89 years). 63% of patients had ovarian cancer - with 73% being in late stages (3/4), 19% had endometrial cancer, 7% cervical, 4% Fallopian tube and 7% concomitant ovarian and endometrial cancers.

89% patients underwent surgery. The filters were inserted in a median of 5.5 days prior to surgery. There were no filter insertion related complications. There were no episodes of Pulmonary Emboli(PE) or VTE related death in the post operative period(within 30 days of surgery)

Conclusion

IVC Filters are safe to use in Gynae-Oncology patients. They can be inserted within a week prior to surgery without any adverse effects on post operative outcome.
ANALYSIS OF EFFICACY AND SAFETY OF OLARATUMAB + DOXORUBICIN OR DOXORUBICIN ALONE IN PATIENTS WITH UTERINE LEIOMYSARCOMA: RETROSPECTIVE ASSESSMENT OF THE PHASE 1B/2 STUDY JGDG

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⁴Royal Marsden Hospital, Sarcoma Unit, London, United Kingdom

Aims

Olaratumab (olara), a recombinant human IgG1 monoclonal antibody that specifically inhibits PDGFRα activation, has demonstrated improvement in median overall survival (mOS) in combination with doxorubicin (dox), compared to doxorubicin alone in a Phase 1b/2 Study. Since leiomyosarcoma (LMS) was the most common soft tissue sarcoma (STS) subtype in the study, we sought to characterize the safety and efficacy of olara+dox in the uterine LMS subpopulation.

Method

A retrospective review was performed on the Phase 2 portion of the study to identify patients with uterine LMS. Kaplan-Meier and Cox methods were used for OS and progression-free survival (PFS). Safety was assessed using CTCAE 4.0.

Results

Fifteen patients with uterine LMS (olara+dox N=8, dox N=7) were identified in the intent to treat population. Median OS was 25.0 (95% CI: 4.9, not estimated [n/e]) and 11.4 (3.6, n/e) months for olara+dox and dox (HR [95% CI] 0.61 [0.175, 2.144]), respectively. Median PFS was 2.7 (95% CI: 1.1, 11.0) and 3.6 (1.0, n/e) months for olara+dox and dox (HR [95% CI] 0.93 [0.245, 3.541]), respectively. The grade≥3 adverse events (AE) observed in 2 or more olara+dox treated uterine or non-uterine LMS patients were: anemia, neutropenia, thrombocytopenia, and fatigue. Grade≥3 febrile neutropenia occurred in 3 patients with uterine and in 1 patient with non-uterine LMS.

Conclusion

Although small cohort size limited definitive conclusions, the clinically meaningful improvement in mOS and safety profile in the uterine LMS population with olara+dox versus dox alone is consistent with that previously reported in the overall STS population.
STEREOTACTIC ABLATIVE RADIOThERAPY (SABR) IN PATIENTS WITH GYNAECOLOGICAL CANCERS IN THE WEST OF SCOTLAND

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Aims

To assess safety and efficacy of stereotactic ablative radiotherapy (SABR) for gynaecological cancers in the West of Scotland.

Method

Patients with gynaecological cancers treated with SABR were identified from ARIA database for the period February 2014 to December 2016. Electronic and paper records were scrutinised to record demographic information, indication for treatment, dose and fractionation, toxicities (acute and late), and outcome.

Results

Ten patients were identified, age from 41 to 75 years (median age 52). A total of 12 treatment sites included primary lesions (2 as boost in radical treatment schedule – 1 patient refused brachytherapy, 1 was unfit for Anaesthetic, 1 in metastatic setting for symptom control), central recurrences (2 vaginal, 1 parametrial), and oligometastatic sites (2 pelvic nodes, each treated separately, 1 psoas muscle, 1 abdominal wall lesion, 1 patient with 2 peritoneal deposits, each treated separately). Doses ranged from 1200cGy in 2 fractions (boost in patient who refused a second Brachytherapy insertion) to 3530cGy in 5 fractions.

Four patients had previous radical radiotherapy to Pelvis and SABR was a re-treatment.

Toxicity from this treatment was minimal; there was no G3 toxicity recorded following SABR after a median follow-up of 18 months. Three patients demonstrated excellent clinical or radiological response, 4 demonstrated partial response, and 2 had no response, 4 patients subsequently died, including both where there was no response.

Conclusion

Preliminary results demonstrate the feasibility, tolerability and safety of SABR in Gynaecological malignancies, even in those who have previously received full dose Pelvic radiation.
HUGE PELVIC FIBROMATOSIS DIAGNOSED DURING PREGNANCY

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Aims

Cervicovaginal myofibroblastoma is a benign but locally aggressive tumor developing in vulva, vagina or cervix. It is a very rare entity. A case of myofibroblastoma during pregnancy has been described previously; our case is the second in the literature.

Method

A 32 year old patient applied to our clinic during 26th gestational week with the symptoms of pelvic pain, difficulty in urination and defecation. On pelvic examination a large mass beginning from the introitus and filling the deep pelvis had obliterated the vagina totally from the right side. An incisional biopsy of the mass was undertaken and reported as myofibroblastoma by the pathology department. The patient underwent cesarean section at 39 weeks of pregnancy.

Results

After puerperium, two course of embolization treatment was undertaken to reduce tumor tissue and decrease vascularity. Then she was operated. A rigid fixed mass extending to paravaginal, paravesical, pararectal space and ischioanl fossa measuring about 13 cm and filling the ¾ of the true pelvis was observed intraoperatively.
The mass was completely impacted to the true pelvis and interface in between was obliterated. The mass was reduced in size centrally using cold-knife wedge resection. So a dissection plane from the surrounding tissues was created and the mass was excised completely. The final pathology report revealed fibromatosis consisting of myofibroblasts.

Early or late postoperative complications were not observed and radiotherapy and long-term follow-up was planned to prevent recurrence.

Conclusion

Rapid growth of the tumor, direct pressure on the birth canal makes it easier to recognize in pregnant patients but surgery is difficult and complicated, and should be performed in experienced surgical clinics.
MISCELLANEOUS

ESGO7-1109

METASTATIC NONGESTATIONAL CHORIOCARCINOMA WITH UNKNOWN PRIMARY
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Aims

Nongestational choriocarcinoma is a highly malignant very rare germ cell tumor. Germ cell tumors are mostly located in gonads, however, exceptionally they can be found in other locations. Non gestational choriocarcinoma has been reported in extraplacental and extragonadal sites. The vast majority represents systemic metastases, with the most common sites being lung, liver and brain. Occasionally the primary tumor regresses, leaving only metastatic lesions to be detected on imaging.

Method

A 39-year-old (gravida3,para3) women presented with a three-week history of right upper quadrant pain and nausea. She was on the fifth day of menstrual period and had slight cervical bleeding. Her β-human chorionic gonadotrophin (β-HCG) level was found to be elevated (53,777 mIU/ml). Endometrium was measured 6.7 mm thick and no adnexal pathology found by endovaginal ultrasonography. First diagnosis was unknown location ectopic pregnancy or choriocarcinoma. A diagnostic laparoscopy and endometrial sampling was performed. Both were unremarkable. During the postoperative period, the hCG levels remained progressively increasing (>1,500,000mIU/ml).

Results

To identify occult disease MRI scan of the head, whole body 18 FDG-PET scan were performed, revealing metastatic lesions in frontal cortex, liver and right lung. Ultrasound-guided liver core biopsy was obtained and pathological diagnosis was reported as choriocarcinoma metastasis. EMA-CO chemotherapy regimen (etoposide, methotrexate/leucovorin, and actinomycin-D, followed
a week later by cyclophosphamide and vincristine) was commenced.

Conclusion

Choriocarcinoma is a very aggressive malignancy and death may result from delays in diagnosis. Therefore, early intervention is critical for limiting the progression of disease.
MISCELLANEOUS

ESGO7-0344

VERY PROLONGED RESPONSE TO TRABECTEDIN AND SURGICAL MANAGEMENT IN REFRACTORY UTERINE LEIOMYOSARCOMA: A CASE REPORT

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Aims

Uterine leiomyosarcomas (U-LMS) are rare uterine tumors, the prognosis is extremely poor. Total abdominal hysterectomy is the cornerstone of management of early disease, however for recurrent or disseminated U-LMS, cytotoxic chemotherapy remains the mainstay of treatment but with no impact on survival. Trabectedin, a new DNA-damaging agent, is approved in Europe, USA and many other countries worldwide for the treatment of patients with advanced U-LMS after failure of anthracyclines. The role of surgery is unclear in metastatic disease.

Method

We report the case of a 38-year-old woman with peritoneal metastatic uterine leiomyosarcoma refractory to multiple treatments who obtained a prolonged disease control following the treatment with trabectedin and surgery.

Results

The patient received 60 cycles of trabectedin 1.5 mg/m² given as a 24-hour i.v. infusion every three weeks for 6 cycles, reduced for epatotoxicity to 1.1 mg/m² every four week. Trabectedin treatment resulted in a partial response according to RECIST criteria with good and predictable tolerability profile of the regimen. Marked tumor shrinkage allowed a surgical resection that histologically evidenced a complete necrotic response of the pelvic mass and peritoneal carcinosis. After 5 months from surgery patient experimented peritoneal recurrence and was submitted to surgical debulking and Hyperthermic Intraperitoneal Chemotherapy (HIPEC) with doxorubicin. Currently, the patient is alive without evident disease. Molecular characterization pre- and post-trabectedin administration and after recurrence is ongoing.

Conclusion

Trabectedin and surgery represent a feasible option for treatment of metastatic U-LMS; however, further clinical studies are warranted to better understand the mechanism of long-lasting response to trabectedin.
THE BURDEN OF HPV-ASSOCIATED CANCERS IN RUSSIAN FEDERATION

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Aims

To conduct a first analysis of HPV-associated cancers (HPVAC) burden in Russia in 2015.

Method

Statistical data were taken from the State medical statistics report (form #35 "Information on patients with malignancies for 2015"). HPVAC were calculated as a proportion on the basis of world statistics data and extrapolated to the whole country level.

Results

16710 new cases of cervical cancer (CC) were diagnosed in 2015 (63.9% of women in I-II stage, 25.2% in III and 9.4% in IV stage). Mortality within 1 year from the diagnosis was 15.2%. In the total cancer mortality structure in women 15-59 years old the mortality from CC accounted for 10.1%. HPVAC burden in 2015 is presented in Table 1.

Table 1. HPVAC burden in Russia in 2015.

<table>
<thead>
<tr>
<th>HPVAC</th>
<th># of new cases</th>
<th># of all patients registered</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC</td>
<td>16710</td>
<td>174822</td>
</tr>
<tr>
<td>Laryngopharyngeal cancer</td>
<td>6913</td>
<td>15660</td>
</tr>
<tr>
<td>Oral cancer</td>
<td>2528</td>
<td>9586</td>
</tr>
<tr>
<td>Vulvar cancer</td>
<td>1860</td>
<td>-</td>
</tr>
<tr>
<td>Anal cancer</td>
<td>850</td>
<td>4500</td>
</tr>
<tr>
<td>Penile cancer</td>
<td>606</td>
<td>-</td>
</tr>
<tr>
<td>Vaginal cancer</td>
<td>400</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>29867</strong></td>
<td><strong>204568</strong></td>
</tr>
</tbody>
</table>

Conclusion

Data on HPV-associated cancers burden in Russia were limited. The first analysis shows the estimated number of newly diagnosed HPV-associated cancers was 29867 cases and more than 204,000 patients with HPV-associated cancers registered. Thus, HPV-associated cancers were accounted for more than 6% of the total cancer morbidity in Russia.
MALNUTRITION AND SARCOPENIA: RISK FACTORS FOR SHORTER SURVIVAL IN PATIENTS TREATED WITH PELVIC EXENTERATION FOR RECURRENT GYNECOLOGICAL MALIGNANCY.

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Aims

Pelvic exenteration is a highly morbid procedure performed as the last option for cure in selected patients with recurrent or persistent gynaecological malignancies. Due to a lack of objective factors predicting outcome, patient selection is in part based on subjective criteria. The aim of the present study was to investigate the prognostic value of malnutrition and sarcopenia on the outcome of patients with recurrent gynaecological malignancies treated by pelvic exenteration.

Method

We retrospectively evaluated muscle body composite measurements based on pre-operative CT scans, pre-operatively filled out questionnaires stratifying the risk for malnutrition, and clinical-pathological parameters in 65 consecutive patients with recurrent gynaecological malignancies treated by pelvic exenteration. Selected parameters were investigated for their predictive value for postoperative morbidity by logistic regression analyses. Relevant parameters were included in uni- and multivariate survival analyses.

Results

In 32 and in 34 patients pre-operative CT scans and questionnaires were available for analyses, respectively. We found (1) low muscle attenuation (MA) – an established factor for muscle depletion – and (2) malnutrition, based on a pre-operative questionnaire, to be independently associated with shorter overall survival \((p=0.006 \text{ and } p=0.008, \text{ respectively})\). Interestingly, MA was significantly lower in overweight and obese patients \((p=0.04)\). We did not find any of the investigated factors to be predictive for post-operative morbidity.

Conclusion

The present study suggests, that pre-operative low MA and malnutrition, based on CT scan and questionnaire, are associated with shorter survival in patients with recurrent gynaecological malignancies treated with pelvic exenteration. Further studies are needed to validate these findings in larger cohorts.
IS NERVE-SPARING SURGERY REALLY NERVE SPARING? A VIDEO OF THE PELVIC NERVOUS SYSTEM AFTER LAPAROSCOPIC DISSECTION OF A THIEL-EMBALMED SPECIMEN TREATED BY A NEW PROCEDURE

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Aims

The inability to visualize the small caliber nerve fibers makes nerve-sparing surgery very difficult. We demonstrate the anatomic path of the pelvic autonomic nerves by laparoscopic dissection of a female cadaver using a technique that allows advanced description of small nerves.

Method

A Thiel-embalmed female cadaver was dissected laparoscopically. After opening of the retroperitoneal space the pelvis was immersed with nitric acid. This facilitated the dissection of the connective tissue and the subsequent preparation was performed only with rinsing and suction. The autonomous nerves were followed up to the visceral organs. The relationships of the nerves to arteries, viscera and ligaments were documented.

Results

The superior hypogastric plexus was situated anteriorly and below the aortic bifurcation. It branched into the left and right hypogastric nerve connecting the superior to the inferior hypogastric plexus. Other afferences of the inferior hypogastric plexus were the sacral and pelvic splanchnic nerves. We detected an impar hypogastric nerve stretching medially to the mesorectum. Furthermore, we identified a delicate network of nerves originating from the hypogastric nerve and stretching medially towards the rectum.

Conclusion

Precise knowledge of the neuroanatomy of the pelvis is important to reduce morbidity after surgery. Thiel fixation and preparation with nitric acid permitted dissection of the nerves up to the intraorganic branches. With our technique, we demonstrate that the area medially below the superior hypogastric plexus – commonly used as an anatomical cleavage point – isn’t devoid of nerves. This suggests that nerve-sparing surgery may not be as nerve sparing as sometimes presumed.
RECENT ACTIVITIES OF KOREA GYNECOLOGIC CANCER BANK

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Aims

To develop effective targeted therapy for gynecologic cancer, the need to understand molecular mechanisms related to the tumor generation, metastasis and treatment resistance is increasing. This study seeks to review the current status of the database, the cooperation system with other institutions and to evaluate the utility degree of the stored specimens as research sources of Korea Gynecologic Cancer Bank (KGCB).

Method

Human specimen and data stored in the bank target primary gynecologic cancer cell line, tissue, serum, plasma, lymphocyte, urine, saliva and pelvic ascites. Specimen extraction was administered starting from 2012, and it was administered before or during the treatment using the low-invasive method with the patients agreement. Specimen quality and quantity was identified by classifying specimen by cancer type, acquired year and characteristic.

Results

Currently, specimen and data in the bank numbers total of 49,514. Starting from May 2012 to Mar 2017, 16,757 serum, 13,490 plasma, 3,350 lymphocyte, 2,736 frozen tissue, 5,303 pelvic ascites, 1,081 OCT, 36 HOSE, 3,145 Urine, 350 saliva, 25 whole blood, 1,198 thin-prep, 440 cervicovaginal fluid, 8 TMA and 1,595 paraffin block units were stored. As for the paper using the distribution of research sources, there are 31 papers published on SCI journals from 2012 to 2017.

Conclusion

Resources of gynecologic cancer bank is continuing to grow steadily since 2012, and quality resource is being developed through proper management. Korea Gynecologic Cancer Bank could provide resources actively according to the fair and appropriate procedure of the related research institutions and academic community.
A CASE OF SEPTIC SHOCK COMPLICATED BY INTRAUTERINE NECROSIS OF ADENOMYOSIS

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Aims

Adenomyosis is common benign pathology on women in reproductive age. Dysmenorrhea, heavy menstrual bleeding and chronic pelvic pain are typical symptoms. It is very rare situation for adenomyosis to be complicated by sepsis or septic shock.

Method

A 42-year-old woman complaining of severe pelvic pain, dyspnea and fever visited emergency department. Pelvic computed tomography showed adenomyosis. Her condition was rapidly aggravated to septic shock in spite of antibiotics treatment. There was moderate amount of pus in pelvic cavity.

Results

Total abdominal hysterectomy with both salpingectomy were done emergently. Pathology result was consistent with adenomyosis. After postoperative care at intensive care unit and general ward, she was discharged without any surgical and medical complication.

Conclusion

This case is very rare in representing pelvic abscess formation combined with adenomyosis. Early surgical intervention seems to be beneficial for treatment and diagnosis when medical treatment do not respond promptly.
MISCELLANEOUS

ESGO7-0743

SOCIAL SUPPORT AND QUALITY OF LIFE IN CERVICAL CANCER PATIENTS AFTER TREATMENT
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Aims

Cervical cancer is the second most common cancer in Thai women. In the last ten years, many women can survive from cancer according to advanced treatments. However, these women must to cope with symptom distress from treatment. To promote social support and reduce symptom distress is necessary for the improve quality of life in cervical cancer survivors. Aim of this study was to examine the correlation of these factors and quality of life in cervical cancer patients after treatment.

Method

This study was a descriptive correlational research. Samples included 53 women who visited at outpatient department in university hospital during January – December 2016. The instrument were 1) the personal, disease, and treatment data; 2) Social support; and 3) FACT-Cervix. Data were analyzed by descriptive and Spearman Rank Test.

Results

Results found that age of 53 participants ranged from 30 to 86, mean 55.15 (sd = 10.05). Social Support varied from 29 to 59, mean 48.23 (sd = 6.76). Symptom distress varied from 0 to 9, mean 3.36 (sd = 2.83). In addition Quality of life in these participants varied from 75 to 159, mean 126.02 (sd = 21.09). Results revealed that age and social support had no correlation with the quality of life, however, there was negatively correlation between symptom distress and quality of life with $r = -0.40$ at $p=.003$.

Conclusion

Findings from the study demonstrated that health care providers should focus in reducing symptom distress to improve the quality of life in cervical cancer survivors.
MISCELLANEOUS

ESGO7-1076

QUALITY OF LIFE IN THAI WOMEN AFTER HYSTERECTOMY

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2Faculty of Medicine Ramathibodi hospital, Nursing Department, Bangkok, Thailand

Aims

Aims of this research were to examine quality of life and factors related to quality of life in Thai women after hysterectomy in university hospital.

Method

This cross-sectional study was a descriptive and correlational design. Samples included 70 women after hysterectomy in university hospital. Data were collected during January – June 2016. The instruments were (1) the personal disease and treatment data developed by principal investigator, and (2) World Health Organization quality of life – Thai version (WHOQOL-BREF-THAI) developed by WHO. Alpha Cronbach’s coefficient for WHOQOL-BREF-THAI questionnaires was .87. Data were analyzed by descriptive statistics and Spearman Rank Test correlation.

Results

Results found that the average age of participants was 50.91 years (sd=9.29), time after hysterectomy was 28.40 months (sd=10.98). Health status (mean= 3.47, sd= .86, range 2-5) and total quality of life (mean= 3.47, sd= .86, range 3-5) were higher than the average. Majority level of 4 quality of life's domains were moderate as reported; physical (84.3%), psychosocial (74.3%), social (64.3%), environment (60.0%). In addition there were positive correlation between health status and physical, psychosocial, social, environment domain and total quality of life at .05 level, whereas, there was no correlation between age and quality of life in these participants.

Conclusion

Results from this study, health care providers should focus to provide good health status to improve quality of life in Thai women after hysterectomy.
ESTABLISHMENT AND CHARACTERISATION OF PATIENT-DERIVED XENOGRAFT MODELS FOR MALIGNANT GYNECOLOGIC TUMORS

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\textsuperscript{1}Nagoya University Graduate School of Medicine, Obstetrics and Gynecology, Nagoya, Japan

Aims

The patient-derived xenograft (PDX) models have been used in the oncologic field to develop new therapeutic agents, which preserve tumor microenvironment and tumor characteristics, and well reflect patient's histological features. In this study, we attempted to establish PDX models derived from malignant gynecologic tumor patients' surgical specimens implanted into severe immunodeficient mice.

Method

Between April 2016 and March 2017, a total of 15 separate clinical samples (13 malignant ovarian tumors, 1 fallopian tube cancer and 1 uterine carcinosarcoma) were collected and implanted subcutaneously in NSG mice. Surgical tumor tissues were cut into pieces of 2 to 3 mm and transplanted within one day. Three patients had received chemotherapy and/or radiation therapy before surgery.

Results

A total of 8 PDX models (6 malignant ovarian tumors including malignant-transformation of mature cystic teratoma, 1 fallopian tube cancer and 1 uterine carcinosarcoma) were established for a take rate of 53%. The latency time to development of clinically apparent disease from the time of initial implantation varied from 1 to 4 months. Regarding malignant-transformation of mature cystic teratoma, the xenograft tissue was replanted into six nude mice, and after engraftment, two mice were irradiated and other 2 mice were administered cisplatin. Four weeks later, the tumors were sampled and analyzed histologically. Even in nude mice, tumor morphology was maintained. This PDX model's responses to antitumor treatment were similar to those of the patient.

Conclusion

Further evaluation of the PDX models for malignant gynecologic tumors will contribute to the development of treatment strategies.
MISCELLANEOUS

ESGO7-0015

PRIMARY RETROPERITONEAL MUCINOUS TUMOURS DIAGNOSED IN PREGNANCY – A CASE REPORT AND LITERATURE REVIEW

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²Whipps Cross Hospital, Obstetrics and Gynaecology, London, United Kingdom

Aims

Primary retroperitoneal mucinous tumours (PRMTs) are extremely rare neoplasm’s occurring almost only in women, with just three cases reported in men. Although PRMTs have been reported in patients of a wide range of ages, they mainly occur in women of reproductive age. They have been categorised into three types consisting of: mucinous cystadenomas (MCs), mucinous borderline tumours or tumours of low malignant potential (MLMP) and mucinous carcinomas (MCas). In many of the cases reported, preoperative diagnosis of these masses is extremely difficult as CT or MRI is unable to differentiate the exact origin of these tumours. As a result of this and due to rare nature of the condition, treatment and prognosis remains controversial and diagnosis is usually made post-operatively after histology. We describe the case of a young female who presented to us with what was found to be a PRMT in pregnancy.

Method

Literature review

Results

NA

Conclusion

PRMT are extremely rare and extremely difficult to diagnose preoperatively due to the asymptomatic presentation. It is not possible to clarify the precise defect in embryologic growth that allows these tumours to develop. The preoperative course of these cysts appears indolent, yet the overall prognosis is poor. The role of chemotherapy in the treatment of these tumours remains undefined. Close follow-up and aggressive management based on histological appearance is indicated to improve the outcome of these patients.
EFFECT OF AGE, RACE, AND STAGE ON SURVIVAL IN GESTATIONAL CHORIOCARCINOMA: A SEER ANALYSIS (1973-2013)
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²Women's Health Integrated Research Center at Inova, Gynecologic Cancer Center of Excellence, Annandale, USA
³Women’s Health Integrated Research Center at Inova, Gynecologic Cancer Center of Excellence, Annandale, USA
⁴Inova Fairfax Hospital, Obstetrics & Gynecology, Falls Church, USA

Aims

Gestational choriocarcinoma is a malignant form of gestational trophoblastic disease that can occur after any gestational event. Given the rarity of gestational choriocarcinoma, investigations are limited. We evaluated the prognostic effects of age, race, and stage in gestational choriocarcinoma.

Method

Patients diagnosed with gestational choriocarcinoma between 1973-2013 from the Surveillance, Epidemiology, and End Results program were eligible. Relationships with cancer-specific (CSS) and overall survival (OS) were evaluated and adjusted for age, race and stage.

Results

There were 916 patients with gestational choriocarcinoma. Median age at diagnosis was 28 years. Non-Hispanic black (NHB) patients were diagnosed four years younger and Asian/Pacific Islanders were diagnosed six years later than non-Hispanic white (NHW) patients (P=0.0001). Five-year CSS was ≥96% when diagnosed at age <20 years old or with local disease, and dropped to 88% in patients diagnosed ≥40 years old or with distant disease. Adjusted CSS was worse when diagnosed between 20-39 (hazard ratio [HR]=3.60, 95% confidence interval [CI]=1.12-11.53, P=0.031) and ≥40 (HR=5.21, 95% CI=1.50-18.09, P=0.009) compared with <20 years old. Adjusted OS was also worse for those diagnosed ≥20 years old (P<0.001). NHB patients had similar CSS (P=0.119) but worse OS (HR=1.80, 95% CI=1.17-2.77, P=0.008) and more non-cancer deaths than NHW patients. Patients diagnosed with distant disease had worse CSS (HR=2.39, 95% CI=1.33-4.31, P=0.004) and OS (HR=2.56, 95% CI=1.63-4.03, P<0.0001) than those with local disease.

Conclusion

Most patients with gestational choriocarcinoma have excellent prognosis but the subset diagnosed with distant stage or as an adult had significantly worse CSS and OS.
OUR INITIAL EXPERIENCE IN LAPAROSCOPIC MANAGEMENT OF GYNAECOLOGICAL CANCER

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1Aristotle University Of Thessaloniki- Greece, 1St Department Of Obstetrics And Gynaecology "Papageorgiou" General Hospital, Thessaloniki, Greece

Aims

To assess the feasibility and safety of laparoscopic management of gynaecological cancer patients

Method

9 patients with endometrial cancer and 10 patients with ovarian cancer underwent laparoscopy as diagnostic or therapeutic method of treatment

Results

Nine patients with endometrial cancer underwent total laparoscopic hysterectomy. In four patients the surgical procedure included pelvic lymphadenectomy (table 1).

Five patients with advanced ovarian cancer were found eligible to for primary debulking surgery, and five patients after initial laparoscopy, were referred for neoadjuvant chemotherapy prior to interval debulking surgery (table 2).

<table>
<thead>
<tr>
<th>age</th>
<th>Type of surgery</th>
<th>LN FIGO</th>
<th>AJCC/UICC</th>
<th>Comments/additional Tx</th>
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<tr>
<td>61</td>
<td>TLH</td>
<td>IA</td>
<td>pT1a</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>TLH + pelvic LND 21</td>
<td>IA</td>
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<tr>
<td>72</td>
<td>TLH + pelvic LND 14</td>
<td>IB</td>
<td>pT1bN0</td>
<td>Denied further treatment</td>
</tr>
<tr>
<td>53</td>
<td>TLH + pelvic LND 15</td>
<td>IA</td>
<td>pT1aNo</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>TLH</td>
<td>IA</td>
<td>pT1a</td>
<td>Ovulation induction 13 oocytes-7 frozen embryos</td>
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<tr>
<td>55</td>
<td>TLH</td>
<td>IA</td>
<td>pT1a</td>
<td></td>
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<td>65</td>
<td>TLH</td>
<td>IA</td>
<td>pT1a</td>
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<tr>
<td>35</td>
<td>TLH</td>
<td>IA</td>
<td>pT1a</td>
<td>Against fertility sparing management</td>
</tr>
<tr>
<td>52</td>
<td>TLH + pelvic LND 20</td>
<td>IB</td>
<td>pT1bN0</td>
<td>brachytherapy</td>
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</table>

Table 1: Laparoscopic management of endometrial cancer

<table>
<thead>
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<th>management</th>
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<tbody>
<tr>
<td>52 4</td>
<td>serous-papillary</td>
<td>Primary debulking surgery (PDS)</td>
</tr>
<tr>
<td>75 10</td>
<td>serous-papillary</td>
<td>neoadjuvant chemotherapy + interval debulking surgery (NACT+IDS)</td>
</tr>
<tr>
<td>68 10</td>
<td>serous</td>
<td>NACT+IDS</td>
</tr>
<tr>
<td>63 6</td>
<td>serous-papillary</td>
<td>PDS</td>
</tr>
<tr>
<td>50 10</td>
<td>serous-papillary</td>
<td>NACT+IDS</td>
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Volume 27, Supplement 4 1385
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<th>age</th>
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<tr>
<td>71</td>
<td>2</td>
<td>serous-papillary</td>
<td>PDS</td>
</tr>
</tbody>
</table>

Table 2: laparoscopic management of ovarian cancer

**Conclusion**

Laparoscopic management of gynaecological cancer appears to be feasible and safe method of treatment in selected cases.
AN ALTERNATIVE ROLE FOR A BREAST IMPLANT FOLLOWING TOTAL PELVIC EXENTERATION

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Aims

Total Pelvic Exenteration (TPE), is the most destructive of Gynaecological oncology procedures, yet can be curative. Complications of adhesions, radiation enteritis and empty pelvic syndrome, can significantly impact quality of life. This case report describes the use of a breast implant to fill the pelvis, highlighting one potential way of addressing this. A review of other practices will also be discussed.

Method

Case reported and review of all available literature conducted. Keywords applied to searches including PUBMED and MEDLINE.

Results

Case:

66 year old, Stage IIIC High Grade Serous Carcinoma of Ovary diagnosed 2014 with neo adjuvant chemotherapy and interval ovarian debulking. Relapse in 2016, required second surgery due to 8cm penetrating tumour from vagina to anterior rectal wall. Surgery achieved full cytoreduction with TPE. A saline breast implant was used to fill the pelvis. Initially developed subacute bowel obstruction due to small bowel adhesion. Recovered well and to date has had no further episodes of obstruction or evidence of empty pelvic syndrome.

Review:

Although this technique is described there are few gynaecological case reports. Pelvic tissue expanders/prostheses have been described in nongynaecological patients. Issues remain regarding safety, risk of rupture and sepsis, however, these have improved with the use of modern saline implants. Other described methods include: pedicled omental flap, synthetic and biological meshes and myocutaneous flaps. None of which were possible in our patient.

Conclusion

This case highlights an alternative option to fill the pelvis after TPE. Our patient recovered well and to date has had no complications from the pelvic implant.
ACUTE KIDNEY INJURY FOLLOWING GYNAECOLOGICAL ONCOLOGY SURGERY: THE EXPERIENCE OF AN IRISH TERTIARY CENTRE

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²Trinity College Dublin, Obstetrics and Gynaecology, Dublin, Ireland

Aims

Acute Kidney Injury (AKI) is a serious complication which can increased the morbidity and mortality of surgical patients. This audit of AKI in an Irish Gynaecological Oncology Practice aims to highlight the prevalence, identify risk factors in the pre, intra and postoperative periods and assess management set against standards established by the NICE guidelines for AKI. We aim to also highlight factors specific to Gynaecological Oncology and potential methods to reduce risk of AKI in our patient group.

Method

Definition of AKI set in line with RIFLE, AKIN & KDIGO criteria. Retrospective data collection of 300 patients via electronic patient records, laboratory data, surgical and anaesthetic records. Pre defined proforma for data collection.

Results

Overall incidence of AKI 4.3% (13) and all developed within 72 hours of admission. Preoperative risk factors identified: Diabetes Mellitus and Hypertension (p<0.001). Median duration of preoperative fasting was 16 hours. 64% received IV fluids from 6am on day of surgery. Ovarian malignancy was of highest risk group. Episodes of intraoperative hypotension (set as <80 systolic) were recorded in 38% of patients. Postoperative nephrotoxic drugs were implicated in 24% (3) cases. 84% (11) patients had Creatinine levels returned to baseline by Day 4. Remainder all underwent Ultrasound investigation, however, no patient required referral to nephrology.

Conclusion

Our department has a AKI rate OF 4.3% in comparison to other reports (range 6-13%). However, given the high risk group within Gynaecological Oncology care must be given to preoperative fluid administration, avoidance of nephrotoxic drugs and avoidance of acute hypotension intraoperatively.
MISCELLANEOUS

ESGO7-1119

AWARENESS AND COMPLIANCE WITH PHARMACOVIGILANCE REQUIREMENTS AMONGST UK ONCOLOGY HEALTH CARE PROFESSIONALS

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Aims

To explore understanding of and compliance with adverse event (AE) reporting requirements in the real world amongst UK oncology health care professionals

Method

A questionnaire was electronically distributed to oncology pharmacists (P) via British Oncology Pharmacy Association (BOPA), oncologists (O) through Association of Cancer Physicians (ACP) and nurses (N) via UK Oncology Nursing Society (UKONS).

Results

125 (42 O, 61 P, 22 N) clinicians participated in the questionnaire. Definition of black triangle unknown by 26% (55% O, 5% P, 28% N), 54% do not alter their AE reporting in presence of a black triangle. Once a black triangle is removed only 38% were aware which AEs should be reported. 17% have never reported an AE and 7% report over 10 AEs a year. 46% (62% O, 43% P, 25% N) do not report all serious AEs for established medicines, including life-threatening or disabling AEs. Main limitations to underreporting AEs were; decision on what to report (45%); time consumed (41%); perceived not serious enough (35%) and follow up process (23%).

Conclusion

The consistent outcome from the study across all oncology HCPs, was the underreporting of drug related serious AEs. Reasons identified in the study include the time consuming nature of AE reporting and a lack of understanding around the black triangle and AE reporting process. There is a need to further support HCP education on AE reporting coupled with a review of the current reporting process to ensure maximal engagement.
HIGH DEPENDENCY UNIT UTILISATION AFTER GYNAECOLOGICAL ONCOLOGY SURGERY IN SOUTH WEST WALES
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1Singleton Hospital-NHS Trust Foundation, Gynaecological Oncology, Swansea, United Kingdom

Aims

The aim of this observational cohort study was to calculate the rate of high dependency unit (HDU) admission for patients undergoing gynaecological oncology surgery in a regional centre and to determine risk factors associated with unplanned admission and length of HDU stay respectively.

Method

Data were extracted from a prospectively maintained gynecological oncology surgical database for patients undergoing major surgery between February 2014 and March 2017. Pre- and intra-operative variables were compared between planned and unanticipated admission. In addition, we compared variables affecting length of admission using univariate and multivariate logistic regression analysis including postoperative factors.

Results

A total of 440 patients underwent major surgery in our centre for gynaecological malignancy over this 3-year period. The overall admission rate to HDU was 7.5% (33/440). The planned admission rate was 5.9% (26/440) and the unplanned admission rate was 1.69% (7/440). The mean duration of stay was 3.57 (range 1-12) days. Independent predictors of prolonged admission to HDU included: ovarian origin of tumour (OR=20.7, p-value<0.001), post-op lactate >1.2 mmol/L (OR=20.3, p-value<0.001), and APACHE II score> 15 (OR=17.8, p-value<0.001). Intra-operative transfusion was significantly correlated with unanticipated HDU admission (p-value<0.001).

Conclusion

The rate of planned and unplanned admissions to HDU in our centre was relatively low compared to published guidance. We have identified variables that are potentially predictive of unplanned HDU admission and length of stay respectively. Our future aim to is to establish a risk scoring system so that we can reduce unplanned HDU admission rates further.
Endometriosis-associated malignant transformation in abdominal surgical scar is very rare and aggressive phenomenon. Our review aims to provide a clinical overview, focusing on risk factors affecting survival.

Method

We performed a systematic-review based on prior reviews and case reports regarding the phenomenon published as abstracts in English, since 1980 up to 2016. Overall we identified 47 cases, and we included another case from our institution. We analyzed the data, focusing on risk factors that might affect overall survival.

Results

All the patients reported in the literature, had a uterine surgery, mainly caesarean-section (CS). The average time-lag from first surgery to the diagnosis of cancer was about 19 years. Clear-cell carcinoma was the most prevalent histology (67%), followed by endometrioid adenocarcinoma (15%). Most of the patients were treated by extensive surgery and chemotherapy and/or radiation. Overall 5-years survival was about 40%. The median survival was 42 months. Although our review is currently the largest in the literature, we cannot draw any statistical significant results due to the limited number of patients reported. On multiple logistic-regression model and Cox-regression model we found a tendency towards less favorable prognosis with clear-cell histologic type in the first 3 years (p=0.169) and tumor diameter larger than 8 cm in non-clear-cell histology, 18 months post diagnosis (p=0.06).

Conclusion

Endometriosis-associated malignant transformation in abdominal scar is rare and aggressive. It is mostly related to CS scars, and is diagnosed many years post-surgery. Clear-cell histology tends to endure worse prognosis. The treatment is mainly, extensive surgery and adjuvant chemotherapy and/or radiotherapy.
MISCELLANEOUS

ESGO7-0892

THE BELGIAN REGISTRY FOR GESTATIONAL TROPHOBLASTIC DISEASES: CENTRAL PATHOLOGICAL REVIEW

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2University Hospital of Liège, Department of Pathologic Anatomy, Liège, Belgium
3University Hospitals Leuven, Department of Pathologic Anatomy, Leuven, Belgium
4Erasmus Hospital, Department of Pathologic Anatomy, Brussels, Belgium
5University Hospital Saint-Luc, Department of Pathologic Anatomy, Brussels, Belgium
6University Hospital of Liège, Department of Obstetrics and Gynaecology, Liège, Belgium
7Leuven Cancer Institute University Hospitals Leuven, Department of Obstetrics and Gynaecology, Leuven, Belgium

Aims

We aimed to compare local pathology reports of gestational trophoblastic diseases (GTD) with central pathological reviews.

Method

This prospective observational study used the data of the Belgian register for GTD between July 2012 and January 2017. We compared pathology reports of local pathologists with the central review by the pathologists of the Belgian Registry. Of a total of 332 patients, 2 were excluded (one with suspicion of mole not otherwise specified and one extra-uterine pregnancy with increased hCG level without proven molar pregnancy), 21 data missing and 6 without pathology. Pathology slides of 303 patients were reread by a central pathologist.

Results

Our data showed a disagreement between local and central pathologist in 66 cases (24%). Downgrading (e.g. complete mole to abortion) was observed in 30 cases (46%), upgrading (e.g. complete mole to choriocarcinoma) was observed in 36 cases (55%). After primary diagnosis of a partial mole or complete mole, rate of agreement was 59.5% and 88.5% respectively. The diagnosis of choriocarcinoma (n = 8) was confirmed in 75%. There was one initial diagnosis of invasive mole, which was downgraded to a complete mole. When the local pathologist diagnosed a placental site trophoblastic tumour, the expert agreed in 2 out of 3 cases. The only epithelioid trophoblastic tumour at initial diagnosis was confirmed by the central pathologist.

Conclusion

A review of the pathology report by a central pathologist changed the diagnosis of patients with GTD in 24%. The revised diagnosis had an important impact on the follow-up and treatment of these patients.
THE BELGIAN REGISTRY FOR GESTATIONAL TROPHOBLASTIC DISEASES: CURATIVE EFFECT OF A SECOND CURETTAGE


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2University Hospital of Liège, Department of Pathologic Anatomy, Liège, Belgium
3University Hospitals Leuven, Department of Pathologic Anatomy, Leuven, Belgium
4Erasmus Hospital, Department of Pathologic Anatomy, Brussels, Belgium
5University Hospital Saint-Luc, Department of Pathologic Anatomy, Brussels, Belgium
6University Hospital of Liège, Department of Obstetrics and Gynaecology, Liège, Belgium
7Leuven Cancer Institute University Hospitals Leuven, Department of Obstetrics and Gynaecology, Leuven, Belgium

Aims

We assessed the curative effect of a second curettage in patients with persistent hCG serum levels after first curettage for a gestational trophoblastic disease (GTD).

Method

This prospective observational study used the data of the Belgian register for GTD between July 2012 and January 2017. We analysed the data of patients who underwent a second curettage. We included 313 patients in the database. Seventeen patients were excluded for various reasons (no pathology report, no information about treatment or lost to follow-up). Primary endpoints were need for second curettage and chemotherapy.

Results

There were 85 partial moles and 147 complete moles diagnosed. Choriocarcinoma and invasive mole was diagnosed in ten and three patients respectively. Placental site trophoblastic tumour and epithelioid trophoblastic tumour was diagnosed each in two patients. Thirty-seven patients of the study population (12%) underwent a second curettage, 21 patients (57%) needed no further treatment afterwards. Sixteen patients (43%) needed postoperatively further chemotherapy. Of these patients 12 (75%) were cured with single-agent chemotherapy and 4 patients (25%) needed multi-agent chemotherapy. Patients with hCG levels below 5000 IU/L undergoing a second curettage were cured without chemotherapy in 65% versus 45% of patients with hCG level more than 5000 IU/L. Of the ten patients with a hCG level below 1000 IU/L, eight were cured without chemotherapy.

Conclusion

Patients with persistent trophoblastic diseases with persistent hCG level can benefit from a second curettage to avoid chemotherapy, especially when the hCG level is lower than 5000 IU/L and even more if hCG level is below 1000 IU/L.
A NATIONAL, PROSPECTIVE OBSERVATIONAL STUDY OF FIRST RECURRENCE AFTER PRIMARY TREATMENT FOR GYNECOLOGICAL CANCER IN NORWAY


Aims

Gynecological cancer patients are routinely followed up for 5 years after primary treatment. However, the value of such follow-up has been debated, as retrospective studies indicate that first recurrence is often symptomatic and occurs within 2-3 years of primary treatment. We prospectively investigated time to first recurrence, symptoms at recurrence, diagnostic procedures, and recurrence treatment in gynecological cancer patients after primary curative treatment.

Method

Clinicians from 21 hospitals in Norway interviewed 680 patients with first recurrence of gynecological cancer (409 ovarian, 213 uterine, and 58 cervical cancer patients) between 2012 and 2016. A standardized questionnaire was used to collect information on self-reported and clinical variables.

Results

Within 2 years of primary treatment, 72% of ovarian, 64% of uterine, and 66% of cervical cancer patients were diagnosed with first recurrence, and 54%, 67%, and 72%, respectively, had symptomatic recurrence. 46% of symptomatic patients failed to make an appointment before their next scheduled follow-up visit.

Conclusion

This is the first prospective, nationwide study to systematically record information on gynecological cancer recurrences. Most recurrences occurred within 2 years of primary treatment; the mean annual incidence rate for years 3-5 after primary treatment was <7%. Sixty percent of patients experienced symptomatic recurrence, but 46% of the symptomatic patients failed to make an appointment earlier than scheduled. Hospital-based follow-up is resource-demanding and may lead to delayed diagnosis of recurrence. Our results imply that shorter hospital-based follow-up should be considered, and patient self-management encouraged.
FACTORS PREDICTING THE QUALITY OF LIFE IN THAI WOMEN AFTER HYSTERECTOMY

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1Faculty of Medicine Ramathibodi Hospital, Nursing Department Mahidol University, Bangkok, Thailand
2Faculty of Medicine Ramathibodi Hospital, Ramathibodi Hospital Mahidol University, Bangkok, Thailand

Aims

Purpose of this study was to study factors predicting the quality of life in Thai women after hysterectomy in Ramathibodi hospital.

Method

This study was cross-sectional research. Participants were 70 women after hysterectomy at Ramathibodi hospital during January – June 2016. The instruments were (1) the personal disease and treatment data developed by principal investigator, and (2) the World Health Organization quality of life – Thai version (WHOQOL-BREF-THAI) developed by WHO. Alpha Cronbach’s coefficient for WHOQOL-BREF-THAI questionnaires in this study was .871. Data were analyzed by descriptive statistics and multiple regression using enter technique.

Results

Results found that health status could predict the quality of life, at .001 level, while education level could predict the quality of life at .05 level. However, age group in reproductive period and partner status could not predict the quality of life in women after hysterectomy. These variables could predict the quality of life in these women 25.8%.

Conclusion

Results from the study can be used as evidence-based to provide and improve quality of life in women after hysterectomy.
THE DISTRIBUTION AND INCIDENCE OF LYMPHOCELES FOLLOWING LYMPHADENECTOMY IN PATIENTS WITH GYNECOLOGIC CANCER

Y.B. Ko¹, S.Y. Song¹
¹Chungnam National University Hospital, Department of Obstetrics & Gynecology, Daejeon, Republic of Korea

Aims

To identify the distribution and incidence of lymphoceles following lymphadenectomy in patients undergoing the pelvic lymphadenectomy or pelvic and paraaortic lymphadenectomy for gynecologic cancer

Method

A total of 86 patients with endometrial, ovarian or cervical cancer underwent pelvic or combined pelvic and paraaortic lymphadenectomy as a primary surgical treatment at single institution from March 2013 to October 2015 and followed up with computed tomography or magnetic resonance imaging. We retrospectively examined the distribution and incidence of lymphoceles after lymphadenectomy.

Results

Four to 8 weeks after operation, 27 cases of lymphocele (33.3%) were detected. The incidence of lymphocele after pelvic and paraaortic lymphadenectomy was higher than that after pelvic lymphadenectomy (81.5% and 18.5%, respectively, p<0.001). The differences of distribution of lymphocyte between pelvic and paraaortic were revealed (75.6% vs 24.4%). We found a statistically significant difference in the incidence of lymphocele between right and left sides (p<0.012). The incidence of lymphocele of left side was higher than that of right side after pelvic lymphadenectomy (30% vs 70%, respectively, p=0.038), however, the incidence of lymphocele between right and left sides were not significantly different after paraaortic lymphadenectomy (32.3% vs 67.7%, p=0.308).

Conclusion

The incidence of lymphocele in pelvic area is higher than that in paraaortic area after lymphadenectomy for gynecologic cancer. The incidence of left side lymphocele is higher than that of right side lymphocele in pelvic area.
Aims

Usual VIN (uVIN), responsible for 20% of the vulvar cancers, is caused by a persistent human papillomavirus (HPV) infection. A better understanding of the microenvironment in relation to lymph node metastasis is essential for the development of effective immunotherapeutic strategies for these tumors.

Method

In the present study, we investigated the microenvironment of tumor-draining lymph nodes of HPV-related vulvar cancer patients, by comprehensive four-color flow cytometry-based phenotyping and enumeration of different T cell subsets by studying expression levels of activation markers (ICOS and HLA-DR), co-inhibitory markers (CTLA-4 and PD-1), and FoxP3+ regulatory T cells (Tregs) levels in tumor-negative (LN-, n=6) versus tumor-positive lymph nodes (LN+, n=5) obtained after surgery as primary treatment.

Results

We found significantly more double-negative CD4-CD8- T cells, significantly more FoxP3+ Tregs, and a lower CD8+ T cell/FoxP3+ Treg ratio in LN+ compared to LN-. Assessment of the expression of the immune checkpoints CTLA-4 and PD-1 on the T cell subsets showed selective up-regulation of CTLA-4+CD4+ T cell rates in LN+ versus LN- (p<0.03).

Conclusion

Higher frequencies of suppressive T cell subsets (CD4-CD8- and FoxP3+ Tregs) and CTLA-4+CD4+ T cells are present in LN+ compared to LN- from patients with HPV-related vulvar cancer. Undoubtedly, the numbers of included samples in this study will have to be increased to obtain higher statistical power, but our preliminary data clearly point to the potential of (local) CTLA-4 blockade in the treatment of early-stage or locally advanced vulvar carcinoma, in order to counter apparent immune suppression.
OVARIAN CANCER

ESGO7-0291

DIAGNOSTIC DIFFICULTIES OF ASYMPTOMATIC PRIMARY CARCINOID TUMOR OF THE OVARY: CASE REPORT

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Aims

Primary carcinoid tumor of the ovary is a very rare disease. A 59-year-old Caucasian patient was admitted to our Clinic for surgical treatment because of left ovarian tumor.

Method

The patient was asymptomatic. She delivered twice vaginally. She had appendectomy at age of 18 years. The family history of malignancies was nonsignificant. Ultrasound examination showed unilateral irregular cyst wall with a sludge on the internal walls and ground glass appearance of the fluid content suggesting endometriotic cyst. The size of the cyst was 28 mm and the wall had no features of vascularization. Serum level of CA125 was 11 U/ml. The IOTA-ADNEX model showed 97.9% probability of being nonmalignant. The patient underwent laparoscopy with bilateral adnexectomy. Initial intraoperative histopathological assessment of the cyst revealed mature teratoma. The patient was discharged to home in good general condition.

Results

The final histological assessment showed mature teratoma, with cartilage tissues and foci of carcinoid in the tumor. Immunohistochemical staining was positive for chromogranin (+++) and Ki67 (<5%). The patient was admitted again to hospital for further assessment. Computed tomography showed no abnormalities apart from mild osteoarthritic changes of the vertebral column. After discussion with the patient, a staging operation was performed. The excised uterus, cervix, ovaries, oviducts and lymph nodes did not show any malignant changes. The patient was discharged to home on 5th operative day in good general condition.

Conclusion

The rarity of the disease and absence of the symptoms caused ultrasound and pathological assessment difficulties in the assessment of the adnexal tumor.
OVARIAN CANCER

ESGO7-0234

CA 125, HE4, SMRP, FOLR1 IN PELVIC MASSES

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Aims

An adnexal mass is a common gynecologic problem and malignancy must be excluded for any mass that is not clearly benign. Since ovarian cancer is the most common cause of gynecologic cancer death. The differential diagnosis of benign and malignant neoplastic masses is important for referring the patient to the gynecologic oncologist. Use of serum biomarkers for the diagnosis of ovarian cancer is an active area of investigation.

The aim of this study is researching the effectiveness of cancer antigen 125 (CA 125), human epididymis protein (HE4), soluble mesothelin related peptide (SMRP) and folate receptor 1 (FOLR1) to determine malignant ovarian masses.

Method

Our research was performed between September 2014 and January 2017 in our clinic. 95 operated patients because of pelvic masses are included. Preoperatively CA 125, HE4, SMRP, FOLR1 levels are measured for each patient and relationship between tumor marker levels and pathological reports is examined.

Results

HE4 and SMRP levels are found higher in malignant masses significantly. But CA 125 and FOLR1 levels are not related with malignancy.

Conclusion

HE4 and SMRP can be used as a serum biomarker for prediction of ovarian cancer according to our study. However the data should be supported with more studies.
OVARIAN CANCER

ESGO7-0052

MANAGEMENT OF MALIGNANT INTESTINAL OBSTRUCTION AFTER OVARIAN CANCER SURGERY:
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Aims

compare the impact of surgical versus medical management on the survival of patients presenting with small bowel obstruction secondary to recurrent ovarian cancer

Method

Review of all patients with SBO due to recurrent ovarian cancer at Oncology center , Mansoura University in between January 2007 , and March 30, 2016. The data abstracted from patient registry included demographics, primary cancer characteristics, detailed clinical information at the time of SBO, management strategy, and outcome

Results

39 patients met our search criteria, 7 were excluded because of a paucity of medical information. O 93% of the patients had stage III/IV ovarian cancer, while 7 % had stage I/II. The median time from tumor recurrence to bowel obstruction was 19 months. 19 (59%) of patients underwent surgery for management of bowel obstruction and the remaining 13 (41%) were managed conservatively with various medical approaches. one year survival for the surgically managed patients was 12 % compared to 14 % for those who received medical treatment . There was no difference in survival for patients based on histology (p = 0.38), grade (p = 0.077), grade of SBO (p = 0.56). Patients with stage I/II had a median survival of 26 months versus stage III/IV at 3 months .

Conclusion

There is a no evidence to show the superiority of surgical management in patients not meeting those criteria.
CHARACTERISTICS OF LGSOC ; A SINGLE CENTER EXPERIENCE
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Aims

The objective of the study is to identify the characteristics of Low grade serous ovarian cancers.

Method

We retrospectively analysed the ovarian cancer patients underwent cytoreductive surgery at Baskent University School of Medicine between the years 2007-2017. All patients received paclitaxel carboplatin based chemotherapy regimen according to their FIGO stages. Statistical analyses were done by using spss package programme.

Results

30 patients met the inclusion criteria. The median age at time of diagnosis was 45.1 years (24-78). Tumor characteristics are given in Table 1. Median PFS was 48.7 (95% CI, 31.2, 66.2). 5-year Median OS was 60.7 (95 CI, 33.6, 87.9). 8 (33%) patients had platinum resistance and platinum resistant patients had lower OS (p=0.033).

Conclusion

LGSOC is very rare and tural characteristics are not very well known. Chemoresistance is one of the strongest factors that affect survival therefore it should be clarified and new agents must be included to chemotherapy regimens.
LAPAROSCOPIC SECONDARY CYTOREDUCTION AND HYPERTHERMIA INTRAPERITONEAL CHEMOTHERAPY FOR RECURRENT OVARIAN CANCER

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Aims

To perform laparoscopic hyperthermic intraperitoneal chemotherapy (HIPEC) after the laparoscopic cytoreduction for a patient with recurrent ovarian cancer.

Method

A 41-year-old woman who had maximal debulking for ovarian serous adenocarcinoma 13 months ago, followed by adjuvant chemotherapy. Local recurrence was detected in PET CT and MRI; there were two nodules (15x10 mm and 10x8 mm) on the mesosigmoid colon found on routine follow up. Secondary cytoreductive surgery with HIPEC was planned. The first 5mm trocar placement was at Palmer point. The procedure continued after abdominopelvic cavity inspection with 5mm scope. Then 10-mm trocar was placed at the level of umbilicus. The 5-mm scope was changed to 10-mm scope. Another 5-mm trocar was placed across the Palmer point, 3 cm under the right rib. And three 5-mm skin incisions were made for accessory lower quadrant trocar placement: 2 lateral, approximately 3 cm medial to the anterior superior iliac spine and 1 suprapubic. Totally 6 trocars were inserted to perform of HIPEC. After the adhesiolysis, the two nodules were found and extracted from abdomen by endobag. A 100 mg/m² (175 mg totally) cisplatin was administered for 90 minutes at a temperature of 42 degrees. Procedure went uneventful.

Results

There was no hepatic, renal or bone marrow toxicity. Patient discharged from the hospital 2nd postoperative day.

Conclusion

Minimally invasive surgical approach and with HIPEC can be performed in selected ovarian cancer patients.
OVARIAN CANCER

ESGO7-0841

LAPAROSCOPIC PARA-AORTIC LYMPHADENECTOMY IN OVARIAN CANCER

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Aims

To demonstrate step-by-step para-aortic lymphadenectomy

Method

A 31-year-old presented with right ovarian cyst. Patient had one year back laparoscopic right ovarian cystectomy. The histopathology was Sertoli Lydig ovarian tumor. Patient planned for laparoscopic cystectomy and for frozen section in the same session. Patient had right salpingooopherectomy. The specimens sent for frozen section and the result was sex cord stromal ovarian tumor cannot exclude malignancy. Therefore, procedure continued for surgical staging laparoscopically. In this video we demonstrate the para-aortic lymphadenectomy.

Results

The procedure went uneventful. The patient was discharged on 3rd postoperative day. The histopathology result showed Sex Cord Stromal tumor with calcification. Total number of lymph nodes was 45.

Conclusion

Laparoscopic surgical staging for early ovarian cancer is feasible for early ovarian cancers. The number of lymph nodes is similar compared to open surgery.
OVARIAN CANCER

ESGO7-0300

A CASE OF ADVANCED STAGE OVARIAN CARCINOMA WITH THORACIC SARCOIDOSIS WHICH WAS THOUGHT AS DISTANT METASTASIS

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Aims

Epithelial ovarian carcinoma is the leading cause of death due to gynecologic malignancies. Most of the patients are diagnosed in advanced stages. Adjuvant taxane + platinum chemotherapy after primary debulking surgery (PDS) or neoadjuvant chemotherapy (NACT) followed by interval debulking surgery (IDS) is chosen according to patients’ and disease’s status. Diagnostic laparoscopy and/or imaging studies can be used to determine if the disease can be optimally debulked or not. PET/CT is a widely used method to identify extend of the disease.

Method

We here present a case of a patient who received neoadjuvant chemotherapy due to her widespread intraabdominal disease. She also had pathologic PET/CT findings in thorax prior to NACT. After 3 cycles of paclitaxel + carboplatin chemotherapy her serum CA 125 level dropped to 22.2 U/ml from 1907.6 U/ml. Her pathological PET/CT findings regressed but thoracic findings were stable. The pathologic examination of thoracic lymph nodes revealed granulomatous lymphadenitis in favor of sarcoidosis. She had undergone IDS and received adjuvant chemotherapy.

Results

not available

Conclusion

PET/CT uses FDG which accumulates in tissues with enhanced glucose metabolism. Therefore, it sometimes cannot categorize benign and malignant lesions accurately. Patients should be evaluated carefully with different modalities and physical examination in order to choose the right approach.
OVARIAN CANCER

ESGO7-0046

E-CADHERIN AND ITS ROLE IN PATIENTS WITH ADVANCED STAGE SEROUS OVARIAN CANCER

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Aims

Ovarian cancer is fifth leading cause of cancer deaths and has the highest mortality rate among gynecologic cancers in women in North America and Europe.

The aim of this study is to analyze the correlation between E-cadherin expression and clinical and pathohistological features and overall survival in advanced-stage serous ovarian carcinoma.

Method

Expression of E-cadherin was examined immunohistochemically in tissue samples from 36 patients with advanced-stage serous ovarian cancer. FIGO Stage of the disease, tumor differentiation, size of the residual tumor, and lymphovascular invasion were included as clinico pathological characteristics. We determined the Overall survival (OS) as the time from surgery to the last follow-up date. Histological samples were retrieved from Institute of Pathology, Medical Faculty Skopje from 2010 to 2013. We examined OS by using Kaplan–Meier method and log-rank test to assess the differences between two E-cadherin groups, positive and negative. Multivariate analyses were done with Cox's model.

Results

Statistical analysis found that E-cadherin immunoreactivity is not in correlation with FIGO stage, tumor grade, residual tumor volume and vascular invasion. Negative E-cadherin expression predicts shorter OS. Multivariate analyses show that negative E-cadherin expression, FIGO stage and residual tumor volume > 1 cm, after primary cytoreductive surgery are predictors of shorter OS.

Conclusion

Negative E-cadherin expression seems to predict unfavorable clinical outcome in patients with advanced serous ovarian cancer, equal to higher FIGO stage and residual tumor volume after primary surgery. Negative E-cadherin expression emerges as a significant independent predictor for poorer OS. We concluded that according to analyses E-cadherin has prognostic value as a marker.
PRIMARY ENDOMETRIOID STROMAL SARCOMA OF THE OVARY - A VERY RARE ONCOLOGICAL DISEASE

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Aims

Endometrial stromal sarcoma (ESS) is a rare pathology that usually originates in the uterine body, although it may also arise from extra-uterine sites, with the ovary being the most common site. Endometriosis may be the starting point for these neoplasms, although this malignant transformation is even rarer.

We describe a clinical case of a 47-year-old woman, with irrelevant pathological personal antecedents. She was submitted to an exploratory laparotomy to study bilateral adnexal masses (diagnosed on an abdominal computed tomography - CT) on January 2009. Hysterectomy with bilateral adnexectomy, omentectomy and appendicectomy were done. Anatomopathological examination revealed a primary endometrioid stromal sarcoma of the ovary with invasion of the capsule, grafted on lesions of endometriosis. No evidence of disease in staging exams. She was submitted to adjuvant chemotherapy with doxorubicin, 6 cycles, until August 2009. First disease recurrence was diagnosed 1 month after completing adjuvant treatment. During the next 8 years she was submitted to many different recurrence treatments that included: chemotherapy, hormonotherapy, and surgery. Nowadays, she is receiving best supportive care since January 2017, maintaining an Eastern Cooperative Oncology Group Performance Status of 1.

ESS grafted on endometriosis is considered to be an indolent tumor, although late recurrences and distant metastasis may occur. Treatment of metastatic disease is particularly challenging, because of the rarity of these tumors, there is little information in the literature related with the best approach.
OVARIAN CANCER

ESGO7-1202

A SINGLE INSTITUTION QUALITY ASSURANCE PROGRAM FOR PRIMARY DEBULKING SURGERY IN ADVANCED OVARIAN/TUBAL/PRIMARY PERITONEAL CANCER

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Aims

To report initial results following the implementation of prospective registration of surgical procedures and completeness, postoperative complications and postoperative mortality, as part of a single institution quality assurance program in advanced ovarian/tubal/primary peritoneal cancer.

Method

Prospective data from 01.01.2014 to 31.12.2016. Details on surgical procedures categorized into surgical complexity scores (SCS). 3 surgical outcome categories: no gross residual tumor (NGR), gross residual tumor ≤ 1 cm (GR-1) and gross residual tumor > 1 cm (bulky) (GR-B). 30 days postoperative complications according to the Clavien Dindo Classification (CD) and 30 days’ postoperative mortality. Finally, rate of chemotherapy omission and time to initiation of chemotherapy was registered together with recurrences for the calculation of progression-free survival.

Results

Among 153 patients diagnosed, 103 (70%) had stages 3 or 4 of whom 96 underwent primary debulking surgery (PDS). A trend of increasing surgical complexity was observed. The NGR rate was 46 %, 57 % and 73 % in 2014, 2015 and 2016, respectively. Corresponding rates for GR-1 were 18 %, 20 % and 18 %; and for GR-B 36 %, 23 % and 9 %. Corresponding rates of clinically significant complications (CD III-IV) were 29 %, 20 % and 33 %. The rate of postoperative mortality (CD V) for the whole period was 5 %. Median PFS was 16.5 months increasing from 9.9 months for patients with GR-B to 24.0 months for patients with NGR.

Conclusion

Implementation of prospective registration of surgery may improve the surgical outcome in advanced ovarian cancer.
OVARIAN CANCER

ESGO7-1171

VIMENTINE AS A PREDICTIVE MARKER OF PLATINUM-BASED CHEMOTHERAPY IN OVARIAN CANCER PATIENTS

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Aims

The epithelial-mesenchymal transition (EMT) is a hallmark of the tumor metastatic potential. EMT can also influence on antitumor drugs activity, however clinical data are controversial. The aim of the study is to assess correlation of expression specific mesenchymal marker vimentine (Vim) in epithelial tumor cells with the progression-free survival (PFS) after completion of the first-line platinum and taxane-based chemotherapy

Method

58 surgical specimens of serous ovarian cancer were analyzed by flow cytometry (double immunofluorescence staining using pan-cytokeratin (CK, MNF116,DAKO) and Vim (SP20,BIOCARE) primary antibodies). All patients received the first-line platinum+taxane chemotherapy. Kaplan-Meier statistics and log-rank tests were used for the analysis.

Results

1. It was revealed significant differences in rate of CK/Vim co-expression in the tumors investigated. Average number of cells co-expressing CK/Vim were 42.9±13.9% (29-57%). 2. High and low EMT rates were defined in accordance to the median level of CK/Vim co-expression (≥ 42%). 3. Significant differences were shown between the groups with high and low rate of EMT: in 40 months after the first-line chemotherapy completion median PFS was 7 vs. 22 months and number of relapses – 71% vs. 50% respectively (p=0.025).

Conclusion

Identified correlation between level of CK/Vim co-expression and both PFS and number of relapses in 40 months after the first line chemotherapy completion indicates a poor prognostic value of EMT to assess in terms of CK/Vim co-expression level in prediction of the first line platinum+taxane chemotherapy efficacy in ovarian cancer patients. Supported by RFBR grants (15-04-06991-a,16-34-01049-mol-a) and President of RF grant-MK-7709.2016.7.
OVARIAN CANCER

ESGO7-1118

ANALYSIS OF MUCINOUS BORDERLINE OVARIAN TUMORS: A MULTICENTER STUDY


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Aims

The purposes of this study were to perform a retrospective assessment of the clinical characteristics, surgical management (especially appendectomy) and surgical outcomes, and to identify variables affecting disease-free survival (DFS) and overall survival (OVS), of patients with mucinous borderline ovarian tumors (mBOTs).

Method

The database of 14 gynecological oncology departments was comprehensively searched for women who underwent primary surgery for an ovarian tumor between January 1, 1998, and December 31, 2015, and whose final diagnosis was mBOT.

Results

A total of 364 patients with mBOT with a median age of 43.1 years were included in the analysis. The median survival time of all patients was 53.1 months. The majority of the staged cases were Stage IA (78.6%). In univariate and multivariate analyses, radical surgery, omentectomy, appendectomy, lymphadenectomy, and receiving adjuvant CT for stage ≥IC tumor were not independent prognostic factors for DFS and OS. Furthermore, FIGO stage (≥IC vs <IC), radical surgery, and staging surgery were not independent risk factors for recurrence of mBOTs. Finally, abnormal macroscopic appendicitis and FIGO stage (≥IC vs <IC) were independent risk factors for appendiceal involvement (P=0.032).

Conclusion

Patients with detailed surgical staging, including lymph node sampling or dissection, appendectomy, and omentectomy do not have lower recurrence rates. Furthermore, survival time is not prolonged. There is insufficient evidence to support a routine appendectomy for patients with a grossly normal appendix in mBOT. Detailed intraoperative exploration of the appendix is important, but appendectomy is only reasonable when the appendix is abnormal.
OVARIAN CANCER

ESGO7-0163

TP53 DOMAINS’ MUTATIONS ALTER GLYCOLYSIS IN EPITHELIAL OVARIAN CARCINOMA: EX-VIVO AND IN VITRO STUDY

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Aims

To investigate the effect of TP53 different domain mutations on its transcriptional activity, its ability to induce apoptosis and to regulate glucose consumption and lactate production in epithelial ovarian cancer.

Method

30 ovarian cancer biopsies were characterized. Immunohistochemistry for p53 expression and PCR for exons 2 till 11 were performed, followed by the Single Strand Conformation Polymorphism (SSCP) technique and sequencing. The transcriptional activity of p53 was studied by a qPCR for its target genes p21 and MDM2. Viability and Annexin V tests were performed to study the ability of mutant p53 to induce apoptosis. The expression of the glycolytic enzymes regulated by p53 was quantified by qPCR. SK-OV-3 cell line was transfected by different p53 mutated plasmids, and the same experiments performed on the biopsies were done on transfected cells.

Results

The immunohistochemistry and qPCR showed an approximately 2 folds increase in p53 expression between wild type and mutated cases. The expression of p21 and MDM2 decreased only in DNA binding domain mutated cases and transfected cells, which indicates a decreased transcriptional activity with this type of mutation. The highest increase in apoptosis induction was clear in Sk-Ov-3 cells transfected with WT p53, and p53 proline rich domain mutations decreased the protein’s apoptotic function. Glucose consumption and lactate production increased by mutated cells compared to wild type.

Conclusion

Mutant p53 is overexpressed in ovarian cancer cells. DNA binding domain mutations modify the protein’s transcriptional activity, whereas proline rich domain mutations decrease the protein’s apoptotic activity. Glycolysis is affected differently in both types.
OVARIAN CANCER

ESGO7-0175

EFFECT OF NEOADJUVANT CHEMOTHERAPY ON CA-125 SECRETION AND TELOMERASE ACTIVITY IN OVARIAN CANCER

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Aims

To evaluate the effect of neoadjuvant chemotherapy and the implication of PI3K/Akt/mTOR pathway on Ca-125 secretion and telomerase expression

Method

Two ovarian cancer cell lines SKOV-3 and IGROV-1 were treated with chemotherapy (Cisplatin CDDP (20 μM) and Paclitaxel PTX (100 nM)) during 48 hours and then 6 weeks. In order to study the presence of relation between these two markers, cell lines OVCAR-3, SK-OV-3 et IGROV-1 were treated with 3 telomerase inhibitors (BIBR-1532, Costunolide et MST-312), and different inhibitors of the PI3K / Akt / mTOR pathway (PI828, wortmanin, GSK692690 and rapamycin).

Results

Treatment of cells with chemotherapy agents during 48 hours has increased significantly the expression of both telomerase and CA125. A longer treatment (6 weeks) has shown an opposite effect. The decrease in serum marker is not only attributed to the diminution of tumor size , but also to the diminution of marker secretion by the cell itself. The three telomerase inhibitors decreased the Ca125 mRNA expression and protein secretion by the three cell lines. The same effect was obtained when cells were treated with hTERT siRNA. The activation of hTERT lead to an increase in Ca125 expression and secretion. Inhibition of PI3K/Akt/mTOR signaling pathway lead to a decrease in Ca125 concentration suggesting the involvement of this pathway in Ca125 regulation.

Conclusion

The inhibition of telomerase and PI3K/Akt /mTOR pathway decreased the Ca-125 secretion. Chemotherapy increase expression of both hTERT and Ca125 on short term treatment, but both parameters are decreased on long term.
OVARIAN CANCER

ESGO7-0815

MHC I DOWN-REGULATION AND PD-L1 EXPRESSION ARE MUTUALLY EXCLUSIVE IN SEROUS OVARIAN CANCER

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Aims

The importance of the tumor immune microenvironment in epithelial ovarian cancer (EOC) has been demonstrated and evokes high expectations for tumor specific immunotherapy. Currently, promising activity of antibodies targeting programmed cell death receptor ligand 1 (PD-L1) across multiple malignancies raise expectations on their role also in EOC. Our aim was to determine the clinical role of PD-L1 as mechanism to escape immune recognition in EOC.

Method

We analyzed PD-L1 expression of primary ovarian and peritoneal tumor tissues together with several other parameters (whole transcriptomes of isolated tumor cells, local and systemic immune cells, systemic cytokines and metabolites) and compared PD-L1 expression between primary tumor and tumor recurrences.

Results

All expressed major histocompatibility complex (MHC) I genes were negatively correlated to PD-L1 abundances on tumor tissues, indicating two mutually exclusive immune-evasion mechanisms in EOC: either down-regulation of T-cell mediated immunity by PD-L1 expression or silencing of self-antigen presentation by down-regulation of the MHC I complex. In our cohort, low PD-L1 expression is associated with unfavorable outcome. Differences in immune cell populations, cytokines, and metabolites suggest the existence of concurrent pathways for progression of this disease. Furthermore, recurrences showed significantly increased PD-L1 expression compared to the primary tumors, supporting trials of checkpoint inhibition in the recurrent setting.

Conclusion

This data shows that targeting immune-escape mechanisms is complex and various pathways have to be considered simultaneously. As data obtained within different cancer types might not apply for all tumor entities we still need to define criteria to guide patient selection for PD-L1 therapy in EOC.
A RARE CASE OF MALIGNANT PERICARDIAL EFFUSION DUE TO OVARIAN ADENOCARCINOMA
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Aims
Malignant pericardial effusion with cardiac tamponade is an uncommon metastatic of manifestation gynecologic cancers. There are very few documented cases involving treatment for ovarian cancer metastatic to pericardium.

Method
We describe a 64 years old patient with ovarian cancer who developed pericardial effusion with cardiac tamponade and was successfully treated with pericardiocentesis and additional chemotherapy.

Results
-

Conclusion
There are a limited number of reported cases involving malignant pericardial effusions originated from ovarian adenocarcinoma. Consequently, there is less information documenting successful managment of this disease and patients prognosis.
A HUGUE BORDERLINE BRENNER TUMOUR OF THE OVARY WITH MUCINOUS BORDERLINE COMPONENT

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Aims

Brenner tumors, are rare tumors, representing between 2 and 5% of the ovarian tumors. Mucinous borderline tumors encompass approximately 35% of borderline ovarian tumors. We describe a rare case of a patient diagnosed with two ovarian tumours in the left ovary a huge borderline brenner tumour and a borderline mucinous ovarian tumour.

Method

A 54-year-old woman presented with abdominal pain and abdominal enlargement. Pelvic tomography revealed a bulky abdominopelvic mass that came from the left ovary, measured 25x28 cm. Preoperative tumor marker assays showed a normal CA-125 antigen level. A midline laparotomy was performed. The abdominal exploration confirmed the presence of a bulky tumor of the left ovary. The contralateral ovary appeared normal. Intraoperative frozen section analysis revealed malignant lesion. She underwent surgical staging with total hysterectomy, bilateral salpingo-oophorectomy, bilateral pelvic-paraaortic lymph node dissection, omentectomy, peritoneal cytology, multiple peritoneal biopsies. The final pathology analysis showed a borderline brenner and mucinous of the left ovary, without rupture of the capsule.

Results

Borderline Brenner tumors are rare; they represent only 4–5% of the total of Brenner tumors. 25–36% of the cases, the Brenner tumors coexist with other tumoral lesions, such as cystic mucinous tumor, serous cyst adenoma. Most of the borderline Brenner tumors are detected in the initial stage and have a favorable prognosis after the surgical treatment.

Conclusion

The borderline Brenner tumor diagnosed by us in a 54-year-old patient presented with nonspecific symptoms. The diagnosis was done after surgery by the classical histological examination associated with immunohistochemical examinations.
OVARIAN CANCER

ESGO7-1025

HOW TO DEAL WITH MICROSCOPIC PERITONEAL METASTASES OF EPITHELIAL OVARIAN CANCER?
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Aims

Despite clinical remission after the completion of complete macroscopic cytoreductive surgery and platinum-based chemotherapy, 60% of patient treated for ovarian cancer will develop peritoneal recurrences. This suggests that microscopic lesions may be present that are not eradicated by conventional surgery, not controlled by systemic chemotherapy and may be part of the mechanisms leading to peritoneal recurrences. We present the results of a review that aim to precise available scientific evidences that deal with microscopic peritoneal metastases and their implications.

Method

Eligible studies related to microscopic peritoneal involvement in patient presenting with ovarian cancer, published from 1980 to June 2016, were retrieved through ClinicalTrials.gov, MEDLINE, Cochrane databases and bibliography searches. To discuss expected benefits of intraperitoneal chemotherapy, fluorescence-guided surgery or intraperitoneal photodynamic therapy, we reviewed most recent and relevant studies. The final reference list was generated based on originality and relevance to the broad scope of this review.

Results

Data concerning early-stage ovarian cancer suggest that occult peritoneal or epiploic metastases are present in 1.2% to 15.1% of cases. In advanced-stage, fluorescence imaging suggests that residual microscopic lesions are ignored by conventional surgery and may represent a relevant surgical therapeutic target. There are very few data in the literature to confirm the link between peritoneal recurrences and microscopic peritoneal metastases at diagnosis

Conclusion

A local therapeutic strategy may contribute to decrease the rate of peritoneal recurrence. Intraperitoneal chemotherapy, and targeted photodynamic therapy could play a role in this new paradigm. The roles of these different options must be defined by future researches.
OVARIAN CANCER

ESGO7-0202

THE IMPORTANCE OF DNA PLOIDY MEASUREMENT IN FOLLOW UP OF PATIENT WITH MALIGNANT EPITHELIAL OVARIAN TUMORS

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Aims

The aim of our study was to evaluate the importance of different of DNA ploidy parameters in analysis of survival rate in patients with malignant epithelial ovarian cancer.

Material: Our study was carried out on 105 patients with malignant common epithelial tumors of the ovary in the age ranged from 22 to 70 years (Mean value 45,2, SD=18,35 years)

Method

DNA ploidy measurement in cytological and histologiacal material of tumors was performed. To determine the prognostic significance of various ploidy parameters one-dimensional and multivariate statistical Cox analysis were performed.

Results

Analysis of hyperploidy index (DH) showed that patients with a degree of hyperploidy corresponding to> 3% have a roughly 7-fold greater risk of fatal outcome (Hazard ratio-7.20, p <0.001 , CI: 2.99-17.32) in comparison to patients with degree of hyperploidy below <3%. Analyzing the results of the ploidy balance (PB) shows, that patients with a ploidy balance <70% have a roughly 5 times higher risk of unfavorable prognosis (Hazard ratio-5.16) compared to patients with a balance of ploidy corresponded to > 70%. The result demonstrate that degree of ploidy parameters and aneuploidy in malignant epithelial tumor has important prognostic value.

Conclusion

Cox statistical analysis showed the measurement importance of different ploidy parameters in the overall survival of patients with malignant epithelial ovarian tumors (p <0.001). According to the one-dimensional and multivariate statistical analysis degree of aneuploidy (DA), degree of hyperploidy (DH) and ploidy balance (PB) are important indicators for the general survival rate of patients with malignant epithelial tumours of ovaries (p <0.001).
ISOLATED PELVIC RECURRENCE INVADING THE URINARY BLADDER AFTER SURGICALLY TREATED OVARIAN CANCER

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Aims

To report the case of a patient who was diagnosed with an isolated pelvic recurrence at 22 months after surgery for stage IIIC epithelial ovarian cancer.

Method

The 42-year-old patient has been submitted to total hysterectomy with bilateral adnexectomy, pelvic and para-aortic lymph node dissection for moderately differentiated epithelial ovarian cancer 22 months before.

Results

Postoperatively the patient was submitted to six cycles of taxanes and platinum based chemotherapy and at one year follow up she presented no sign of recurrence. However ten months later she presented for dysuria and hematuria and was diagnosed with an isolated recurrence in the urinary bladder. The recurrent tumor was successfully resected by performing a partial cystectomy with cystoraphy (Fig.1,2).

At one year follow-up she is free of recurrent disease.

Conclusion

Although is not a common situation, isolated pelvic recurrences after ovarian cancer might develop and are best treated by re-resection.
Aims

To demonstrate the safety and effectiveness of extended left upper abdominal quadrant as part of quaternary cytoreduction for relapsed ovarian cancer.

Method

We report the cases of four patients submitted to extended left upper abdominal quadrant as part of quaternary cytoreduction.

Results

The main visceral resections consisted of splenopancreatectomy – in three cases, partial gastrectomy in two cases, splenectomy in one case, diaphragmatic resections in two cases and left colonic resections in two cases (Figures 1-3).
During the postoperative course a patient developed a pancreatic fistula and necessitating reoperation.

**Conclusion**

Multiple visceral resections in the left upper abdominal quadrant can be safely associated as part of debulking surgery for relapsed ovarian cancer.
OVARian cancer

ESGO7-0562

DOUGLAS PERITONECTOMY AS PART OF RADICAL PELVIC SURGERY FOR ADVANCED STAGE Ovarian Cancer

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Aims

To demonstrate the safety and efficacy of Douglas pouch peritonectomy in stage IIIC ovarian cancer.

Method

We present a case series of five patients diagnosed with advanced stage ovarian cancer and Douglas pouch peritoneal carcinomatosis in whom colonic preservation was feasible.

Results

In all cases a total hysterectomy with bilateral adnexectomy, pelvic and para-aortic lymph node dissection, pelvic and parietal peritonectomy were performed. In all cases debulking to no gross residual disease was achieved; in the meantime Douglas peritonectomy was successfully performed, the rectosigmoidian loop being preserved in all cases (Figures 1-3).
There was no postoperative complication related to peritonectomy procedure.

**Conclusion**

Douglas peritonectomy can be safely performed in selected cases presenting peritoneal carcinomatosis with ovarian origin especially if no profound invasion of the digestive segments is encountered.
OVARIAN CANCER

ESGO7-0565

TOTAL PELVIC EXENTERATION FOR RELAPSED OVARIAN SARCOMA – A CASE REPORT

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Aims

To report a case of relapsed ovarian sarcoma successfully treated by total pelvic exenteration

Method

We present the case of a 67-year-old patient diagnosed with stage I ovarian carcinosarcoma who had been submitted to surgery with radical intent two years before. At that moment a total hysterectomy with bilateral adnexectomy and omentectomy were performed.

Results

At two year follow-up the patient was diagnosed with a pelvic recurrence invading the urinary bladder and the rectum. The patient was resubmitted to surgery, a total infralevator pelvic exenteration being performed (Figures 1, 2).

At one year follow up there are no signs of local or distant recurrence.

Conclusion

Although ovarian sarcomas are aggressive gynecological malignancies with poor outcomes, radical surgery might improve survival even in cases presenting recurrent lesions.
ITERATIVE RIGHT UPPER ABDOMINAL QUADRANT RESECTIONS FOR OVARIAN CANCER

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Aims

To report the case of a 56-year-old patient diagnosed with stage IIIC ovarian cancer submitted to iterative resections in right upper quadrant.

Method

Initially the patient was submitted to total hysterectomy, bilateral adnexectomy, pelvic, para-aortic and upper abdominal lymph node dissection for moderately differentiated epithelial ovarian cancer (Figure 1).

Results

At one year follow-up the patient was diagnosed with disseminated lesions on the right diaphragmatic surface and Glissonian capsule, so she was re-submitted to surgery (Figure 2).
The nodules were removed en bloc with right diaphragmatic peritonectomy and minor liver resection. Two years later the patient was diagnosed with an isolated parenchimatous liver metastasis which was successfully removed (Figure 3).

**Conclusion**

Iterative resections in the upper abdomen for relapsed ovarian cancer might significantly improve survival especially if a R0 resection is achieved.
CENTRAL NERVOUS SYSTEM (CNS) METASTASES IN GYNECOLOGIC MALIGNANCIES

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Aims

CNS metastases complicate the course of disease and are rarely reported in gynecologic malignancies (cervical/ endometrial/ ovarian cancer). There are no standardized treatment regimens for patients with CNS metastases from gynecologic malignancies. Due to their poor prognostic impact identification of risk factors and histopathologic parameters for risk stratification should be performed. Objective was to characterize patients with brain metastases from gynecologic malignancies.

Method

In a single center study the data of 28 patients with brain metastases from gynecologic malignancies, treated at the department of gynecology university Tübingen, germany between 2000-2015, were analysed retrospectively.

Results

We identified 18 patients with ovarian cancer, 6 patients with cervical cancer and 4 patients with endometrial cancer. Most common histology subtype was squamous cell carcinoma of the cervix, high-grade serous ovarian cancer and endometrioid endometrial cancer. At diagnosis of brain metastases almost all patients had distant metastases: in 90\% from cervical/ endometrial cancer; in 28\% from ovarian cancer. Patients presented advanced FIGO stages in 61\% and node-positivity in 39\%.

Median interval: first diagnosis to occurrence of CNSmetastases was longer in ovarian cancer (40.22 months (10-98 months) compared to cervical/ endometrial cancer (29.7 months (0-110 months). Median survival after detection of brain metastases was 6.14 months (1-17 months); endometrial/ cervical cancer: median 5.22 month (1-17 months); ovarian cancer: median 6.83 (2-15 months).

Conclusion

Management of these patients is challenging due to lack of effective treatments besides neurosurgical intervention. A risk stratification could be useful to identify risk factors for CNS metastases in gynecologic cancers.
OVARIAN CANCER

ESGO7-1147

ADULT-TYPE OVARIAN GRANULOSA CELL TUMORS (OGCTS): TREATMENT OUTCOMES FROM A SINGLE INSTITUTIONAL EXPERIENCE


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Aims

To report clinical characteristics and long-term outcomes of adult-type OGCTs at our center and to determine prognostic factors affecting relapse and survival.

Method

From 1988 to 2014, we retrospectively reviewed patients with adult-type OGCTs. Baseline characteristics, pathological findings and outcomes were analyzed.

Results

61 patients with adult-type OGCTs were identified with median age of 49 years. Median follow-up was 5.0 years. 74% of patients had FIGO stage I, 7% had stage II, 5% had stage III and unknown in 14%. Most common presenting symptoms included abdominal pain (43%) and vaginal bleeding (43%). Majority of patients (37 patients, 60.7%) were treated with TAH and BSO. 5 (8%) patients received adjuvant chemotherapy. Sixteen patients (26%) relapsed with a median time to relapse of 5.5 years. Half of recurrence (8 patients) occurred after 5 years of diagnosis. Five-year overall survival and disease-free survival were 93% and 84%, respectively. Factors associated with high risk of recurrence were ascites (p=0.000) and elevated preoperative CA 125 (0.048). Overall survival was significantly influenced by menopausal status (premenopausal 100% vs. postmenopausal 84%; p=0.02), preoperative CA 125 (normal 100% vs. elevated 64%; p=0.005), Ascites (present 33% vs. absent 100%; p=0.000), and age (<55 years 100% vs. ≥ 55 years 77%; p= 0.002)

Conclusion

This confirms a good outcome of patients with OGCTs. They require long-time follow-up because recurrence can occur many years after primary therapy. Presence of ascites and elevated preoperative CA 125 were associated with higher risk of recurrence and poor prognosis. Outcome seems not to be affected by fertility-sparing surgery.
OVARIAN CANCER

ESGO7-0731

RELEVANCE OF CA125, PLATELET COUNT AND NEUTROPHIL TO LYMPHOCYTE RATIO IN THE DIAGNOSIS AND FOLLOW-UP OF OVARIAN CANCER PATIENTS

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Aims

It has been shown that the immune system of ovarian cancer patients changes during disease course. Literature has demonstrated correlations between CA125, neutrophil to lymphocyte ratio (NLR), thrombocytosis and survival. This study explored these variables in ovarian cancer patients and whether a correlation exists between these clinical variables and the immune system.

Method

Serum samples of 52 ovarian cancer patients were collected at diagnosis and were retrospectively analysed for clinical characteristics, clinical parameters (NLR, CA125, platelet count, eosinophils, white blood cells (WBC)) and immune profile [IL-4 (interleukin), IL-10, IL-13, IL-17, TGF-β (transforming growth factor), arginase, IFN-γ (interferon gamma), VEGF (vascular endothelial growth factor), Gal-1 (galectin) and CCL-2 (chemokine (C-C) motif ligand 2)].

Results

Increasing NLR (p=0.0113), WBC (p= 0.003) and the absolute number of neutrophils (p=0.0013) were significantly correlated with decreasing overall survival. Increasing platelets were significantly correlated with increased risk of recurrence (p=0.0137). Eosinophil count was not correlated with survival. Platelet count was significantly correlated with IL-10 (p= 0.0001) and TGF-β (p= 0.029), NLR with arginase (p= 0.0482), high levels of CA125 (>105) with IFN-γ (p=0.029) and the percentage of neutrophils with VEGF (p= 0.0104). FIGO stage III and IV were significantly correlated with thrombocytosis (p= 0.034).

Conclusion

NLR, CA125, absolute number of neutrophils and platelet count can be of importance in the diagnosis and follow-up of ovarian cancer patients. Increasing amounts of blood platelets, CA125, NLR and neutrophils seem to be correlated with an inferior immune profile.
Aims

Ovarian cancer (OC) is a silent killer, metastasising throughout the abdomen before causing symptoms. So far, research concerning the immune system has focussed on the intratumoral immune changes. The peripheral immune landscape in OC remains largely undiscovered.

Method

In 39 patients with invasive OC, blood and tumor tissue was sampled at diagnosis. Immunohistochemistry for CD8 and Foxp3 (regulatory T cells (Treg)) was performed on tumor biopsies. Activated CD4 and CD8 T cells, myeloid-derived suppressor cells (MDSC) and Treg were characterized by Fluorescence Activated Cell Sorting (FACS).

Results

In contrast to earlier reports in the literature there was no clear correlation of the expression of Treg, neither in tissue nor in blood, and survival. Overall survival (OS) deteriorated significantly with increasing amount of PDL1-positive monocytic MDSC (mMDSC_PDL1) (p = 0.02) and with increasing amounts of activated CD8+ T cells (p = 0.007). Increasing amounts of CD8+ T cells in tumor tissue (primary tumor + metastasis) were correlated with longer OS (p = 0.062), due to the effect of CD8+ T cells in metastases (p = 0.036), as CD8 infiltration in the primary tumor was not correlated with OS.

Conclusion

This study suggests for the first time the use of immune cells as a possible new biomarker for OC. mMDSC_PDL1 seem to be a major player in immunosuppression. This innate immunosuppression is most probably so overwhelming that an increase in effector cells of the adaptive immune system (CD8) cannot to protect the patient, unless these cells can infiltrate the metastases.
OVARIAN CANCER

ESGO7-0276

HSP90/HER2 AND HSP90/P53 IMMUNOPHENOTYPES AND RESPONSE TO CHEMOTHERAPY IN PATIENTS WITH OVARIAN CARCINOMA

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Aims

The biological role of parallel expression of HSP90 and HER2 or p53 protein as a target therapy markers have not been established. This study investigates the clinical significance of p53, HER2 and HSP90 co-expression in patients with ovarian cancer who received platinum-based therapy.

Method

P53, HER2 and HSP90 expression was analyzed on 124 malignant ovarian tumors using immunohistochemistry (IHC). The HER2 immunoexpression was confirmed by fluorescence in situ hybridization (FISH) analysis.

Results

p53, HER2 and HSP90 expression was found in 58.9%, 42.2% and 78.9% of ovarian carcinomas respectively. Comparison analysis between the FISH assays for HER2 and corresponding IHC showed 90.0% concordance. p53 overexpression and HER2 expression was associated with high tumor grade (G3) (P=0.04, P=0.03 respectively). p53 and HER2 accumulation showed only borderline association with FIGO stages P=0.07 and P=0.08 respectively. Positive correlation was found between HER2 and HSP90 expression in ovarian carcinomas (P=0.03). Advanced FIGO stage and high expression of HER2 was negatively associated with overall survival time (P=0.01). In the analyzed group of ovarian tumors, the relative risk of recurrence was stronger in HER2 positive than in HER2 negative group of patients (P=0.04). Simultaneous expression of p53, HER2 and HSP90 in ovarian tumor tissue determine shorter overall survival time in patients with ovarian cancer (P= 0.01).

Conclusion

Our study demonstrated that simultaneous expression of HSP90 and HER2 or HSP90 and p53 protein characterize subgroup of patients with worse clinical outcome. HSP90 inhibition might be a promising therapeutic strategy for HER2/HSP90 positive ovarian cancers.
OVARian CANCER

ESGO7-0279

EXPRESSION PATTERN OF P53, BAX PROTEIN AND CANCER STEM CELL MARKERS CD133 AND NOTCH IN OVARIAN CANCERS

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Aims

Biological heterogeneity of ovarian carcinoma is well documented. Up to now several biological parameters have been analyzed to describe the biological behavior of ovarian carcinoma cells. The aim of the study was to evaluate the expression of stem cells proteins (CD133, Notch1) and p53, Bax protein in ovarian carcinomas in order to establish the biological behavior of ovarian carcinoma.

Method

Stem cells proteins (CD133, Notch1) and p53, Bax proteins expression was analyzed on 104 malignant ovarian tumors using immunohistochemistry (IHC).

Results

P53 protein was found in 39% of ovarian carcinomas and was observed more frequently in advanced stage of disease (FIGO III/IV) (P = 0.04), and poorly differentiated tumors (G3) (P = 0.01). Nuclear accumulation of p53 protein dominated in serous ovarian carcinomas (P = 0.02). Bax protein expression occurred in 42% of ovarian carcinomas and was associated with low stage of disease (FIGO I/II) (P = 0.03). CD133 and Notch expression was observed in 38.0% and 33.0% of ovarian carcinomas respectively. The association between poorly differentiated tumor and Notch1 expression (P = .002) was found. CD133 molecule did not correlate with clinicopathological parameters of ovarian carcinomas. Positive correlation between CD133 and Notch1 was revealed in ovarian carcinomas (P = 0.02). CD133+/Notch1+ immunophenotype dominated in poorly (G3) differentiated ovarian carcinomas.

Conclusion

Our results suggest that parallel expression of CD133 and Notch1 molecules on tumor cells identified subgroup of ovarian carcinomas with high morphological malignancy. Co-expression of CD133 and Notch1 might be associated with redifferentiation of tumor cells.
OVARIAN CANCER

ESGO7-0334

CLINICAL BENEFIT OF HORMONAL THERAPY IN ADVANCED OVARIAN CANCER
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Aims

To evaluate the benefit of hormonal therapy (HT) in advanced ovarian cancer (AOC).

Method

We reviewed the data of patients with AOC who underwent HT between 2009 and 2016. Primary endpoint was clinical benefit (CB). Secondary endpoints were overall survival (OS), progression-free survival (PFS) and toxicity. Descriptive analysis of the main demographic and clinical characteristics was performed. PFS and OS were evaluated using the Kaplan-Meier method.

Results

We identified 47 patients. Median age was 61 years. Serous carcinoma was the main histologic subtype (70%). Clinical stages at presentation were FIGO IIIB (13%), IIIC (55%) and IV (21%). Hormone receptor expression (HRE) was positive in most of the tested patients. Previous to HT, 36% were treated with one regimen of chemotherapy (CT) and 60% with ≥2 regimens. HT was initiated in 34% due to disease progression and the remaining as maintenance therapy. The majority had ECOG ≤1 (70%). Letrozole was the most commonly used (77%), followed by tamoxifen (17%) and megestrol (6%). No relevant toxicity was reported. PFS was 6 months (CI 95% 2.1-9.9) and OS was 22 months (CI 95% 13.0-31.0). Based on imaging response criteria, one patient had complete response, 70% had stable disease and 19% progressed on the first evaluation. Overall CB was 72%.

Conclusion

CB was superior to the reported in the literature, probably related to its maintenance use between CT treatments. More prospective studies are needed to determine the real advantage of HT in AOC vs clinical surveillance in the maintenance setting, as well as its correlation with HRE.
OVARIAN CANCER

ESGO7-0798

PEMBROLIZUMAB (ANTI-PD-1) IN A PATIENT WITH RECURRENT GRANULOSA CELL TUMOR: A CASE-REPORT
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Aims

Immunotherapies or Checkpoint inhibitors, targeting programmed cell death protein-1 (PD-1) and cytotoxic t-lymphocyte-associated antigen-4 (CTLA-4), could improve therapeutical outcomes of several malignant diseases. This is a report about the use of an anti-PD-1 antibody in a recurrent and unresectable granulosa cell tumor.

Method

In 2012, when our patient was 35 years old, a suspicious ovarian cancer was diagnosed during pregnancy. An unilateral adnexectomy was performed laparoscopically within the pregnancy. During caesarean section an intraabdominal recurrence was diagnosed. By resection of the spleen, left adrenal gland, both diaphragms, liver segments II, II and part of segment VIII, R0 resection could be achieved. This was followed by four cycles of Bleomycin, Etoposid and Cisplatin. After that there was no more tumor traceable anymore.

In July 2014, a tumor recurrence in the hilum of the liver and peritoneal carcinomatosis was diagnosed. The patient received 33 cycles of anti-VEGF antibody bevacizumab and an anti-hormonal therapy with letrozol.

Results

In September 2016 a new unresectable hepatal relapse was diagnosed. Therefore an off-label therapy with pembrolizumab 200mg dosed every three weeks was initiated.

Diagnostic workup performing CT scans was planned after 3 and 6 months to evaluate therapeutical response. In the first CT scan, three months later, progressive disease according to RECIST criteria was diagnosed. The results from the 6 months follow up will be presented at the conference.

Conclusion

This is the first report about the use of pembrolizumab in recurrent, non-resectable granulosa cell tumor.
OVARIAN CANCER

ESGO7-0436

COMPARISON OF SYMPTOMS AND QUALITY OF LIFE IN RECURRENT OVARIAN CANCER BY RURAL/URBAN RESIDENCE: ANCILLARY ANALYSIS OF GOG-0259

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Aims

Women with recurrent ovarian cancer (OC) experience a wide range of cancer- and treatment-related symptoms that negatively impact their quality of life (QOL). Research demonstrates that geographic differences in access to high-quality care are associated with healthcare disparities. Our objectives were to evaluate whether rural (versus urban) residence is associated with worse symptoms and poorer QOL in a nationwide sample of women with recurrent OC.

Method

Baseline GOG-0259 data were analyzed. We mapped zip codes to Rural Urban Continuum Code approximations and compared sociodemographic and clinical variables between rural and urban groups using two-sample t and chi-square tests. We used multivariate analysis of covariance to test for associations between residence and symptoms and QOL (FACT-O), controlling for known personal, social, and health risk factors.

Results

Rural (n=75, 15.1%) and urban (n=422, 84.9%) women differed by marital status (83% vs. 70% married), number of concurrent symptoms (16 vs. 14), and overall QOL (107.5 vs. 111) (p<.05). In omnibus multivariate analyses, geographical residence was not associated with either symptoms or QOL. Higher anxiety and lower optimism were associated with worse symptoms. Higher social support, lower depressive symptoms, lower anxiety, and fewer comorbidities were associated with better QOL.

Conclusion

Despite differences in symptoms and QOL by rural/urban residence in bivariate relationships, multi-variate analyses suggest that social and psychological factors may be more important predictors of these outcomes. Future large sample studies should evaluate the interactions between place of residence and social/psychological factors in influencing symptoms and QOL among women with OC.
PREOPERATIVE ULTRASOUND DIAGNOSIS OF DIAPHRAGMATIC SPREAD IN OVARIAN CANCER PATIENTS: TECHNIQUE AND ACCURACY. A PILOT STUDY.

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Aims

To evaluate the accuracy of ultrasound in assessing diaphragmatic spread in ovarian cancer (OC) patients and the issues that influencing the performance of ultrasound.

Method

We enrolled consecutive patients with suspected or assessed OC referred to "Sapienza" University of Rome from March 2016 to March 2017. All patient underwent preoperative abdominal and pelvic ultrasound staging examination.

The diaphragm was conventionally divided into 3 parts in according to anatomical reference point: right, central and left diaphragm particularly the lateral, posterior and dome area were examined.

For each area, we record diaphragm thickening, nodules and calcifications.

All patients underwent surgery. The agreement of diaphragmatic spread by ultrasound with the intraoperative and hystopathological findings was evaluated.

Results

We prospectively enrolled 30 patients with primary OC or after neoadjuvant chemotherapy for OC.

The ultrasound staging for right diaphragmatic lesion have a sensivity of 100% and 92.8%, specificity of 61.1% and 53.3%, PPV of 61.1% and 65% and NPV of 100% and 88.8% respectively for nodule and for peritoneal carcinomatosis. For left and central diaphragm ultrasound have high rate of false positives.

Multivariable analysis reported a false positive high rate in patients underwent chemotherapy, in patients with FIGO stage III and sierous hystotype and with ascites.

Conclusion

The ultrasound technique for the assessing of diaphragmatic carcinosis is a simple and accurate method. Preoperative evaluation of right diaphragmatic spread of ovarian cancer is mandatory for optimal surgical plan.
OVARIAN CANCER

FEASIBILITY OF THORACOSCOPY BY A GYNAECOLOGIC ONCOLOGY SURGEON IN THE SURGICAL STAGING OF ADVANCED OVARIAN CANCER

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Aims

To assess the feasibility of thoracoscopy at the same time of diagnostic laparoscopy by a gynaecologic oncology surgeon and to improve staging in patients with advanced ovarian cancer (AOC).

Method

In 2014 a gynaecologic oncology surgeon of our team had trained in a thoracic surgery unit to learn thoracoscopy. Between April 2015 and January 2017 we assessed the feasibility of thoracoscopy in our institution for patients with AOC, persistent pleural effusion or diaphragm infiltration after neoadjuvant chemotherapy and no contraindication to debulking surgery at laparoscopic exploration.

Results

Sixteen patients met eligibility criteria, with a median age of 62 years (42-74). In 3 cases debulking surgery was contraindicated by the laparoscopic exploration and thoracoscopy was not required. Thirteen right-side thoracoscopy were successfully performed after a median number of chemotherapy cycles of 3 (3-6). Surgery management was changed in six patients with confirmed pleural disease: four patients had extensive pleural disease and were treated only by chemotherapy, two patients presented single-site pleural disease and debulking surgery with pleural resection was performed. Nine patients had no residual disease after debulking.

The median operating time was 63 minutes (45-80).

All patients had chest drainage for one day and median hospital stay was 3 days (2-4). No complications were observed.

Conclusion

We showed that thoracoscopy could be safely performed by a trained gynaecologic oncology surgeon and should be associated with a diagnostic laparoscopy for surgical staging of AOC. In 46% of cases (6/13) therapeutic management was modified based on the thoracoscopy findings.
OVARIAN CANCER

ESGO7-0983

CONSERVATIVE SURGERY FOR THE TREATMENT OF GRANULOSA CELL TUMORS OF THE OVARY: RESULTS FROM THE MITO 9 STUDY

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Aims

To compare oncological outcomes between conservative and radical surgery in the treatment of stage I granulosa cell tumors of the ovary (GCT).

Method

Data from 240 patients with stage I GCT were retrospectively collected among MITO centers (Multicenter Italian Trials in Ovarian cancer and gynecologic malignancies) and analyzed.

Results

Mean age was 48.95 ±15.3 in the entire cohort; 36±12.1 and 56.1 ±11 in the conservative and radical surgery cohorts, respectively (p=0.001). 19 patients were affected by juvenile GCT (7.5%), 222 (92.5%) by adult type GCT. Stage 1A, 1B and 1C were 68%, 2% and 30% respectively. No statistical difference was detected in stage distribution between the two groups. 90 patients (37.5%) underwent conservative surgery (either ovariectomy or cystectomy) while 150 (62.5%) received a radical approach. Five year- disease free survival (DFS)rates in the conservative and radical surgery cohorts were 77% and 83% respectively (p=0.09).

Conclusion

In the present study conservative surgery did not affect the oncological outcome of stage I GCT patients and should therefore be considered the standard of care in patients desiring to retain their fertility.
OPEN VERSUS MINIMALLY INVASIVE SURGERY FOR THE TREATMENT OF GRANULOSA CELL TUMORS OF THE OVARY: RESULTS FROM THE MITO 9 STUDY

Aims

To compare oncological outcomes between laparoscopic and open surgery in the treatment of stage I granulosa cell tumors of the ovary (GCT).

Method

Data from 240 patients with stage I GCT were retrospectively collected among MITO centers (Multicenter Italian Trials in Ovarian cancer and gynecologic malignancies) and analyzed.

Results

19 patients were affected by juvenile GCT (7.5%), 222 (92.5%) by adult type GCT. Stage 1A, 1B and 1C were 68%, 2% and 30% respectively. 138 patients (57.5%) underwent open surgery while 102 (42.5%) laparoscopic surgery. No differences in residual tumor or postoperative complications were detected between the two groups. Five year disease free survival (DFS) rates in the laparoscopic and open-surgery cohorts were 84% and 80% respectively (p=0.3). Median DFS were 228±29 months and 161±18 months, respectively.

Conclusion

In the present study laparoscopy did not affect the oncological outcome of patients affected by GCT, with comparable postoperative outcomes.
OVARIAN CANCER

ESGO7-1304

TP53 MUTATIONAL ANALYSIS IN OVARIAN CANCER

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Aims

p53 is the most frequently mutated gene in cancer. There are conflicting results in literature regarding TP53 mutations and survival in ovarian cancer (OC) patients. Therefore we analyzed the TP53 mutational status in a well-defined patient-cohort.

Method

Samples from 199 ovarian cancer patients diagnosed at our Department between 1989 and 2014 were analysed. After DNA extraction the TP53 mutational status was determined by Next generation sequencing using the TruSight Cancer Sequencing Panel. Results were correlated with clinicopathologic features using the chi-square test. Survival probabilities were calculated according to the Kaplan Meier method and the multivariate Cox regression model.

Results

TP53 mutations were detected in 59% (118/199) and unclassified TP53 variants (UVs) in 15% (29/199) of ovarian carcinomas. TP53 mutant tumours were significantly associated with adverse tumor grade and high-grade serous OC (HGSOC; p<0.001). Patients with TP53 mutant OC showed a significantly impaired overall survival (OS; 3.4 vs 8.2 years; p=0.004) as did the subgroup of 127 HGSOC patients (3.3 vs. 5.8 years; p=0.005). Interestingly all the TP53 UVs identified in this study were also associated with poor OS in the whole cohort (p=0.001) and the subgroup of HGSOC patients (p=0.002).

In the multivariate analysis the TP53 mutational status was confirmed as a prognostic marker in all OC patients (p=0.019) and the subgroup of HGSOC patients (p=0.001).

Conclusion

We demonstrated that the TP53 mutational status is an independent marker for poor OS in HGSOC. TP53 UVs identified within this study showed the same prognostic relevance as the verified mutations.
OVARIAN CANCER

ESGO7-0229

CIRCULATING MiRNA LANDSCAPE IDENTIFIES MiR-1246 AS PROMISING DIAGNOSTIC BIOMARKER IN HIGH-GRADE SEROUS OVARIAN CARCINOMA: A VALIDATION ACROSS TWO INDEPENDENT COHORTS


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Aims

High-grade serous ovarian carcinoma (HGSOC) is the most lethal gynecologic neoplasm, with five-year survival rate below 30%. Early disease detection is of utmost importance to improve HGSOC cure rate. The focus of this study was the detection of the levels of circulating miRNAs in tissues and sera from patients with HGSOC as a first step in the evaluation process of their role as diagnostic biomarkers.

Method

Sera from 168 HGSOC patients and 65 healthy controls were gathered together from two independent collections and stratified into a training set, for miRNA marker identification, and a validation set, for data validation. An innovative statistical approach for microarray data normalization was developed to identify differentially expressed miRNAs. Signature validation in both the training and validation sets was performed by quantitative Real Time PCR (RT-qPCR) and droplet digital PCR (ddPCR).

Results

In both the training and validation sets, miR-1246, miR-595 and miR-2278 emerged significantly over expressed in the sera of HGSOC patients compared to healthy controls. Receiver Operating Characteristic curve analysis revealed miR-1246 as the best diagnostic biomarker, with a sensitivity of 87%, a specificity of 77% and an accuracy of 84%.

Conclusion

This study is the first step in the identification of circulating miRNAs with diagnostic relevance for HGSOC. According to its specificity and sensitivity, circulating miR-1246 levels are worthy to be further investigated as potential diagnostic biomarker for HGSOC.

Volume 27, Supplement 4 1439
Aims

The lack of information on the molecular etiology of ovarian cancer (OVCA) makes it a lethal malignancy. Longstanding unresolved stress and persistent high levels of circulating follicle stimulating hormone (FSH) are characteristic features in the postmenopausal ovary. The goal of this study was to examine whether chronic unresolved stress is associated with malignant development and if high levels of FSH is associated with ovarian chronic stress in postmenopausal women.

Method

Ovarian tissues from healthy per-and post-menopausal subjects, BRCA1+ subjects and patients with early and late stage OVCA were examined for the expression of markers of chronic stress including glucose regulator protein 78 (GRP78, a maker of endoplasmic reticular stress), OGG1 (a marker of DNA-damage repair mechanism) and FSH receptor (FSHR) using immunohistochemistry, proteomics and gene expression studies. Changes in the intensity of expression of markers by ovarian surface epithelium (OSE) and inclusion cysts as well as malignant cells were determined and compared among normal and different pathological groups.

Results

Compared with OSE, the intensity of GRP78, OGG1 and FSHR expression was significantly higher in ovarian malignant cells. Similarly, inclusion cysts (potential premalignant lesions) in postmenopausal ovaries and fimbrial epithelium of the fallopian tube in BRCA1+ showed significantly higher intensities than the OSE. The expression of these markers were positively associated with FSHR expression.

Conclusion

The results of this study suggest that increased expression of FSHR is associated with ovarian chronic stress in postmenopausal subjects, and may be involved in malignant transformation in the ovary. Support: NIHR01 CA210370-01
OVARIAN CANCER

ESGO7-0880

SPLENECTOMY IN CYTOREDUCTIVE SURGERY FOR ADVANCED OVARIAN CANCER: HIGHER INVOLVEMENT RATE THAN EXPECTED?

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Aims

Complete surgical resection (CSR) to no macroscopic residual disease (RD) is the most important prognostic factor in advanced ovarian cancer (AOC). To achieve CSR it is often necessary to perform a splenectomy. The aim of this study is to correlate intraoperative and histological findings of patients with AOC undergoing splenectomy.

Method

All consecutive patients with AOC undergoing primary, interval or secondary cytoreductive surgery and who underwent splenectomy between 01/2010 and 03/2017 at the NGOC (Gateshead, UK) were included. Demographic and surgico-pathological data were extracted from medical records.

Results

Of 129 patients, 73 (56.6%) underwent primary, 44 (34.1%) interval and 12 (9.3%) secondary cytoreductive surgery. Median age was 65 years (24-91) and median Surgical Complexity Score (Aletti) 8 (4-15). Cytoreduction to RD<1cm was obtained in 116 (89.9%). Indication for splenectomy was: direct involvement by tumor in 97 (75.2%), preoperative radiological involvement of spleen in 4 (3.1%), intra-operative splenic capsule injury in 15 (11.6%), to facilitate en-bloc resection of peri-splenic disease in 13 (10.1%). Histologically, 84 (65.1%) had hilum, 80 (62.0%) had capsule and 27 (20.9%) had parenchyma involvement. 10/15 (66.7%) spleens removed for intra-operative injury had positive histological involvement (60% hilum, 60% capsule and 10% parenchyma).

Conclusion

Splenectomy is an important procedure in the surgical management of AOC. Intra-operative detection of spleen involvement is not always reliable and this may be due to adhesions/poor access preventing adequate assessment. A low threshold for removal is required if there is suspicion of splenic disease in a patient where CSR is to be achieved.
PERITONEAL CARCINOMATOSIS FROM PRIMARY MALIGNANT OVARIAN PARAGANGLIOMA: A CHALLENGING MANAGEMENT OF AN EXTREMELY RARE CASE

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Aims

Paraganglioma is one of the rarest neoplasms involving the ovary, with only 7 previous reports. We present the case of a patient with peritoneal carcinomatosis from ovarian paraganglioma (OP) and a systematic review of the literature.

Method

Clinical information was retrieved from medical records and a systematic review was performed.

Results

A 33-year-old woman presented with a 12-month history of hypertension and weight loss. CT-scan showed bilateral complex ovarian masses, para-aortic lymphadenopathy and IVC-wall infiltration, no parenchymal organs involvement. Laparoscopic biopsy showed a Sertoli-Leydig ovarian tumor (SLOT). After 3-cycles of bleomycin+etoposide+cisplatin she had stable disease and underwent laparotomy with extensive debulking surgery also involving recto-sigmoidectomy with primary anastomosis (no macroscopic residual disease). Histology reported a solid cordonal neoplasm with neuroendocrine immunophenotype consistent with SLOT with neuroendocrine differentiation (FIGO-stage IIIC).

Postoperative course was complicated by anastomosis dehiscence (re-operated) and pulmonary sepsis. 6-months after surgery a CT-scan showed recurrent disease in abdomen and chest. Subsequent clinical-pathological review reported the case as malignant OP with unusual features. Somatostatin-analogue was started. Following further disease-progression with bone metastases (treated with palliative radiotherapy) a trial with Sunitinib was started. Patient died 30-months after initial diagnosis. Of the 7 cases reported to date, one had peritoneal metastasis at presentation; as in our case, this was initially misdiagnosed as SLOT.

Conclusion

OP is extremely rare. Clinico-pathological correlation and wide immunohistochemical panel are important to avoid misdiagnosis. Due to its rarity, a standard treatment is not recommended, but cytoreductive surgery to no residual disease seems to be a favorable approach.
Aims

Background

In 2014, data from the Danish Gynecological Cancer Group (DGCD), showed that cancer patients were mobilized 45% of the recommended within the first 2 days after surgery.

Objective

Optimizing extent and way of mobilizing patients.

Method

Literature search was conducted in PubMed, CINAHL, and Embase in the subject of early mobilization, the benefit of this as well as consequences and reasons of postoperative immobility. In collaboration with a physiotherapist a flowchart were made to clarify the optimal mobilization including alternative mobilization, if the patient had well known postoperative difficulties as low blood pressure, nausea etc. Care staff were educated in optimizing the mobilization to reduce surgical stress response. Additionally focus on sufficient medication of nausea and pain to permit mobilization.

A pulpit and a walker were acquired to help patients with poor balance or dizziness

Patients and relatives were informed preoperatively in speech as well as in writing of the importance and focus of mobilization.

The aesthetic environment were changed to be more inviting to patients by adding glass art, paintings, flowers, new magazines, games, and knitting to the common areas.

Results

The nurse’s attitude were changed about mobilization. There is commitment and focus among the nurses to optimize mobilization regarding the individual resources of the patient. The tools are diligently being used. Patient satisfaction has increased in our ongoing questionnaire. DGCD reveals an increased mobilization in our unit to about 70% of the recommended.

Conclusion

We believe the results will improve in time as this new culture develops even more into everyday practice.
OVARIAN CANCER

ESGO7-0073

THE SHORT-TERM IMPROVEMENT IN THE TREATMENT OUTCOMES AMONG PATIENTS WITH ADVANCED OVARIAN CANCER AFTER "THE SHIFT" FROM CONSERVATIVE TO MULTIVISCERAL SURGERY

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Aims

Cytoreductive surgery for AOC results in considerable toxicity •Experience of multidisciplinary team seems to be crucial for achieving survival improvement. „The shift” from conservative (pelvis/omentum) to multivisceral procedures is a challenge and seems to be difficult for introducing. Time to gain the experience, skills and survival benefit of AOC patients is not clearly recognized.

The aim of the analysis was to analyze short-term differences in survival among AOC patients, after incorporation of multivisceral, cytoreductive surgery (MCRS) to the common clinical practice and to compare it to the historical cohort of „conservative” surgeries (CS) and to analyze the prognostic factors in this group of patients.

Method

Prospective analysis of patients treated with the MCRS, 2015–2016 and comparing them with historical cohort of patients treated with CS, 2010-2014. PFS was calculated for both groups (K-M method). Prognostic factors for MCRS group (multivariate Cox analysis).

Results

The group of 52 consecutive pts with AOC (FIGO III/IV) treated 2015-2016 and historical cohort of 110 consecutive pts with AOC, treated 2010-2014 were identified.

The PFS curves are presented on the picture 1. Table 1 presents the 1- and 2-year PFS rate and the HR for progression for
Both groups. The independent prognostic factor for PFS was residual disease (Table 2.)

<table>
<thead>
<tr>
<th>Period</th>
<th>n</th>
<th>Median (months)</th>
<th>PFS 1-year</th>
<th>PFS 2-year</th>
<th>HR</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2014</td>
<td>110</td>
<td>12.1</td>
<td>60.9%</td>
<td>33.6%</td>
<td>ref.</td>
<td></td>
</tr>
<tr>
<td>2015-2016</td>
<td>58</td>
<td>24</td>
<td>84.7%</td>
<td>64.4%</td>
<td>0.44</td>
<td>0.003</td>
</tr>
</tbody>
</table>

**Cox multivariate analysis**

<table>
<thead>
<tr>
<th>Variable</th>
<th>HR</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>R1</td>
<td>0.142</td>
<td>0.124</td>
</tr>
<tr>
<td>R2</td>
<td>5.56</td>
<td>0.03</td>
</tr>
</tbody>
</table>

**Conclusion**

“The shift” from CS to MCRS seems to result in survival benefit in patients with AOC in a relatively short period of time. The independent prognostic factor for PFS is residual disease. Further analysis and follow-up of those patients is necessary.”
NO DIFFERENCES IN THE MORBIDITY OF PDS AND IDS DURING 2-YEAR PERIOD AFTER INCORPORATION OF MULTIVISCERAL CYTOREDUC TIVE SURGERY FOR ADVANCED OVARIAN CANCER PATIENTS

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Aims

Cytoreductive surgery for AOC results in considerable toxicity. Experience of multidisciplinary team seems to be crucial for achieving survival improvement. “The shift” from conservative (pelvis/omentum) to multivisceral procedures is a challenge and seems to be difficult for introducing. Time to gain the experience, skills and survival benefit of AOC patients is not clearly recognized. The aim of the analysis was to analyze the morbidity of PDS and IDS among AOC patients, after incorporation of multivisceral, cytoreductive surgery (MCRS) to the common clinical practice.

Method

Prospective analysis of patients treated with the MCRS between 2015 and 2016 was conducted. T-square test was applied to compare differences between group of patients treated with PDS and IDS.

Results

The group of 52 consecutive pts with AOC (FIGO III/IV) treated surgically between 2015 and 2016 was identified. Table 1 presents characteristics of the group. Table 2 presents G3/G4/G5 morbidity in both groups.
Conclusion

No differences in SCS, length of surgery, upper abdominal procedures number, ICU and hospital stay between PDS and IDS was observed. Minor difference in toxicity between PDS and IDS was stated.

Table 1. Characteristics of surgical variables in patients treated with PDS and IDS between 2015-2016.

Table 2. Serious perioperative events in patient treated with PDS and IDS between 2015 and 2016.
OVARIAN CANCER

ESGO7-0706

THE ROLE OF PI3K/PTEN/AKT/MTOR PATHWAY IN ADVANCED OVARIAN CANCER PATIENTS RECEIVING PLATINUM-BASED NEOADJUVANT CHEMOTHERAPY.

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Aims

The aims of this study were analysis of associations between genetic variations and the expression of selected proteins of the PI3K/AKT/mTOR pathway on the effects of neoadjuvant chemotherapy (NACT), based on platinum analogues in patients with advanced ovarian cancer (AOC).

Method

Retrospectively, 67 consecutive patients were evaluated with AOC (FIGO stage IIIC-IV) treated with NACT. Thirteen tagging SNPs in four core genes (PIK3CA, AKT1, AKT2, and FRAP1) and the expression of PI3KCA, PTEN, pAKT473, mTOR and p70S6K were assessed immunohistochemically according to the H-score method.

Results

After NACT, a significant decrease of expression in the AOC of PI3KCA (p=0.0002; T=24.5; Z=3.71) and p70S6K (p=0.0299; T=12.5; Z=2.17) was observed. No significant difference was found in IHC expression before or after NACT and other analysed proteins. In multivariate analysis it was found that the lack of an optimal range of IDS and a decrease of the p70S6K expression were independent adverse predictive factors for PFS (respectively, HR=5.33 (95%CI; 2.76-10.27, p<0.0001 and HR=1.90 (95%CI; 1.06–3.39, p=0.0308). We observed that the high expression of mTOR [HR=2.39 (1.31–4.37), p=0.0208] had an adverse impact on OS. We identified that any from analysed SNPs in four genes had no significantly impact on PFS and OS.

Conclusion

The study provides evidence that variations within the PI3K/PTEN/AKT/mTOR signaling pathway are associated with variation in clinical outcomes of AOC patients.
Aims

The process of epithelial-mesenchymal transition (EMT) has been implicated in many cancers, including ovarian, enabling epithelial cells to acquire motile and invasive characteristics which are essential for metastatic spread. We aimed to investigate the role of caldesmon (CALD1) gene, which encodes an important regulator protein of microfilament network, in epithelial ovarian cancer (EOC) pathogenesis.

Method

Reverse transcription quantitative real-time PCR (RT-qPCR) was used to determine CALD1 expression levels in 48 EOC and 19 benign ovarian formalin fixed paraffin embedded (FFPE) specimens. The median patients’ age in both groups was 57 years. The differences in CALD1 gene expression between these two subgroups and its association with various clinicopathological features were assessed by Mann-Whitney test and Spearman’s rank correlation test. P value <0.05 was considered significant.

Results

We found that CALD1 expression levels were lower in malignant compared to benign ovarian tissue (p<0.0001), while CALD1 gene was also significantly lower expressed in high vs. low-grade ovarian carcinomas (p=0.0440). Lower CALD1 expression was observed in higher FIGO stage, tumors with metastases and ascites, as well as in tumors from patients who relapsed, although without statistical significance.

Conclusion

Study findings suggest that CALD1 gene, an important regulator of cell motility, could be a potential biomarker in the prognosis of ovarian tumors.
OVARIAN CANCER

ESGO7-1192

DOES BREAST CANCER AFFECT PROGNOSIS IN A BRCA-MUTATED OVARIAN CANCER COHORT? THE MITO 21 STUDY - A SUBGROUP ANALYSIS


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Aims

MITO (multicenter-Italian-trials-in-ovarian-cancer) 21 is a retrospective observational study aimed at exploring genotype-phenotype correlations in a cohort of BRCA mutation-carrying ovarian cancer (OC) patients. We present an ad interim analysis that characterizes the breast and ovarian cancer (BOC) subgroup and investigates if breast cancer (BC) co-occurrence affects prognosis compared to OC alone.

Method

Fifteen Italian centers participated in the study. Retrospective chart review was used to identify patients carrying a BRCA mutation who were diagnosed with OC between 1995 and 2016 and to collect relating clinical data.

Results

Of the 319 patients included in the study, 72 (23%) were diagnosed with BOC and 247 (77%) with OC only. In the BOC sub-cohort, BC and OC were the first malignancy in 56 (78%) and 16 (22%) cases, respectively. Median age at diagnosis was 50yr (range 32-81yr) for BC and 57yr (range 42-84yr) for OC. The median interval between first and second primary cancer was shorter when BC followed OC than when it preceded it (31m vs. 100m). Forty-seven (65%) patients carried a BRCA1 mutation and 25 (35%) a BRCA2 mutation--mostly frameshift mutations causing a premature stop. Overall survival (OS) did not depend on the mutated gene and was longer in the BOC group compared to the OC only group (168m vs. 65m, p<0.00001).

Conclusion

We describe the largest Italian cohort of BRCA mutation carriers with BOC. Most patients carried a BRCA1 mutation. BC more often preceded OC diagnosis. OS analysis suggests that patients with BOC live longer.
Cisplatin hyperthermic intraperitoneal chemotherapy (HIPEC) has been evaluated in the first phase-I dose escalation trial (CHIPASTIN, NCT02217956) to identify the recommended dose of cisplatin for HIPEC at complete cytoreductive surgery after neoadjuvant carboplatin-paclitaxel. The observed cisplatin-related renal toxicity has raised the questions of the choice of cisplatin. The aim of this study was to evaluate pharmacokinetic factors that could be used to predict renal toxicities after HIPEC.
The clinical and pharmacokinetic characteristics of patients are summarized in Table 1.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Median (range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-week creatinine clearance (mL/min)</td>
<td>77 (17 - 146)</td>
</tr>
<tr>
<td>Baseline creatinine clearance (mL/min)</td>
<td>90 (61 - 172)</td>
</tr>
<tr>
<td>Diuresis before HIPEC (L)</td>
<td>2.46 (0.20 - 6.50)</td>
</tr>
<tr>
<td>AUCₐ (mg.L/h)</td>
<td>3.67 (1.84 - 9.70)</td>
</tr>
<tr>
<td>AUCₚ (mg.L/h)</td>
<td>18.31 (6.14 - 30.31)</td>
</tr>
<tr>
<td>Clearance IV (L/h)</td>
<td>20.88 (7.27 - 50.51)</td>
</tr>
<tr>
<td>Clearance IP (L/h)</td>
<td>4.53 (2.51 - 21.00)</td>
</tr>
</tbody>
</table>

Table 1. AUC: area under the curve (mg of platin.L/h).

The 8-week creatinine clearance was significantly associated with its baseline value (p=0.015) and the diuresis before HIPEC (p=0.013). No pharmacokinetic factors have been kept in the final multivariate model.

Conclusion

Our results suggest that cisplatin-related renal toxicities can’t be predicted by pharmacokinetics and support to avoid cisplatin in HIPEC for ovarian cancer.
OVARIAN CANCER

ESGO7-1112

CLINICAL SIGNIFICANCE OF CA125 VALUES AFTER PRIMARY TREATMENT IN SURVIVAL OF PATIENTS WITH OVARIAN CANCER

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Aims

To determine cancer antigen 125 (CA125)-related prognostic factors for epithelial ovarian cancer (EOC) and to identify cut-off values that distinguish patients with poor prognosis from those with a good prognosis.

Method

We included 166 patients who received staging laparotomy and were diagnosed with stage I–IV serous EOC at a single institution from 2009 to 2015. Multivariate Cox regression analysis was used to determine the prognostic significance of serum CA125 after the third and sixth cycles of chemotherapy; relative percentage change in CA125 levels after the third and six cycles of chemotherapy compared to baseline CA125; and the total sum of CA125 levels after each chemotherapy cycle after adjusting for clinicopathological variables.

Results

CA125 level <35 U/mL \( (p = 0.0136) \) after three cycles of chemotherapy was an independent predictor of overall survival (OS). The total sum \( (p = 0.0162) \) of CA125 levels after each chemotherapy cycle was an independent predictor of progression-free survival (PFS). CA125 level <7 U/mL after the sixth chemotherapy cycle was an independent prognostic factor for OS \( (p = 0.016) \) and PFS \( (p = 0.0004) \).

Conclusion

CA125 level <7 U/mL after the sixth chemotherapy cycle was a significant predictor of both OS and PFS independent of stage, cell type, grade, or baseline CA125 level.
OVARIAN CANCER

ESGO7-0673

M2 PYRUVATE KINASE EXPRESSION IN OVARIAN CANCER
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²Ribeirão Preto Medical School, Biochemistry, Ribeirão Preto, Brazil
³Ribeirão Preto Medical School, Biochemistry, Ribeirão Preto, Brazil

Aims

Our aim is to describe the identification of M2 pyruvate kinase (M2PK) in high grade serous ovarian cancer (HGSOC) through differential proteomic analysis.

Method

We performed proteomic analysis in a pool of HGSOC tumor fluid (n=10) and in a pool of benign ovarian serous cystadenoma fluid (n=10). After, we validated the M2PK expression by ELISA EDTA-Plasma Test (ScheBo® Biotech AG) in HGSOC fluids (n=14) and serous cystadenoma (n=13), and by immunohistochemistry in 87 serous ovarian malignant tumors.

Results

Nineteen percent of M2PK cover sequence was identified in the proteomic analysis of HGSOC tumor fluid pool. In ELISA test, M2PK concentration was 169.4 UI (27.78 - 206.44) in malignant fluids and 25.82 UI (1.27 - 164.0) in benign ones (p<0.0001). In the IHC analysis, cytoplasmic positivity of M2PK was higher than 10% in 91% of serous ovarian tumors (Figure 1).

Conclusion

Differential proteomic analysis allowed the identification of M2PK as a highly expressed protein in serous ovarian cancer. This data warrants further investigation of metabolic pathways as potential target for treatment of women with HGSOC.
OVARIAN CANCER

ESGO7-0804

PERFORMANCE OF HE4, CA-125, ROMA, IOTA-LR2, ANDEX, RMI AND COPENHAGEN INDEX TO DETERMINE RISK OF MALIGNANCY OF ADNEXAL MASSES

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Aims

To study the diagnostic accuracy of several models (ROMA, IOTA-LR2, ADNEX, RMI, Copenhagen) and biomarkers (CA-125, HE4) to assess the risk of malignancy of adnexal masses.

Method

Retrospective study including a cohort of women who underwent surgery for adnexal masses in our centre. Patient data (age, menopausal status, ultrasound features, serum markers) was collected to calculate studied indexes. According to histological findings, the main outcome was defined as presence of malignant tissue in removed masses. We plotted ROC curves and AUC for CA-125, HE4, ROMA, IOTA-LR2, ADNEX, RMI and Copenhagen. Sensitivity and specificity for such indexes were calculated for different cutoff points, as for a combination of ROMA and IOTA-LR2 models (considering high risk of malignancy patients with ROMA>15 or IOTA-LR2>15).

Results

835 patients were included: 674 women had benign or borderline masses, while 161 had malignant disease. Isolated ADNEX and IOTA-LR2 models showed higher AUC (table 1) and sensitivity (92.5%, 95%CI: 87.1-95.8% and 94.5%, 95%CI: 89.5-97.2% respectively), but higher specificity was found for RMI (96.3%, 95%CI: 94.3-97.5%) and HE4 (95.5%, 95%CI: 93.4-96.9%, at cutoff 120). When combining IOTA-LR2 and ROMA, maximum sensitivity was achieved (96.2%, 95%CI: 91.9-98.2%).

Table 1. AUC of studied indexes

<table>
<thead>
<tr>
<th>Diagnostic test</th>
<th>AUC(95%CI)</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>HE4</td>
<td>0.894(0.857-0.930)</td>
<td>688</td>
</tr>
<tr>
<td>CA-125</td>
<td>0.836(0.795-0.876)</td>
<td>802</td>
</tr>
<tr>
<td>ROMA</td>
<td>0.910(0.875-0.945)</td>
<td>686</td>
</tr>
<tr>
<td>IOTA-LR2</td>
<td>0.936(0.913-0.960)</td>
<td>792</td>
</tr>
<tr>
<td>ADNEX</td>
<td>0.952(0.930-0.973)</td>
<td>751</td>
</tr>
<tr>
<td>RMI</td>
<td>0.924(0.898-0.949)</td>
<td>797</td>
</tr>
<tr>
<td>RMI-2</td>
<td>0.924(0.898-0.950)</td>
<td>797</td>
</tr>
<tr>
<td>CPH-I</td>
<td>0.907(0.872-0.941)</td>
<td>687</td>
</tr>
</tbody>
</table>

Conclusion

Considering the objective of ruling out malignancy, ADNEX and IOTA-LR2 perform better in women with adnexal masses. Sensitivity increases up to 96.2% by combining IOTA-LR2 and ROMA.
OVARIAN CANCER

ESGO7-0947

MIRNA181A-5P EXPRESSION AS A BIOMARKER OF TGFβ PATHWAY ACTIVATION ASSOCIATED WITH ONCOLOGIC OUTCOME AND TUMOR DIFFUSION IN HIGH GRADE SEROUS EPITHELIAL OVARIAN CANCER

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Aims

activation of TGFβ pathway in advanced epithelial ovarian cancer has been found to be a predictor of residual tumor and survival. miRNA181a-5p expression in EOC has been identified as a stable readout of TGFβ activation, here further analyzed as outcome biomarker.

Method

a consecutive series of high grade serous EOC (HGSEOC) from the snap-frozen ‘Pandora’ tumor tissue biorepository (2004-2012) has been included for miRNA analysis with relative real time-PCR. Tumor diffusion was categorized using an established semi-quantitative disease score (DS). The prognostic value of miRNA181a-5p was analyzed using a Cox proportional-hazards regression model; non parametric tests to analyze the association between mRNA 181a-5p and clinical features were used.

Results

84 HGSEOC patients with a median follow-up of 50.7 months entered the study. Using Cox proportional-hazards regression model an optimized threshold of miR181a-5p expression to group patients according to their prognosis was identified (miR-low and miR-high), with progression free survival (PFS) of 20.9 v. 9.6months[Hazard Ratio(HR)=2.451 (1.454-4.133), p:0.0008] and overall survival (OS) of 60.3 v. 23.3months[Hazard Ratio(HR)= 2.812 (1.632 - 4.847), p:0.0008], respectively. High DS grouped the highest miRNA181a-5p expressors. Residual tumor >1cm was significantly related to high miRNA181a-5p expression (p:0.041, p:0.029).

In multivariate Cox proportional-hazards regression models DS high and miR-high were related to worse PFS[HR2.95 (95%CI1.65-5.29), p=0.0002];[HR=2.31 (95%CI1.05-5.13), p=0.036]; miR-high also negatively affected OS [HR=2.18 (95%CI1.22-3.89), p=0.007].

Conclusion

miR181a-5p confirms to be a reliable prognostic biomarker associated to PFS and OS in HGSEOC. Thus, a prospective validation of its role is urgently needed. A translational ancillary study has been designed to the TRUST trial (NCT # 02828618).
OVARIAN CANCER

ESGO7-0028

adolescent ovarian epithelial cancer

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Aims

Aim is to assess the prevalence of ovarian epithelial cancer in adolescents & analyse the epidemiology, clinical features, histopathology, treatment & disease free survival.

Method

Retrospective study of hospital records of a tertiary oncology centre from 1996-2015. Total gynecologic new registration was 17020.

Ovarian malignancy was 2008 (11.7%). 94 cases were between 0-19 yrs (4.6%), 83 were between 10-19 yrs. 17 cases of ovarian epithelial malignancy were in adolescents (20.48%).

Epidemiology eg. age, religion, education, socio-economic status, age of menarche, geographical region, nutrition, clinical features, imaging, markers, histopathology, treatment offered were analysed.

Results

Epidemiology:

a) Age: 10-14 yrs = 4 cases, 15-19 yrs = 13 cases.
b) Religion: Hindu = 10 cases, Muslim = 6 cases, Buddhist = 1 case.
c) Menarche was normal in all cases.
d) Education: Illiterate = 3 cases, 10 yrs or below = 9 cases, 10-12 yrs = 4 cases, 12-14 yrs = 1 case.
e) Nutrition: All in low socio-economic group with poor nutrition.
f) Geographical area: Local = 3 cases, Adjacent districts = 6 cases, International = 5.

Clinical features: Pain & abdominal swelling were the commonest features with palpable abdominal mass.

There was concomitant tuberculosis in 2 cases. Only 3 cases had USG & CT scan possible. 9 cases had CA125 done, it was raised in 4, but normal in 5.

Treatment: 13 patients had surgery, fertility preserving in 9 & radical surgery in 4 cases. 11 had adjuvant chemotherapy.

Histology:

Papillary serous = 8 cases, Mucinous adenocarcinoma = 7, Borderline = 1, Clear cell = 1.

Conclusion

Ovarian malignancy is a disease of the elderly and is epithelial in almost 90%, of which 60% is highly aggressive serous papillary variety. In adolescents most ovarian malignant tumours are Germ cell tumours. Epithelial malignancy is rare before menarche & only 20% is in adolescents. Papillary & mucinous are almost in equal proportions. Primary surgery is usually recommended but fertility preservation needs serious consideration.

Selection of chemotherapy is also important, aiming to preserve ovarian reserve. Most of the patients being students fail to come for follow up if they are well. We lost 1 case of generalised carcinomatosis (clear cell type) 18 months after laparotomy. Parents refused chemotherapy. 3 patients came for follow-up, 1 alive & well for 16 yrs, 1 for 5 yrs & 1 for 2 yrs.
OVARIAN CANCER

ESGO7-1241

PROVE A PHASE II RANDOMIZED MULTICENTER STUDY OF PANITUMUMAB IN PLATINUM-SENSITIVE EPITHELIAL OVARIAN CANCER PATIENTS WITH KRAS WILD-TYPE


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6Gynaekologische Onkologie, Schwerpunktpraxis, Fürstenwalde, Germany
7Gynaekologische Onkologie, Praxis für Gynaekologie, Berlin, Germany
8Gynaekologische Onkologie, Onkologische Schwerpunktpraxis Leer, Leer, Germany
9Gynaekologische Onkologie, Gynäkologisches Zentrum, Bonn, Germany
10Onkologische Tagesklinik und Ambulanz, Department of Gynecology- University Hospital, Tuebingen, Germany
11Department of Gynecology, University of Dresden, Dresden, Germany

Aims

For ovarian cancer (OC) patients with platinum-sensitive recurrence the addition of new biologic agents to chemotherapy may improve survival. Panitumumab is a fully human monoclonal antibody specific to the epidermal growth factor receptor (EGFR). The purpose of this trial was to investigate the therapeutic efficacy of panitumumab in the combination with carboplatin-based chemotherapy in relation to the respective standard combination in patients with a KRAS wildtype with platinum-sensitive recurrent ovarian cancer (NCT01388621).

Method

Only patients with platinum-sensitive epithelial ovarian/ fallopian/ peritoneal cancer, measurable disease or elevated CA125 and with KRAS wild type and no more than 2 prior treatments were registered for this study. Therapy included Carboplatin AUC4/Gemcitabine 1000 mg/m² or Carboplatin AUC5/PLD 40 mg/m² and randomized to panitumumab 6 mg/kg day 1 and day 15, every 3 or 4 weeks. Tumor assessment was performed at baseline and at every third cycle according to CT-scan and CA-125 criteria.

Results

In this multi-institutional phase II trial 102 patients were randomized and 96 enrolled for the final analysis. Progression-free survival in the intention-to-treat population (N=96) was 9.5 vs. 10.7 months (HR 0.829, 95%CI of 8.5-11.6 months vs 8.5-13.1 months) for the experimental vs. standard arm, p=0.45. Data of overall survival are not yet evaluable. The most common treatment related grade 3+ toxicities included hematologic toxicity (54%), skin reactions (18%) and gastrointestinal events (16%).

Conclusion

Addition of panitumumab to platinum-based chemotherapy for recurrent ovarian cancer does not influence efficacy and progression-free survival in platinum sensitive patients, while no new additional toxicity aspects for panitumumab were evaluated.
OVARIAN CANCER

ESGO7-1243

SCORE - IDENTIFICATION OF PARAMETERS TO CALCULATE A SCORE AND PREDICT THE NON-COMPLIANCE OF PATIENTS WITH RELAPSED OVARIAN CANCER TREATED WITH TREOSULFAN.

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⁶Onkologische, Praxis, Leer, Germany
⁷Department of Gynecology, Friedrich Schiller University, Jena, Germany

Aims

Ovarian cancer (OC) is one of the most deadly cancers affecting women. Evidence about optimal treatment strategies in recurrent disease, is limited. According to experience in late therapy lines, the sensitivity of the tumor to chemotherapy decreases, but an efficient therapy is strongly related to a good tolerability of the treatment and a high patient compliance. Therefore it is essential to investigate any parameters that might lead to an early treatment discontinuation in order to support a better compliance and patient outcome even in late lines and under real life conditions.

Method

The primary objective of this non-interventional study is to identify parameters related to non-compliance in Treosulfan therapy (p.o. or i.v.) and to calculate a predictive score for non-compliance. Patients of all ages and with different co-morbidities could be included. Secondary end-points are preference (p.o. or i.v.), efficacy and tolerability. The question, if compliance is influenced by the decision maker of i.v or p.o. application – patients themselves, physician or both together – is of special interest. Clinical examinations will be done in the daily practice of the center and additional questionnaires concerning experiences with former therapies, disease specific symptoms (MOST questionnaire), and questions concerning belief in alternative medicine and complementary therapy.

Results

The study initiated in late 2016 will report first preliminary results.

Conclusion

There is an essential interest to investigate any parameters that might lead to an early treatment discontinuation in order to support a better compliance and patient outcome even in late lines and under real life conditions.
OVARIAN CANCER

ESGO7-1242

MELATONIN SUPPRESSES THE GROWTH OF OVARIAN CANCER CELL LINES (OVCAR-429 AND PA-1) AND POTENTIATES THE EFFECT OF G1 ARREST BY TARGETING CDKS

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Aims

Melatonin is found in animals as well as plants. In animals, it is a hormone that anticipates the daily onset of darkness and regulates physiological functions, such as sleep timing, blood pressure, and reproduction. Melatonin has also been found to have anti-tumor properties. Malignant cancers are the most common cause of death, and the mortality rate of ovarian tumor is the highest among gynecological diseases.

Method

This study investigated the anti-tumor effects including cell proliferation, apoptosis and cell cycle of melatonin on the ovarian cancer lines, OVCAR-429 and PA-1.

Results

We observed the accumulation of melatonin-treated cells in the G₁ phase due to the down-regulation of CDK 2 and 4. Our results suggest that in addition to the known effects on prevention, melatonin may also provide anti-tumor activity in established ovarian cancer.

Conclusion

Our findings highlight the role of melatonin in the inhibition of tumor growth through the delay of G1/S through the down-regulation of CDK2 and 4 in OVCAR-429 and PA-1 cell lines. This is the first study to demonstrate that the down-regulation of CDKs may at least partly explain the anti-cancer effects of melatonin against human ovarian cancer. This study provides one possible therapeutic strategy for the treatment of advanced ovarian cancer.

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EXPLOITING VULNERABILITIES IN OVARIAN CANCER BY TARGETING PROTEIN HOMEOSTASIS

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Aims

Recent genome-wide shRNA screens identified Valosin-containing protein (VCP) or p97 as an ovarian cancer lineage-specific essential gene. p97 is an AAA-ATPase protein and regulates protein homeostasis. The aims of this study is to evaluate the therapeutic potential of targeting p97 in ovarian cancer.

Method

Cytotoxicity assays, immunoblots, and caspase activity were used to assess the cytotoxic effect and signal transduction induced by p97 inhibitors DBeQ, ML240, and CB-5083.

Results

We show that all three inhibitors induce cytotoxicity in high-grade serous or clear cell ovarian cancer cell lines. These agents induce unfolded protein response (UPR), cell cycle arrest at G1, and subsequent cell death mediated by both intrinsic and extrinsic apoptotic pathways. The effect of p97 inhibitors can be enhanced by salubrinal, a compound that inhibits GADD34 and disrupts adaptive UPR. The effect of these inhibitors can also be enhanced by mifepristone, a steroidal antagonist to progesterone that induce ER stress. Finally, we generated CB-5083 resistant cell lines, and DNA sequence analysis indicates resistant cells harbor mutations in p97, demonstrating the target specificity of CB-5083. However, these cells are sensitive to another p97 inhibitor, ML240. Molecular docking analysis indicates CB-5083 and ML-240 bind to different regions in p97 and that mutations found in CB-5083 resistant cells potential disrupt the binding of CB-5083 but not ML-240.

Conclusion

p97 inhibitors represent novel therapeutic candidates in ovarian cancer. Mutations in p97 result in resistance to p97 inhibitors. However, resistance to a specific p97 inhibitor could be overcome by another p97 inhibitor.
OVARIAN CANCER

ESGO7-0671

THE ROLE OF USP10 IN EPITHELIAL OVARIAN TUMORS
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2Yongin Severance Hospital, Department of Obstetrics and Gynecology, Yongin, Republic of Korea
3National Institutes of Health, Laboratory of Pathology, Bethesda, USA

Aims

Ubiquitin-specific protease 10 (USP10), a deubiquitinating enzyme, has been pronounced in malignancies. However, the role of USP10 in epithelial ovarian cancer has not been elucidated yet. Here, we investigated the expression and clinical significance of USP10 in ovarian cancer.

Method

Immunohistochemical analyses of USP10 and p14ARF were performed using tissue microarray analysis of 336 ovarian tumors and compared the data with clinicopathologic variables, including the survival of ovarian cancer patients. We also examined USP10 and p14ARF methylation near the putative transcriptional start site (TSS) in the 5' CpG islands of the genes in ovarian cancer cells and fresh frozen tissues.

Results

USP10 and p14ARF expression was significantly decreased in ovarian cancer than normal ovarian epithelium (both \( p<0.001 \)). Immunoreactivity significantly correlated with tumor stage (USP10, \( p<0.001 \)) and tumor grade (p14ARF, \( p=0.007 \)). USP10 expression showed strong positive correlation with that of p14ARF (Spearman's rho = 0.430, \( p < 0.001 \)) in cancer patients. Using cox proportional hazards model, low USP10 expression [HR=3.77 (95% CI, 1.65–8.60), \( p=0.002 \)] and a combined USP10-/p14ARF- expression [HR=4.35 (95% CI, 1.58–11.90), \( p = 0.005 \)] were the independent prognostic factors. Methylation specific PCR analysis showed that the USP10 and p14ARF CpG island was highly methylated in cancer tissues (62% and 87%, respectively) and cells (both 95%) and at lower percentages in normal tissues (3% and 13%, respectively).

Conclusion

Low expression of USP10 or combined USP10/p14ARF is an indicator of bad prognosis in ovarian cancer, suggesting their potential utility as prognostic tests in clinical assessment.
COMPARISON OF HE4, CA125, AND RISK OF OVARIAN MALIGNANCY ALGORITHM IN THE PREDICTION OF OVARIAN CANCER IN KOREAN WOMEN

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Aims

This study is a multi-center clinical study, which aimed to compare CA125, HE4, and risk of ovarian malignancy algorithm (ROMA) in predicting epithelial ovarian cancer of Asian women with a pelvic mass.

Method

Prospectively, serum from 90 Korean women with ovarian mass was obtained prior to surgery. For control group, serum from 79 normal populations without ovarian mass was also obtained. The HE4 and CA125 data were registered and evaluated separately and ROMA was calculated for each sample.

Results

Total 67 benign tumors and 23 ovarian cancers were evaluated. Median serum levels of HE4 and CA125, and ROMA score were significantly higher in patients with ovarian cancer than those with benign ovarian tumor and normal population (P < 0.0001). In ROC curve analysis for women with a pelvic mass, area under the curve (AUC) for HE4 and ROMA was higher than CA125. Statistical differences in each study compared to CA125 were marginal (P compared to CA125; 0.0818 for HE4 and 0.0690 for ROMA). Sub-analysis revealed that AUC for HE4 and ROMA was higher than AUC for CA125 in post-menopausal women with a pelvic mass, but there were no statistically significant differences (P compared to CA125; 0.1598 for HE4 and 0.1273 for ROMA).

Conclusion

Our data suggested that both HE4 and ROMA score showed better performance than CA125 for the detection of ovarian cancer in women with a pelvic mass. HE4 and ROMA can be a useful independent diagnostic marker for epithelial ovarian cancer in Korean women.
EXPRESSION PATTERNS OF NRF2 AND KEAP1 IN OVARIAN CANCER CELLS AND THEIR PROGNOSTIC ROLE IN DISEASE RECURRENCE AND PATIENT SURVIVAL

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Aims

This study evaluated the expression patterns of nuclear factor erythroid 2-related factor 2 (Nrf2) and Kelch-like ECH-associated protein 1 (Keap1), and assessed their clinical value as prognostic indicators in ovarian cancer.

Method

The expression patterns of Nrf2 and Keap1 were determined in 100 epithelial ovarian cancers by immunohistochemistry analyses. The associations of Nrf2 and Keap1 expression with clinicopathological characteristics of patients were evaluated. All patients received platinum-based chemotherapy. Chemoresistance was defined as recurrence within 6 months of first-line chemotherapy.

Results

Cytoplasmic expression of Nrf2 and Keap1 was observed in 95% and 72%, respectively, of all 100 epithelial ovarian cancers examined. Low Keap1 expression (intensity<1) was strongly associated with disease recurrence ($P=0.046$) and death ($P=0.002$). Chemoresistance was associated with high Nrf2 expression (intensity=3) ($P=0.833$, HR 1.202, 95% CI 0.217-6.667) and low Keap1 expression ($P=0.862$, HR 0.899, 95% CI 0.270-2.994). However, these associations were not statistically significant. Survival analysis indicated that high Keap1 expression (intensity≥1) was strongly predictive of better overall survival ($P=0.049$) and disease-free survival ($P=0.004$). Cox’s regression analysis indicated that Keap1 expression was an independent prognostic factor for overall survival ($P=0.012$, HR 0.349, 95% CI 0.153-0.797). Although patients with high Nrf2 expression displayed better overall survival and disease-free survival, the association was not statistically significant.

Conclusion

High cytoplasmic Keap1 expression, which might prevent nuclear translocation of Nrf2 in ovarian cancer cells, was associated with lower disease recurrence and death rate. Survival analysis suggested a probable role of Keap1 expression in predicting the prognosis of ovarian cancer.
A TAILORED STRATEGY USING CA125 AND HE4 STRATIFIED BY MENOPAUSAL STATUS FOR DIFFERENTIATING BENIGN AND MALIGNANT ADNEXAL TUMORS

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Aims

This study aimed to compare the diagnostic performances between CA125 alone and a combination of CA125 and HE4, and to tailor the combination method using CA125 and HE4 for Korean women with ovarian tumors.

Method

We enrolled 327 epithelial ovarian cancer (EOC) patients and 322 benign ovarian tumor patients. In this study, we used the risk of ovarian malignancy algorithm (ROMA) and the simple dual-marker method (DualM) as combination methods. DualM identified a result as positive when either CA125 or HE4 was higher than the cut-off. Optimized cut-off values for tumor markers were evaluated according to patient menopausal status.

Results

The optimized cut-off values of CA125, HE4, and ROMA were 89.6 U/ml, 53.7 pmol/L, and 11.1% in premenopausal women (PreMP) respectively. In PreMP, DualM and ROMA yielded higher sensitivity (SN) than CA125, but the opposite trend was seen for specificity (SP) (CA125: SN=61.3% and SP=94.7%, DualM: SN=78.7% and SP=88.9%, ROMA: SN=70.7% and SP=92.2%). In PostMP patients, the optimized cut-off values for CA125, HE4, and ROMA were 23.4 U/ml, 64.3 pmol/L, and 25.3%, respectively. DualM yielded improved SN without decreasing SP in PostMP compared with CA125 alone. ROMA did not yield improved performance compared with CA125 alone (CA125: SN=85.3% and SP=94.9%, DualM: SN=90.5% and SP=88.5%, ROMA: SN=85.3% and SP=97.4%).

Conclusion

DualM performed better than CA125 alone in PostMP patients by increasing sensitivity via optimized cut-off values.
OVARIAN CANCER

ESGO7-1389

PULMONARY TYPE SMALL CELL CARCINOMA ARISING IN A MATURE CYSTIC TERATOMA OF THE OVARY: A CASE REPORT

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Aims

Small cell carcinoma arising from a mature cystic teratoma (MCT) in ovary is extremely rare.

Method

A 74-year-old woman had a large ovarian cystic mass incidentally discovered by abdomen ultrasonography. An investigation of her tumor marker levels showed that serum CA125 level was slightly elevated. Bilateral salpingo-oophorectomy, total hysterectomy and omentectomy were performed.

Results

The resected ovarian mass showed a multilocular cystic lesion, measuring 14x13x10 cm and containing sebum and dark brown fluid. At the periphery, a 4.7x4.5 cm solid nodule was noted. Histologically, the tumor cells were closely packed and displayed neuroendocrine morphologies in a solid nodule and MCT was observed in the background. Immunohistochemical staining revealed positive staining for EMA, CDS6 and synaptophysin, focal positive staining for pan-cytokeratin and WT1, but negative for TTF-1, CK20, a-inhibin and chromogranin A.

Conclusion

The tumor was compatible with pulmonary type small cell carcinoma arising in a MCT presented as stage IA with 51 months survival after surgery.
HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY (HIPEC) A PROMISING TREATMENT FOR RELAPSED INTRAPERITONEAL OVARIAN CANCER. CHIPOR AN ONGOING PHASE III, EUROPEAN MULTICENTRIC RANDOMIZED TRIAL.


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9Institut Gustave Roussy, Surgery, Villejuif, France
10Institut de Cancérologie de Lorraine, Surgery, Nancy, France
11Centre Lacassagne, Surgery, Nice, France
12Hopital Europeen Georges Pompidou, Surgery, Paris, France
13Hôpital Lariboisière, Surgery, Paris, France
14Institut Bergonié, Surgery, Bordeaux, France
15Centre Hospitalier Universitaire, Surgery, Clermond Ferrand, France
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Aims

OBJECTIVE:

The majority of patients with advanced ovarian cancer relapse, often evolving towards peritoneal carcinosis. Prospective series of secondary surgery with Hyperthermic Intraperitoneal Chemotherapy (HIPEC) have shown an increase in overall survival. HIPEC requires scientific validation in a randomized trial. CHIPOR (Chemotherapy and HIPEC for Ovarian cancer Relapse) aims to assess HIPEC impact on OS in patients with ovarian cancer first relapse.

Method

This prospective multicentric randomized phase III trial compares SCS with or without HIPEC (cisplatinum, 75mg/m², 42°C during 1 h), after at least 6 cycles of second-line platinum based chemotherapy. Patients are randomized during surgery. Primary objective is to improve OS by one year, which requires 444 patients. A pharmacokinetic study will allow the first comparison of open to closed HIPEC techniques.

MAIN INCLUSION CRITERIA

- Patient with intraperitoneal first epithelial ovarian cancer relapse (more than 6 months after the end of the initial treatment), resectable without distant metastasis
- Second-line platinum-based pre-operative chemotherapy
- Complete cytoreductive surgery

MAIN NON-INCLUSION CRITERIA

- Known hypersensitivity to cisplatin,
- More than 2 segmental digestive resections concomitant to HIPEC,
- Any progressive disease during the second-line chemotherapy),
- Patient who has already been treated by HIPEC

Results

Currently 22 sites are open in France, 1 in Spain and 1 in Belgium. 10 Institutions have included more than 10 patients. At the end of April 2017, 265 patients had been included.

Conclusion
CHIPOR is an innovative ongoing European trial aiming to assess the impact of HIPEC on overall survival, for patients with a first relapsed ovarian cancer.
Aims

To evaluate the differences in clinical presentation, treatment and prognosis in patients affected by ovarian cancer, based on the presence or absence of the germ-line BRCA mutation.

Method

Retrospective study on 204 patients treated for ovarian epithelial cancer between 2010 - 2015. The variables were: germline BRCA mutation, histology, FIGO stage, primary treatment, response to neoadjuvant chemotherapy (NACT), disease free interval (ILT), and overall survival (OS).

Two cohorts based on the presence of mutation: BRCA (n = 34) and NON - BRCA (n = 170) with statistical study to assess differences.

Results

The BRCA group showed a higher frequency of serous type, and incipient stages at diagnosis, without significance.

Differences were observed in primary treatment and overall survival between both groups. The BRCA group was treated with primary surgery (p = 0.001) and presented significantly higher OS (p = 0.02).

Considering only advanced stages (III - IV), the serous type was equalized in both groups, constituting 95% of the cases. Significant differences were maintained in primary surgical treatment (p = 0.001) and OS (p = 0.011).

Evaluation of patients undergoing NACT showed a significantly higher pathological response in the BRCA group (p = 0.025).

Lower percentage of relapses in BRCA group, but ILT no differences in both groups.

Conclusion

In our sample, we verified that patients with germ-line BRCA mutation-bearing ovarian cancer are operated primarily, have a better response to NACT and greater OS than non-mutated ones.
CLEAR CELL CARCINOMA: IS STAGING SURGERY NECESSARY?
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Aims
To determine the impact of staging surgery on clear cell tumors clinically and radiologically limited to ovaries.

Method
Retrospective study of 63 cases of ovarian cancer (18.2% of all ovarian cancers) treated in our center over a period of 15 years.
The variables evaluated: Peritoneal extension of the disease, lymph node involvement, global survival (OS) and type of relapse.

Results
In our sample, 57.1% (n = 36) presented clinically a disease limited to the ovaries (classification TNM: T1). A 42.9% were classified as T2 and T3.

Lymph node involvement was detected in 3 cases (9.1%) in T1 patients, increasing in T2 and T3 to 50% with significant differences (p = 0.002).

The classification of patients in T1 presented a greater correlation with the overall survival (p < 0.0001), against patient in T2 and T3. The detection of nodal involvement in these patients (T1) shows no change in overall survival.

Patients with nodal involvement are not correlated with type of relapse.

Conclusion
In our sample, it is evident that in patients with clear ovarian cell tumor limited to one or two ovaries (T1), staging surgery does not modify subsequent treatment or OS. Therefore, the possibility of not performing staging surgery in T1 patients, currently accepted by extrapolation of the results obtained from serous ovarian cancer, is considered.
OVARIAN CANCER

ESGO7-0059

RANDOMIZED, NON-COMPARATIVE, PHASE II TRIAL OF BEVACIZUMAB AND TRABECTEDIN WITH OR WITHOUT CARBOPLATIN IN PARTIALLY PLATINUM-SENSITIVE OVARIAN CANCER (ROC) WOMEN

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Aims

Trabectedin interferes with cancer cells division and decreases the number/function of tumor-associated macrophages (TAMs). Since TAMs produce several angiogenic factors, trabectedin might be synergistic with bevacizumab.

Method

Women with disease progression between 6-12 months since the last 1st/2nd line platinum-based therapy were randomized to Arm-A (trabectedin 1.1 mg/m² and bevacizumab 15 mg/kg q3w) or Arm-B (carboplatin AUC-4 plus trabectedin 0.8 mg/m² and bevacizumab 10 mg/kg q4w). In both arms responding patients from Cycle 7 onward could continue with trabectedin and bevacizumab until progression as in Arm-A. The study would open to the second-stage accrual if 7 and 13 of the first 17 patients in Arm-A and 8 and 13 patients in Arm-B remain progression-free at 6 months and without severe toxicities (primary end-points), respectively.

Results

In Arm-A and Arm-B, 11/17 and 14/17 patients remained progression-free at 6 months and achieved a median PFS of 9.4 and 23.1 months, respectively. At 6 months, 14 patients in Arm-A and 11 patients in Arm-B remain without severe toxicities. In Arm-B, 4 patients had grade 4 thrombocytopenia, 2 had grade 4 neutropenia, and 5 had hypersensitivity reaction to carboplatin. Despite this severe myelotoxicity, 11/12 patients without hypersensitivity reaction were able to complete 6 cycles after dose adjustment.

Conclusion

The combination of trabectedin/bevacizumab+carboplatin is highly effective in ROC. Arm-A completed second-stage accrual and the mature results on safety and efficacy will be presented. Arm-B did not meet the toxicity criteria to access second-stage accrual, but its remarkable median PFS of 23.1 months warrants further study with adapted schedules.
OVARIAN CANCER

ESGO7-1003

SYSTEMATIC PELVIC AND PARA AORTIC LYMPHADENECTOMY IN ADVANCED EPITHELIAL OVARIAN CARCINOMA: EXPERIENCE FROM A TERTIARY REFERRAL CENTRE IN EASTERN INDIA

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Aims

To analyse the rate of lymph node positivity in advanced EOC patients undergoing Primary (PDS) and Interval (IDS) debulking surgery and correlate with disease recurrence.

Method

Retrospective observational study, carried out at Tata Medical Centre between September 2011 to December 2016. Demographic data was obtained from the Redcap database and hospital electronic medical records. Systematic pelvic and para aortic node dissection was carried out in all cases.

All patients were followed up until April 2017.

Results

221 patients with advanced EOC underwent PDS (n=70) or IDS (n=151). Demographic characteristics of the study population were as follows: median age 52yrs (20-71), BMI 24.8, high grade serous histology 193/221 (87.3%), median CA125 at presentation 856 IU/L (4-40,000), FIGO stage III (76.9%), FIGO stage IV (23.07%). Optimal cytoreduction was achieved in 90.82% patients.

Any lymph node positivity was observed in 44/70 (62.8%) cases of PDS and 56/151 (37%) cases of IDS. Table 1 illustrates the detailed distribution.

<table>
<thead>
<tr>
<th>NODAL SITE</th>
<th>PDS (node positive)</th>
<th>IDS (node positive)</th>
<th>Median No. of nodes retrieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelvic</td>
<td>37/68 (54.4%)</td>
<td>57/144 (39.5%)</td>
<td>7 (0-30)</td>
</tr>
<tr>
<td>Para aortic</td>
<td>32/65 (49.2%)</td>
<td>71/143 (49.6%)</td>
<td>8 (0-34)</td>
</tr>
<tr>
<td>Any node positive</td>
<td>44/70 (62.8%)</td>
<td>56/151 (37%)</td>
<td></td>
</tr>
</tbody>
</table>

Complications related to lymph node dissection were as follows: vascular injury 11 (4.9%), lymphocele 6 (2.7%), chylous ascites 3 (1.3%).

Disease recurrence within 6 months of completion of primary treatment (platinum resistance) was seen in 20.4% (18/88) of node positive patients compared to 9.7% (11/113) in node negative patients who completed follow up.

Conclusion

Significant proportion of advanced stage EOC patients have lymph node involvement which persists even after neoadjuvant chemotherapy and is associated with higher incidence of platinum resistant recurrence.
OVARIAN CANCER

ESGO7-0881

SURVIVAL IMPACT OF SURGICAL STRATEGY IN STAGE III OR IV EPITHELIAL OVARIAN CANCER

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Aims

To evaluate the evolution of practices and the influence of surgical strategy on survival for patients with stage III or IV epithelial ovarian cancer (EOC).

Method

Prospective data collection in two french national cancer centers. Our analysis concerned clinicals information, completeness of surgery, definitive pathology, Overall Survival (OS) and Disease Free Survival (DFS). Three surgicals strategies were compared: Primary Debulking Surgery (PDS), Interval Debulking Surgery (IDS) after 3 courses of neoadjuvant chemotherapy and Final Debulking Surgery (FDS) after at least 6 chemotherapy’s courses. We analysed 4 periods: <2000, 2000-2004, 2005-2009 and >2009.

Results

Median age at diagnosis was 61 (17-94). 1473 patients managed for FIGO stage III (80%) or IV (20%) EOC between 1985 and 2015 were included. We compared the 4 periods: The rate of non-operated patients increased (10,1% vs 22,6% p<0,001) between first and last period. Neoadjuvant chemotherapy increased from 20,1% to 52,2% (p<0,001). Complete resection rate increased from 37% to 66,2% (p<0,001).

For patients who underwent surgery, OS increased in case of complete resection (HR=2,123 CI95% [1,816 - 2,481] p<0,001) but time of surgery didn’t impact median OS (month): PDS 44,9; IDS 50,3; FDS 42 (p=0,410).

For patients with complete surgery, DFS was significantly shorter of 3 months in case of FDS compared to PDS (p<0,001).

Conclusion

A significative improvement of OS and DFS has been observed during our study in relation with complete resection rate. We did not observe any difference between PDS, IDS and FDS in term of OS but a reduction of DFS for FDS.
CARCINOID TUMOR OF THE OVARY: A CLINICOPATHOLOGIC STUDY OF 67 CASES
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Aims
To correlate tumors’ pathological characteristics with clinical behavior and survival of patients diagnosed with ovarian carcinoid tumors, a rare group of ovarian neoplasms.

Method
Histologic slides of 67 cases of ovarian carcinoid tumors diagnosed at the Mount Sinai Hospital between 1994 and 2015, were reviewed and correlated with clinical outcomes.

Results
Of 67 patients, 29 had primary and 38 had metastatic carcinoids to the ovary. Primary tumors were unilateral in 93% cases, 66% were associated with ovarian teratoma, 22% were malignant (3 mucinous, 1 insular, 2 undifferentiated). Mean age was 48.7 years, overall survival was 86%. Carcinoid syndrome was present in one patient with malignant tumor. Metastatic tumors were bilateral in 72% cases, 82% were of gastrointestinal primary, of which 52% were from small bowel. Mean age was 53, overall survival was 50%. Carcinoid syndrome was present in 45%. Surgery was performed in 95% cases and 74% had adjuvant treatments. For the entire cohort, histologically severe cellular atypia was present in only 6 cases; immunoreactivity was positive for neurosecretory granules in all cases, p53 positive in one metastatic tumor, and Ki67 was relatively low in most cases.

Conclusion
The natural history of ovarian carcinoid (neuroendocrine tumors) is different, being more indolent than the common ovarian carcinomas. Carcinoid syndrome was far more common in the metastatic cases. The rather low-grade histologic features of carcinoid do not always correlate with the metastatic potential of the tumors and patients’ survival, requiring personalized therapeutic strategies.
OVARIAN CANCER

ESGO7-0283

MUCINOUS OVARIAN CANCER (MOC) : WHAT IS THE REPRODUCIBILITY OF THE WHO CLASSIFICATION?

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Aims

The WHO 2014 classification redefined the diagnostic classification of ovarian mucinous tumors: borderline mucinous tumor (BOM) and mucinous expansive (EA) and infiltrative (IA) adenocarcinoma.

Method

Retrospective study of 95 patients referred to the IGR for a borderline or malignant ovarian mucinous tumor from 1999 to 2016. All cases were reviewed by two gynecological pathologists (CG and MDS). Each pathologist interpreted the set of slides (from 1 to 4 HES per case) independently and was blinded to the interpretation of the other and to the clinical outcome of the patient.

Three types of pathological diagnoses were rendered: BOM, EA et IA. Grade of nuclear atypia and the presence of microinvasion were noted.

Results

Diagnosis was concordant between the 2 blinded independent pathologists for 87% of cases. Inter-observer diagnostic discordance was noted in 8 cases, mainly attributed to disagreement on IA vs EA with severe atypia (6/8). In 2 cases there was discordance on EA vs BOM.

Conclusion

The classification of mucinous tumors according to the WHO 2014 is difficult even for expert pathologists. The major difficulties are seen in separation of BOM from expansile adenocarcinoma. Also, the presence of severe atypia in an otherwise expansile type of invasion is interpreted differently between two pathologists (EA versus IA).

Nevertheless, it seems important to define more reproducible histological criteria for distinction of mucinous ovarian tumors between borderline and expansive adenocarcinomas in one hand and expansive and invasive adenocarcinomas in the other hand. This study is underway in the TMRO network organized in France.

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A RARE CASE OF PRIMARY PERITONEAL AMYLOIDOSIS MIMICKING PRIMARY PERITONEAL CARCINOMA WITH MASSIVE ASCITES

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Aims

Amyloidosis is a rare systemic disease that occurs via extracellular deposition of insoluble protein (amyloid) in healthy tissues or organs, leading to their dysfunction. The clinical manifestations of amyloidosis depend on the type of insoluble protein as well as the location of amyloid deposits in tissues or organs. In the gastrointestinal tract, the small intestine is the most common site of amyloid deposits, whereas peritoneal involvement and ascites are rare.

Method

We report on a case of ascites and peritoneal thickening due to peritoneal amyloidosis. A 75-year-old patient was admitted to our institution due to abdominal massive ascites, peritoneal thickening, pulmonary congestion and respiratory distress mimicking primary peritoneal carcinoma. Due to the lack of ovarian mass we thought to perform primary diagnosis with peritoneal sampling and give neo-adjuvant chemotherapy according to histopathological examination. We drained peritoneal-pleural ascites by way of peritoneal cannula and directed patient to the internal medicine unit for the treatment.

Results

The biopsies revealed primary peritoneal amyloidosis. (Figure1.)

Conclusion

Amyloidosis is rare in the peritoneum and is usually asymptomatic. Ascites occurs in only 20% of patients with peritoneal amyloidosis. To date, there is no specific treatment for peritoneal amyloidosis. In the cases of ascites and peritoneal thickening without ovarian mass, amyloidosis must be kept in mind.
OVARIAN CANCER

ESGO7-0387

THE EFFECTS OF ESTROGEN AND PROGESTERONE RECEPTOR POSITIVENESS TO PATIENTS OVERALL SURVEY IN SEROUS OVARIAN CARCINOMA

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Aims

To investigate the effects of estrogen and progesterone receptor positiveness to patients overall survey in serous ovarian carcinoma.

Method

Patients preparations with serous ovarian carcinoma that operated in Erciyes University were detected retrospectively. Receptor status of patients determined by the way oh Immunohistochemical staining. Tumor stage and grade determined. The average duration for the survey was taken 5 years. 119 patients were divided into 4 groups: ER (+) PR (+), ER (-) PR (-), ER (+) PR (-) and ER (-) PR (+). The numbers of patients in the groups were 34, 23, 41 and 21 respectively.

Results

There was no significant association between ER and PR positivity with tumor grade or stage (p>0.05). ER positivity was not significantly contributing to the surveillance of patients (p <0.247) and the PR positivity is associated with longer surveillance (p <0.006). The longest surveillance have seen in the combination of ER (-) PR (+) (9.526 ± 1.039 years) (p <0.049).

Conclusion

The findings of this study have potentially important implications for the clinical management of patients with ovarian cancer. Especially in serous carcinomas, PR and ER expression status may give an idea about the prognosis of the patients to the physicians. In addition this may help to distinguish patients who need aggressive chemotherapy from those who may benefit from less toxic endocrine therapy.
LOW GRADE SEROUS OVARIAN CARCINOMA IN A HETEROGENOUS SOUTHEAST ASIAN SETTING

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²KK Women's and Children's Hospital - Singapore, Department of Gynaeoncology, Singapore, Singapore

Aims

It has now been established that low grade serous carcinoma of the ovary is a distinct entity by itself distancing itself from the high grade serous carcinomas in many aspects. Being in a unique heterogenous Southeast Asian country where the population comprises of 4 different races namely, Chinese, Malay, Indian and Eurasian, we examined the characteristics of the low grade serous ovarian carcinomas in our institution.

Method

Data was collected retrospectively from the KK Gynaecologic oncologic database from the KK Women’s and Children’s hospital, the biggest women’s tertiary hospital in Singapore. The data of 34 patients with confirmed low grade serous carcinoma of the ovary was collected from 1991 – 2015. The data analysed using SPSS system software.

Results

A total of 34 patients were analysed with low grade serous carcinoma. The patients’ ages ranged from 23 – 84.8 years. The mean age was 47.9 years. Majority (55.9%) of patients presented as stage 3 disease, 29.4% of patients presented as stage 1 disease, 8.8% as stage 3 disease and 2.9 % as stage 2 and unstaged. Overall survival was 182 months for all stages. The 5 years survival rate was 68.8% and 10 years survival rate, 62.3%. There was no significant difference between patients receiving chemotherapy and overall survival, $p = 0.58$.

Conclusion

Similar to the Caucasian population, low grade serous carcinoma in a heterogenous Asian population also appears to present earlier, are fairly resistant to conventional chemotherapy. Hence, more needs to be done to elucidate this distinct entity of ovarian serous carcinoma.
OVARIAN CANCER

ESGO7-0021

LAPAROSCOPIC SCORING FOR ADVANCED OVARIAN TUMORS: A WAY FOR PREDICTION OF OPTIMAL CYTOREDUCTIVE SURGERY

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Aims

CT imaging and staging laparotomy are used to assess feasibility for optimal cytoreduction. We evaluated the role of laparoscopic scoring in assessing operability for optimal cytoreduction in advanced ovarian tumors.

Method

From 6/2016 to 12/2016, 15 patients were recruited. Inclusion criterion were Patients diagnosed with advanced ovarian cancers who were planned for primary reduction surgery were included in this study. The diagnosis of ovarian cancer was mainly clinical and CT based corroborated with CA 125 levels. All patients underwent three port laparoscopy. Thorough exploration of 8 sites at ovarian mass, peritoneal deposits, omental cake, mesenteric retraction by no free mobility of intestine, intestinal infiltration not surface implants, stomach infiltration not surface implants, liver and diaphragmatic infiltration. Each has a score of 0 if negative and 2 if positive for all sites except ovarian mass. If score of <8 this mean optimal for cytoreduction. No attempts were made to perform sub optimal cytoreduction in score of >=8 and interval cytoreduction would be planned after 3-4 cycles of upfront platinum based chemotherapy.

Results

6 of total cases underwent neoadjuvant chemotherapy with hepatic and diaphragmatic deposits and 9 underwent cytoreductive surgery. 12 patients had mesentery, omental cake and peritoneal deposits. No patients with gastric or intestinal infiltration were detected. Peritoneal deposits, mesenteric retraction were not detected on CT but were detected during laparoscopy. Intestinal infiltration were falsely detected on CT.

Conclusion

Laparoscopy could diagnose mesenteric, small bowel deposits, omental, stomach, liver and peritoneal deposits better than CT.
OVARIAN CANCER

ESGO7-1376

RE-APPRAISAL OF THE ROLE OF DELAYED DEBULKING SURGERY IN PATIENTS WITH STAGE 3C/4 EPITHELIAL OVARIAN CANCER AFTER 6 CYCLES OF UPFRONT CHEMOTHERAPY

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3Royal Marsden Hospital and St George 's University Hospital, Obstetrics and Gynaecology department, London, United Kingdom

Aims

The aim of the study is to evaluate the feasibility and the outcomes of cytoreductive surgery in a particular group of stage 3C/4 Epithelial ovarian cancer patients who received up to 6 cycles of chemotherapy rather than the traditional 3-4 cycles of neoadjuvant chemotherapy.

Method

This is a retrospective service evaluation (observational) study that included 182 patients who received their treatment in Oxford University hospital NHS trust from 2009 till 2015. 88 patients had 6 cycles of chemotherapy followed by delayed debulking surgery (group 1) and 94 patients had only 6 cycles of chemotherapy (group 2). Patients who had <6 cycles of chemotherapy due to progressive disease where excluded from the study

Results

Group 1 had significantly higher overall survival compared to Group 2; 34 months (95% CI: 21m-46m) and 17 months (95% CI: 15-19m) respectively. Progression free survival was also significantly higher in group 1; 16 months (95% CI: 10.7m-17m) and 10 months (95% CI: 9 m-11m) respectively. Complete cytoreduction was feasible in 75% of the patients eligible for surgery and residual disease of <1cm was achievable in 88.6% of those patients. The main reason for not proceeding with surgery was unresectable disease by CT scan +/- diagnostic laparoscopy. Diagnostic laparoscopy in patients with stable disease by CT scan improved the selection of patients for surgery.

Conclusion

Surgery still provides significant survival benefit and should still be offered to all suitable candidates. Diagnostic laparoscopy improved the selection of patients for surgery and reduced the number of futile laparotomies.
OVARIAN CANCER

ESGO7-0713

IDENTIFYING THE PLATINUM-SENSITIVE HIGH GRADE SEROUS OVARIAN CANCER; THE SYNERGY BETWEEN HOMOLOGOUS RECOMBINATION AND NUCLEOTIDE EXCISION REPAIR

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Aims

There is strong evidence that abrogation of nucleotide excision repair (NER) and homologous recombination repair (HR) correlates with platinum-sensitivity and relapse in high-grade serous ovarian cancer (HGSOC). We aimed to develop clinically feasible assays to determine the functional NER and HR status of HGSOC and to identify any link between NER, HR and platinum response.

Method

Functional NER capacity (NERC) was determined by measuring benzopyrene (BPDE)-induced single-stranded DNA damage and repair using an alkaline comet assay. HR status was determined by a two-fold increase in Rad51 foci following UV-C induced double strand DNA damage. We assessed the correlation between NERC, HR and cell survival following carboplatin treatment in HGSOC cell lines and patient samples. The effect of inhibiting pivotal NER genes (ERCC1, ERCC5 and XPA) on NERC was assessed by siRNA knockdown.

Results

Comet analysis showed 70% of HGSOC patient sample were NER defective (n=35) and these tumours were more sensitive to carboplatin (p=0.03). Platinum-resistant PEO4 cells (I) had increased NERC compared to the platinum-sensitive PEO14 (IC50=23µM vs 125µM, p=0.002). NER/HR-competent HGSOC cells had decreased carboplatin-sensitivity compared to NER/HR-defective cells (p=0.016). Furthermore, knockdown of XPA, ERCC1 and ERCC5 inhibited NER function and increased carbo-sensitivity in PEO4 but not NER-defective PEO14 cells.

Conclusion

NER/HR-competent HGSOC are less sensitive to carboplatin compared to NER/HR-defective HGSOC. Our functional NER and HR data support the clinical need for determining DNA repair status to improve prediction of response and resistance to chemotherapy. Further data is required to establish clinical correlations between NER status and platinum sensitivity.
RESECTABILITY IN ADVANCED OVARIAN CANCER, OUR RESULTS
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Aims
In the period from January 2011 to December 2016, a total of 38 patients with an advanced ovarian cancer were operated in our center (stage III-IV). We have done a descriptive analysis of our results of the last 6 years. In the literature is reported that approximately 30% of patients undergoing cytoreductive surgery do not achieve 0 residual disease at the first surgical procedure, and in some groups this percentage amounts to 60%.

Method
As part of a good surgical team, a good preoperative study of the patients is essential to be able to carry out a correct planning of the treatment to the patients. Our preoperative analysis consists of a blood analysis with tumor markers, a transvaginal ultrasound, a CT scan, and usually a diagnostic laparoscopy for resectability assessment.

Results
In our hospital, of the total of the surgeries practiced (36/38), complete surgery has been achieved in 94.4% of the cases. Of these surgeries, 4 have been after neoadjuvant chemotherapy, and only 2 have not been achieved a complete cytoreduction. Two other patients only received chemotherapy, with progression during the treatment. Analyzing the two specific cases, in which complete surgery was not achieved, one of them presented a Sugar Baker index of 28 pre-chemotherapy, which fell to 8 after the treatment. And the other case, was a mistake in the diagnosis by image, in which it was not detected that there was affection of the mesenteric vessels, and a primary surgery was tried.

Conclusion
Nowadays, we have introduced diagnostic laparoscopy as an obligatory part in the pre-surgical evaluation of the patients. As always, a very good multidisciplinary team is required, including specialists radiologists in gynecology-oncology, specialized surgeons and oncologists.
OVARIAN CANCER

ESGO7-1317

NO TRACE OF HPV IN BENIGN AND MALIGNANT EPITHELIAL OVARIAN TUMORS IN AN IRANIAN FEMALE POPULATION

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Aims

Ovarian epithelial tumor is one of the most common gynecological tumors; we evaluated the presence of HPV in benign and malignant epithelial ovarian tumors.

Method

In presented cross-sectional study the records of 105 patients with epithelial ovarian tumors (benign and malignant) referred to Imam Hossein University Hospital from 2012 to 2015 were evaluated along with assessing the presence of the HPV infection in their ovarian tumors using PCR

Results

Among 105 patients including 26 (24.8%) with malignant and 79 (75.2%) benign ovarian epithelial tumors, the factors impact on the malignancy were age at diagnosis, the age of the first pregnancy, the number of pregnancy and hormonal status, however, the malignancy was not related to the abortion, late menopause, and early menarche. In all of the ovarian tissues (benign and malignant tumors) removed from 105 patients, the HPV DNA was not found.

Conclusion

In this study the HPV DNA could not be found in any epithelial ovarian tumors (benign and malignant) removed from 105 women; more studies in larger sample size are needed to have the better conclusion.
OVARIAN CANCER

IMMUNONUTRITION: A NEW TOOL IN THE MANAGEMENT OF OVARIAN CANCER?
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Aims

Immunonutrition has been proved to stimulate the immunological, inflammatory and nutritional response in different tumours, decreasing postoperative mortality and morbidity. Alterations in lymphocyte subpopulations, particularly the Treg cell subpopulation and the expression of PD1, could be a key factor in determining the status of tumour microenvironment. Patients with ovarian cancer are most effectively treated by radical surgery, that carries a high risk of postoperative complications. The aim of this study is to evaluate the effects of preoperative immunonutrition on patients with ovarian cancer undergoing surgery.

Method

Our pilot study involved 11 patients with ovarian cancer who underwent primary debulking surgery between 2016 and 2017. Enteral immunonutrition was prescribed for 5 to 7 days preoperatively. The following parameters were evaluated before and after immunonutrition: monocytes, granulocytes, lymphocyte subpopulations (CD3+/4+/5+/8+/19+/20+/25+/56+), prealbumin, serum total protein, C-reactive protein (CRP), creatinine, length of hospital stay (LOS) and postoperative complications. The expression of PD1 was assessed on CD4+, CD8+ and Treg cell subpopulations.

Results

After immunonutrition, granulocytes and lymphocytes B CD19+ were significantly increased (p<0.05). CD3+ and CD8+ T cell subpopulations showed an increasing trend (p>0.05). The expression of PD1 on CD8+ cell subpopulation decreased (p>0.05). CRP and creatinine significantly decreased (p<0.05), while prealbumin significantly increased (p<0.05). In comparison with patients with ovarian cancer who underwent surgery between 2013 and 2016 without preoperative immunonutrition, LOS and the G2-G3 postoperative complications were reduced, (8 vs 6.9 p>0.05) and (40.0% vs 9.1%, p=0.04) respectively.

Conclusion

Preoperative immunonutrition may represent a promising approach in the management of ovarian cancer.
OVARIAN CANCER

ESGO7-0577

A PROVEN MODEL FOR IMPROVEMENT IN GENETIC COUNSELING REFERRALS FOR OVARIAN CANCER PATIENTS IN A COMMUNITY HOSPITAL CANCER CENTER

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Aims

Despite guidelines recommending genetic counseling (GC) referrals for ovarian cancer patients, rates within US academic centers (15-30%) and worldwide (15-20%) remain low. While most US cancer patients receive treatment at community centers, there is little research on genetics referrals in this setting. With changes to clinical pathways in 2013, our goal was 100% referral rate to GC within 1 year from diagnosis.

Method

In October 2013, the Gynecologic Oncology Steering Committee (GOSC) implemented a multidisciplinary approach to improve education, communication, and care integration for ovarian referrals to GC. Compliance was monitored and reported. Missing referral notifications were sent regularly and status presented bi-monthly at GOSC for two years. Baseline 2013 referrals were compared to those in 2014 and 2015.

Results

In 2013, 35% (41/116) of ovarian patients were referred. In 2014, 90% (71/79) of eligible ovarian patients received GC and testing. Sixty-four (81%) of these were in-house referrals, 4 patients were seen at an outside institution, and 3 were tested through a clinical trial. The 8 (10%) missed referrals were due to 2 deaths, 2 lost to follow-up, and 4 were never referred. This demonstrates a 157% increase over baseline. In 2015, in-house referrals remained high at 73% (72/99).

Conclusion

Improvement in ovarian genetics referrals can be sustained in community setting through a multidisciplinary approach and regular reporting. Physician engagement and accountability are key to success. Our impressive growth in GC referrals within a large community cancer center benefits patients and can serve as a model for guideline compliance.
COMPARATIVE STUDY OF SURVIVAL OUTCOMES FOLLOWING ROBOTIC-ASSISTED LAPAROSCOPIC VERSUS ABDOMINAL SURGERY IN THE MANAGEMENT OF OVARIAN CANCER

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Aims

To compare survival outcomes following robotic-assisted and abdominal surgery in patients with ovarian cancer.

Method

Retrospective analysis of consecutive ovarian cancer patients seen by a single surgeon between January 2008-March 2016. Intention-to-treat analysis was conducted using chi-square and t-test with significance <0.05. Kaplan-Meier survival curves were compared using the Mantel-Cox-log-rank test.

Results

Robotic-assisted cases were (n=122) were similar to abdominal surgery (n=49) on age, BMI, uterine weight, parity, prior pelvic surgery and intra-and post-operative complications (p>0.05). More robotic-assisted cases (vs. abdominal) had neoadjuvant chemotherapy (47.5% vs. 24.5%, p=0.004), were stage I (37.7% vs. 20.4%, p=0.03) and had no evidence of disease after surgery (79.5% vs. 40.8%, p<0.001). In early stage cancer (I/II), optimal debulking (<0.5 cm residual disease) was achieved in 98.1% and 80.0% of robotic-assisted vs. abdominal surgeries respectively (p=0.27). In advanced cases (III/IV), optimal debulking was attained in significantly more in robotic than abdominal surgeries (85.3% vs. 61.8%, p=0.009).

Survival distributions showed robotic surgery patients had better overall survival (p=0.02), but only for early stage cancers (p=0.003) and not advanced cancers (p=0.38) (Figure 1). There were no differences in progression-free survival by surgical approach either overall (p=0.56) or by early (p=0.63) or advanced stage (p=0.73) disease.

Conclusion

Overall and progression-free survival were at least as good in patients who underwent robotic-assisted compared to abdominal procedures, at all stages of ovarian cancer.
OVARIAN CANCER

ESGO7-0560

PREOPERATIVE STAGING OF ADVANCED OVARIAN CANCER: COMPARISON BETWEEN ULTRASOUND, COMPUTED TOMOGRAPHY (CT) AND WHOLE-BODY MRI WITH DIFFUSION-WEIGHTED SEQUENCE (WB-DWI/MRI)

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Aims

To compare the diagnostic accuracy of ultrasound, CT, and MRI in ovarian cancer staging.

Method

Patients planned for ovarian cancer surgery were enrolled. They underwent preoperative staging with ultrasound, CT, and MRI, following evaluation form. Findings were compared to intraoperative and histopathological evaluation forms. The evaluation assessed peritoneal spread in 17 sites and metastatic lymph nodes in 7 sites.

Results

Twenty-one patients were enrolled between March and August 2016. Ultrasound showed the best results in detection of pelvic carcinomatosis and depth of rectosigmoid infiltration, followed by MRI and CT (AUC 0.85, 0.79, and 0.72). In the abdomen, ultrasound had the best results in the detection of peritoneal carcinomatosis in the upper abdomen (spleen, liver, lesser omentum) and in greater omentum (AUC of 0.82 and 1.00), in contrast with MRI (AUC 0.73 and 0.93) and CT (AUC 0.71 and 0.88). Ultrasound also reached the highest AUC in the detection of bowel mesentery (AUC 0.78) compared to MRI and CT (AUC 0.66 and 0.62) and was comparable to MRI in the assessment of bowel surface (AUC 0.76), followed by CT (0.73). Ultrasound had the lowest AUC in detection of parietal carcinomatosis (diaphragm, paracolic gutters, anterior abdominal wall) in comparison to MRI and CT (AUC 0.72, 0.86, and 0.78). In the assessment of retroperitoneal lymph nodes, all three methods showed similar results (AUC of 0.80).

Conclusion

This is the first prospective study to date documenting the potential role of ultrasound in ovarian cancer staging, compared to the method of choice (CT) and a novel technique (WB-DWI/MRI).
OVARIAN CANCER

ESGO7-1061

COMPLETE GROSS RESECTION AT PRIMARY VERSUS INTERVAL SURGERY FOR ADVANCED OVARIAN CANCER IMPROVES PROGRESSION-FREE SURVIVAL

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Aims

To determine effect of complete gross surgical resection (R0) of tumor on progression-free survival at primary versus interval tumor reductive surgery in advanced ovarian cancer.

Method

We prospectively triaged patients from April 2013 to December 2016 with suspected advanced stage ovarian cancer to laparoscopic scoring assessment to determine primary resectability. Medically inoperable or those with distant metastatic disease received neoadjuvant chemotherapy (NACT). 20 gynecologic oncologists from a single institution performed all scoring. Predictive index value (PIV) scores <8 were dispositioned to primary surgery and ≥8 to NACT. Clinicopathologic and adjuvant treatment data was collected prospectively. Univariate and multivariate analysis was performed for effects on progression-free survival (PFS).

Results

658 patients presented with presumed advanced ovarian cancer. 488 patients were found to have pathologically confirmed stage II-IVB high-grade epithelial ovarian cancer and triaged to NACT/no scope (n=243), NACT/scope (n=105), and primary surgery (n=138). Patients undergoing primary surgery had improved PFS (HR=0.52, 95% CI 0.31-0.85, p=0.02) compared to interval surgery after NACT. Patients undergoing R0 resection at primary surgery had significant improved PFS compared to those undergoing R0 resection at interval surgery (23.5 vs. 12 months, p<0.001). On multivariate analysis, ECOG performance status (p=0.03), R0 resection (p=0.01), and primary surgery (p=0.01) had significant effects on PFS.

Conclusion

Complete surgical resection at primary surgery in advanced ovarian cancer is associated with superior progression-free survival compared to NACT and interval surgery. Laparoscopic scoring assessment allows for appropriate triage of patients to primary surgery.
OVARIAN CANCER

ESGO7-1378

IMPLEMENTATION OF A LAPAROSCOPIC SCORING ALGORITHM PRIOR TO CYTOREDUCTIVE SURGERY IN PATIENTS WITH ADVANCED OVARIAN CANCER

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Aims

To determine the surgical outcomes and concordance rates of patients undergoing laparoscopic scoring assessment for presumed advanced stage ovarian cancer.

Method

We prospectively triaged patients from April 2013 to April 2017 with suspected advanced stage ovarian cancer to laparoscopic scoring assessment to determine primary resectability. Medically inoperable or those with distant metastatic disease received neoadjuvant chemotherapy (NACT). 20 gynecologic oncologists from a single institution performed all scoring. Predictive index value (PIV) scores <8 were dispositioned to primary surgery and ≥8 to NACT. Two surgeons scored each patient in a blinded fashion, and a third surgeon score was available to assess cases with a discrepancy. Descriptive statistics were used to report surgical and scoring outcomes.

Results

672 patients presented with presumed advanced ovarian cancer and 292 patients underwent laparoscopic scoring assessment. 21 patients (3%) were diagnosed with a non-ovarian primary malignancy. Surgical complications included GI trocar injury (n=6, 2%), port site metastasis (n=12, 4%), and wound infection (n=9, 3%). 184 patients (63%) had a PIV<8 and 100 patients (34%) a PIV ≥8. PIV score could not be determined in 8 patients (3%). Two-surgeon scoring (n=200) resulted in qualitative agreement in 94% of cases, and a third surgeon was called in 10 cases (5%). The third surgeon agreed with the second surgeon in 4 cases, giving a discordance rate of 2%.

Conclusion

Laparoscopic scoring assessment in presumed advanced stage ovarian cancer is associated with acceptable surgical outcomes and low complication rates. Concordance is high amongst surgeons experienced with the scoring algorithm.
Aims

CT images can be quantitatively analysed to describe intuitive features such as shape and texture. The features generated from such analyses (i.e. texture analysis or radiomic data) have been associated with prognosis and cellular pathways in many cancer types. The non-invasive and cost-effective nature of radiomic data make it a promising biomarker candidate for cancer patients. In this study, we aimed to investigate the clinical value of radiomic data as a potential biomarker in serous ovarian cancer.

Method

Here, we developed texture analysis software in-house and extracted 657 features from each CT scan. We collected radiomic data and comprehensive molecular information including copy number profile, proteomic and molecular subtype for over 200 primary serous ovarian tumours.

Results

We found that radiomic features of primary ovarian tumours closely correlated with ovarian cancer stage, grade and survival. Furthermore, we discovered that a subset of radiomic features correlated with molecular subtypes and PI3K pathways.

Conclusion

In summary, we demonstrated that radiomic data could be a potential diagnostic and prognostic biomarker to guide future therapy.
OVARian CANCer

ESGO7-1332

DOES MENOPAUSAL STATUS OF OVARIAN CANCER PATIENTS INFLUENCE MESOTHELIN EXPRESSION IN PRIMARY TUMOR AND INTRAPERITONEAL METASTASES?
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Aims

Epidemiological data confirm a link between reproductive factors and the risk of ovarian cancer. An increase in ovarian cancer risk occurs in perimenopausal and immediate postmenopausal periods, and continues to rise as the ovary ages. The majority of sporadic ovarian cancers are diagnosed in postmenopausal women, with an average age of approximately 63 years. Mesothelin is suggested to be one of the proteins facilitating intraperitoneal metastazing in ovarian cancer. The aim of the study was immunohistochemical analysis of mesothelin expression in primary epithelial ovarian tumors and intraperitoneal metastases in relation to menopausal status of patients.

Method

The study included 47 patients with histopathologically confirmed ovarian cancer, who were retrospectively allocated by menopausal status into two groups: premenopausal and postmenopausal women. To evaluate mesothelin expression in both groups biopsies of primary and peritoneal metastases, commercially available Novocastra NCL-L-Meso antibodies were used. For the purpose of analyses, mesothelin expression was classified into two groups of strong (SE group) (>10% of cells) and weak (WE group) (<10% of cells) expression.

Results

55% of primary tumors were classified into SE group, and 45% into WE group, whereas 26% of ovarian metastases were classified into SE group, and 74% into WE group. There was no significant correlation between general mesothelin primary tumors and metastases expression in relation to menopausal status (p>0.05).

Conclusion

Mesothelin expression in primary ovarian tumor and intraperitoneal metastases is not correlated with patients’ menopausal status. Menopausal status probably does not influence formation of peritoneal metastases in ovarian cancer patients.
OVARIAN CANCER

ESGO7-0125

HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY (HIPEC) IN GYNECOLOGICAL MALIGNANCIES
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Aims

Peritoneal carcinomatosis is a sign of advanced disease of carcinoma of the ovary and fallopian tube, but also of primary peritoneal carcinomas. Meanwhile it could be shown that the prognosis is significantly improved after cytoreductive surgery. If it is possible to achieve a complete tumor free situation, HIPEC should further improve the prognosis.

Method

Patients with peritoneal malignancies underwent a cytoreductive surgery. In 40 patients we could achieve an optimal tumor resection so that HIPEC with a cisplatin solution (50mg/m²) at 41°C could be performed. Adverse events were recorded after the Clavien-Dindo classification especially by evaluating grade III and IV side effects.

Results

The mean age was 59.8 years. The Peritoneal Cancer Index was between 3 and 18. The CC-0-rate was 68%, the CC-1 rate was 32%. More than 20 anastomoses had been performed without any insufficiencies. We counted 13 adverse events in 8 patients. The only grade III toxicity was a temporary renal failure, the remaining adverse events were only grade I or II side effects. The postoperative systemic treatment with carboplatin and paclitaxel was not postponed. The median follow up was 1.25 years. The recurrence free survival will be presented.

Conclusion

HIPEC with 50 mg/m2 cisplatin seems to be feasible in gynecologic malignancies without inducing severe adverse events. Thus, we believe HIPEC is another important component of the treatment of peritoneal malignancy.
OVARIAN CANCER

ESGO7-0318

PHASE 2, RANDOMIZED CONTROLLED STUDY OF PEGYLATED LIPOSOMAL DOXORUBICIN AND CARBOPLATIN VERSUS GEMCITABINE AND CARBOPLATIN IN PLATINUM-SENSITIVE RECURRENT OVARIAN CANCER (GOTIC003/INTERGROUP STUDY)


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Aims

To compare the efficacy, safety and tolerability profiles of pegylated liposomal doxorubicin and carboplatin (PLD-C) with those of gemcitabine and carboplatin (GC) for the treatment of patients with platinum-sensitive recurrent ovarian cancer (PSROC).

Method

Patients with histologically proven ovarian cancer with recurrence >6 months after first-line platinum and taxane-based therapies were randomly assigned to PLD-C (PLD 30 mg/m² plus carboplatin area under the curve [AUC] 5 on day 1) every 4 weeks or GC (gemcitabine 1,000mg/m² on day 1 and 8 plus carboplatin AUC 4 on day 1) every 3 weeks for at least 6 cycles. The primary endpoint was progression-free survival (PFS), with overall response rate, overall survival, toxicity and dose administration as secondary endpoints.

Results

One hundred patients (49 PLD-C; 51GC) were randomly assigned. With a median follow-up of 27 months, the median PFS was 12.0 months (95%CI, 9.2 to 15.0) for PLD-C and 9.8 months (95%CI, 8.9 to 12.3) for GC. The overall survival data are immature. Response rate was 57.1% (95%CI, 41.0 to 72.3) for PLD-C and 56.4% (95%CI, 39.6 to 72.2) for GC. No obvious differences in toxicity (G3/4) were noted between arms. Treatment completion rate for 6 cycles was higher for PLD-C (63.3%;95%CI, 48.3 to 76.6) than for GC (31.4%;95%CI, 19.1 to 45.9).

Conclusion

PLD-C and GC are both good treatment candidates for PSROC patients; however, the dose intensity was lower for GC than for PLD-C. PLD-C seems to have a more favorable risk-benefit profile than does GC for the patients in this study.
THE ASSOCIATION BETWEEN EXPRESSION OF TBX2 AND SENSITIVITY TO PLATINUM-BASED CHEMOTHERAPY FOR OVARIAN SEROUS CARCINOMA

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Aims

We examined the correlation between TBX2 (T-box2) expression and the sensitivity to platinum-based chemotherapy for ovarian serous carcinoma.

Method

We reviewed 54 cases of ovarian serous carcinoma stage III-IV from 2005 to 2013. Cases were divided into two groups: one group in which maximum debulking surgery followed by platinum-based chemotherapy was performed and did not recur within 6 months after initialization of chemotherapy (group A; n=27), and another group in which maximum debulking surgery followed by platinum-based chemotherapy was performed and recur within 6 months (group B; n=27). TBX2 expression was examined immunohistochemically in paraffin-embedded sections using the avidin-biotin peroxidase complex method. This study was approved by the institutional review board in our facility.

Results

The expression of TBX2 was significantly higher in the group B than in the group A (p=0.005). Cases were divided into two groups: one group in which TBX2 expression was low level (weighted score ≤6, n=44), and another group in which TBX2 expression was high level (weighted score ≥8, n=10). Low TBX2 expression group might be sensitive to platinum-based chemotherapy than high expression group (p=0.02). The overall survival of Low TBX2 expression group was significantly longer than High TBX2 expression group (p=0.023).

Conclusion

It is suggested that the expression of TBX2 might be associated with sensitivity to platinum-based chemotherapy and predictor of prognosis of advanced ovarian serous carcinoma.
OVARIAN CANCER

ESGO7-0211

THE ASSOCIATION BETWEEN EXPRESSION OF UCP2 AND SENSITIVITY TO PLATINUM-BASED CHEMOTHERAPY FOR OVARIAN SEROUS CARCINOMA

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Aims

We examined the correlation between UCP2 (uncoupling protein 2) expression and the sensitivity to platinum-based chemotherapy for ovarian serous carcinoma.

Method

We reviewed 51 cases of ovarian serous carcinoma stage III-IV from 2005 to 2012. Cases were divided into two groups: one group in which maximum debulking surgery followed by platinum-based chemotherapy was performed and did not recur within 6 months after initialization of chemotherapy (group A; n=26), and another group in which maximum debulking surgery followed by platinum-based chemotherapy was performed and recur within 6 months (group B; n=25). UCP2 expression was examined immunohistochemically in paraffin-embedded sections using the avidin-biotin peroxidase complex method. This study was approved by the institutional review board in our facility.

Results

The expression of UCP2 was significantly higher in the group B than in the group A (p=0.027). Cases were divided into two groups: one group in which UCP2 expression was low level (weighted score≤6, n=24), and another group in which UCP2 expression was high level (weighted score≥8, n=27). Low UCP2 expression group might be sensitive to platinum-based chemotherapy than high expression group (p=0.007). The overall survival of Low UCP2 expression group was significantly longer than High UCP2 expression group (p=0.006).

Conclusion

It is suggested that the expression of UCP2 might be associated with sensitivity to platinum-based chemotherapy and predictor of prognosis of advanced ovarian serous carcinoma.
OVARIAN CANCER

ESGO7-0029

OVARIAN GASTROINTESTINAL STROMAL TUMOR: DOES THIS DIAGNOSIS EXIST
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Aims

Gastrointestinal stromal tumors (GISTs) are rare gastrointestinal (GI) tract tumors. Those tumors rarely arise extra-intestinally; within omentum, mesentery, and rarely uterus. We report a case of myxoid variant of GIST arising in the ovary with no evidence of a primary tumor in the GI tract. Surgeons as well as gynecologists should bear this possibility in mind when managing pelvic masses.

Method

In the present case report, We present a unique case of GIST arising from the ovary with no evidence of other primary with endoscopy, radiology, and exploration.

Results

Also in this case, a rare pathological type (myxoid variant) was detected with a very aggressive course and poor response to imatinib. We claim that GISTs can arise from the ovary primarily supported by the two published reports by Agaimy et al. recording presence of interstitial cells of Cajal in an ovarian teratoma in one case and recording coexistence of Cajal cell hyperplasia with teratoma in another case also supported by the presence of pleuripotent stem cells within the ovary.

Conclusion

GISTs can arise within the ovary either as a primary tumor or metastatic from GI site with great difficulty in differentiation between both. Surgical treatment and adjuvant therapy with imatinib is still the main line of treatment of GISTs, even for those arising in rare sites. Myxoid variant of GIST may present with a very aggressive course and its response to imatinib is questionable.
OVARIAN CANCER

ESGO7-0470

MINIMALLY INVASIVE SURGERY FOR THE MANAGEMENT OF OVARIAN EPITHELIAL CANCER: FEASIBILITY, MORBIDITY AND SURVIVAL

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Aims

Laparoscopy is becoming the gold standard in gynecological oncologic surgery, but it remains controversial for the management of ovarian carcinomas. The aim of this study is to evaluate laparoscopy for management of both early and advanced stages of ovarian epithelial cancer.

Method

We performed a single institution retrospective study. All patients who underwent a laparoscopic surgery for primary ovarian cancer between the 1st January 2010 and the 31st December 2016 were included in the study. Standard surgical procedures were performed according to national guidelines. Neo-adjuvant chemotherapy was administered when indicated. Preoperative clinical data, perioperative data and survival outcomes were analyzed.

Results

Fifty patients were included. Forty one (82%) were successfully managed by laparoscopy without conversion to laparotomy. Absence of residual tumor was achieved for all cases (100%). Three intraoperative complications (7.3%) occurred, all resolved laparoscopically. Median length of stay was five days. Seven patients (17%) had postoperative complications but only one (2.4%) was grade 3. Median time to start adjuvant chemotherapy was 27 days. For a median follow-up of 18 months, twenty nine patients (71%) are still alive with no recurrence, ten relapsed (24%). Median overall survival was 64 months and median progression-free survival was 38 months.

Conclusion

Minimally invasive surgery may represent a valuable surgical alternative for management of ovarian epithelial cancer in selected cases, with a low morbidity rate and no impact on progression free survival. A prospective multicentric study for laparoscopic management of advanced stages is currently under evaluation in our department.
OVARIAN CANCER

ESGO7-0623

PRIMARY OVARIAN LARGE B-CELL LYMPHOMA
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Aims

Primary ovarian non-Hodgkin’s lymphoma (NHL) is a rare disease accounting for 0.5% of all NHLs and 1.5% of all malignant ovarian neoplasms. Primary ovarian NHL arises from hilar lymphoid tissue or teratoma in the ovary. The most common histological subtype is diffuse large B-cell lymphoma.

Method

We describe clinical, histological and therapeutic feature of a case of primary ovarian NHL.

Results

A 44-years old woman, without medical history, presented with symptoms of abdominal distension, dysuria and constipation worsening over four months. Physical examination revealed an ill-defined lump in the lower abdomen. The ultrasound examination and the computed tomography (CT) scan of the abdomen and pelvis showed an irregular, heterogenous and hypervascular lesion arising from the left ovary measuring 17x10x8 cm. The tumor involved the right parametrium and repulsed the uterus and the bladder. No lymph nodes or distant metastases were detected. The CA-125 tumor marker level was normal. The patient underwent a total abdominal hysterectomy with bilateral salpingo-oophorectomy and pelvic lymph node dissection. The histology on frozen section was malignant and suspicious for sarcoma. The final pathologic diagnosis after immunostaining was diffuse large B-cell malignant lymphoma arising from the right adnexa. The patient received post operative chematherapy with CHOP regimen. She remains in remission for 36 months.

Conclusion

Primary ovarian lymphoma is a rare disease diagnosed generally after surgery using immunohistochemistry. Its treatment is essentially based on chemotherapy.
OVARIAN CANCER

ESGO7-0715

IMMUNE RESPONSE TO CHEMOTHERAPY-ASSOCIATED ANTIGENS AS PREOPERATIVE PREDICTOR OF ONCOLOGIC OUTCOME IN OVARIAN CANCER PATIENTS: A PILOT STUDY

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Aims

Chemotherapy is able to induce the release of tumor antigens from dying ovarian cancer (OC) cells (chemotherapy-associated antigens [CAAs]). T-lymphocytes recognize CAAs derived from apoptotic OC cells and generate an immune response, through INF-γ and IL-17 production. Aim of the study is to correlate the amount of INF-γ and IL-17 produced by T-lymphocytes upon stimulation with CAAs with long-term survival in OC patients.

Method

Immune response was evaluated at the time of diagnosis. A correlation between INF-γ and IL-17 production with OS was performed in a cohort of OC patients, in whom the correlation between memory T-cell responses to CAAs and platinum sensitivity was previously investigated.

Results

T-cells from advanced OC patients, previously interrogated for their capacity to respond to CAAs, were correlated with survival data (Pearson r of 0.85, p 0.14). Mean of INF-γ and IL-17 produced by T-cells from 12 selected patients (379.5 spots/10⁶ cells ± 495) defines the cut-off between an high and low immune response. The median survival was 101 and 45 months for patients with high and low immune response, respectively (p 0.34). Mean OS (60 months) defines the cut-off between long and short survivors. The amount of INF-γ and IL-17 spots produced by T-cells from each patient in response to CAAs, was significantly higher in the group of longer survivors (mean 1043 ± 288.4) than in the group of shorter survivors (mean 262.4 ± 36.1) (p 0.003).

Conclusion

T-cell responses to CAAs seem to play a role in determining survival in OC patients.
OVARIAN CANCER

ESGO7-0038

CLINICAL EFFECT OF LIVER TRANSAMINASE ABNORMALITIES AFTER ABLATION OF OVARIAN CANCER

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Aims

Patients with ovarian cancer often have disease involving the liver (surface or parenchyma). The object of this study was to 1) see the difference in liver transaminases in women getting tumor ablation involving the liver compared to women undergoing tumor ablation not involving the liver and to 2) see if any differences had a noticeable clinical effect.

Method

Twenty women with ovarian cancer undergoing primary cytoreduction with tumor ablation involving the liver were compared to twenty women with ovarian cancer undergoing primary cytoreduction and tumor ablation without involvement of the liver. The data were compared with Fisher’s exact, Chi-square or Mann-Whitney U as appropriate.

Results

Women undergoing tumor ablation involving the liver compared with women undergoing tumor ablation not involving the liver had significantly elevated AST and ALT levels the first day after surgery (p = 0.002; 0.002, respectively). There were no significant differences in age, operative blood loss, need for transfusion, or postoperative stay (p=0.24; 0.065; 0.33; 0.49, respectively). The mean time for resolution of the elevations of AST and ALT was 2.5 days (95% CI = 1.8-3.2) for AST and 2.8 days (95% CI = 2.0-3.6) for ALT. The mean postoperative stay was 3.4 days (95% CI = 2.2-4.6) for those without ablation involving the liver and 3.6 (95% CI = 2.7-4.5).

Conclusion

Significant elevations in AST and ALT occur when tumor involving the liver is ablated in women undergoing debulking. These elevations do not increase operative blood loss, need for transfusion or postoperative stay.

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CORRELATION BETWEEN FINDINGS AT ROBOTIC DEBULKING AND SUBSEQUENT LAPAROTOMY

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\textbf{Aims}

The purpose was to determine whether the reported findings at time of robotic debunking correlated with reported findings at time of subsequent laparotomy.

\textbf{Method}

Patients with stage IIIc or IV ovarian carcinoma who presented for second opinions after primary robotical surgery were offered a laparotomy and complete cytoreduction within 6 weeks of initial surgery.

\textbf{Results}

The median age of the 19 patients was 51 years (mean 51.4, 95\% CI 47.3-55.5). Thirteen were said to have no residual disease while 6 patients were declared optimally cytoreduced robotically. Significant differences in reported levels of debulking were found in 15 of 19 patients at time of laparotomy (P=0.028)(Kappa correlation -0.498 (95\% CI -0.974 to -0.022; poor correlation)). All 13 patients were found to have residual disease with 9 of them having disease greater than >1 cm and four of them with visible disease <1 cm. Of the six patients optimally robotically debulked, four had disease <1 cm and two had gross disease >1 cm. All were able to be debulked to no residual. Overall, fifteen patients had residual disease after robotic debulking in the upper abdomen (diaphragm, liver, infragastric omentum), thirteen had residual disease on bowel mesentery or surface, and nine had residual disease in the pelvis. The median hospital stay was 3 days (mean 3.53, 95\% CI 3.02-4.04).

\textbf{Conclusion}

It appears to be very difficult to accurately assess the level of cytoreduction at time of robotic surgery (k correlation -0.498). Open cytoreduction can achieve no visible or palpable residual disease after a robotic surgery.
OVARIAN CANCER

ESGO7-0355

APPROPRIATE TUMOR MARKERS FOR PREMENOPAUSAL WOMEN WITH AN OVARIAN MASS: A COST EFFECTIVENESS ANALYSIS

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Aims

To determine which tumor markers are cost effective to order in a premenopausal woman with a complex adnexal mass.

Method

A decision analytic model was performed using the following tumor markers: quantitative bhCG, AFP, LDH, neuron enolase, inhibin B, CEA, CA 125, and prealbumin. Incidence rates in the reference population were determined from literature. Costs were determined from CMS.

Results

Due to extremely low incidence rates, even if bhCG, AFP, LDH, neuron enolase, and inhibin B were positive in 100% of their respective tumors they are not cost effective to order. Only the non-proprietary ovarian cancer risk assessment score (OCRA) which is a combination of CA 125 and prealbumin is cost effective. It would take ordering hundreds of tests to find one using all the other aforementioned tumor markers.

Conclusion

In premenopausal women with a pelvic mass, only the combination of CA 125 and prealbumin is cost effective to order.
INCREASE IN GENETIC TESTING IN OVARIAN CANCER (OC) PATIENTS AFTER IMPLEMENTATION OF A FACILITATED REFERRAL SYSTEM

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Aims

It's recommended that all women with OC undergo genetic counseling (GC) and consider testing (GT). Universal referral was endorsed by SGO in 2014. However, rates of referral to GC are 15-30%. Since 10/2015, women newly diagnosed at our institution have been offered GC through a facilitated referral pathway (FRP). Our objective is to examine differences in GC and GT since implementation of FRP.

Method

Patients with new diagnosis of OC were retrospectively evaluated from 2012-9/2015 and prospectively since. Through FRP, patients are contacted by a genetics-navigator to schedule GC and communication between patient, physician and genetic counselor are facilitated. Chi-square and Mann-Whitney tests were used.

Results

There were 216 women diagnosed with OC who hadn't undergone previous GT identified between 2/2012-10/2016, of which 61 (28%) were in FRP and 154 (72%) weren't. Patients in the FRP were significantly more likely to obtain GC than non-FRP patients, and similarly, GT was obtained more often in the FRP group. There were 10 (21%) patients in the FRP and 21 (23%) in the non-FRP group found to have at least one deleterious mutation (p=0.98).

Conclusion

Implementation of FRP has resulted in a significant increase in GT, with a rate >80% among women with newly diagnosed OC with similar mutation rates in both groups. Although historically uptake of GT has been low, this study highlights the effectiveness of FRP. The implications of increased GT are profound; targeted therapies are now FDA-approved for BRCA1/2 mutation carriers. GT can result in increased screening/risk-reducing measures and allows for cascade testing.
OVARIAN CANCER

ESGO7-0358

EFFICACY AND OUTCOMES OF MINIMAL ACCESS SURGERY (MAS) VERSUS LAPAROTOMY (LAP) IN RE-STAGING OF APPARENT EARLY-STAGE OVARIAN AND FALLOPIAN TUBE CARCINOMA

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Aims

To compare efficacy and outcomes of MAS to LAP in re-staging of epithelial ovarian or fallopian tube carcinoma.

Method

All cases with presumed early-stage adnexal carcinoma referred to our institution for re-staging were identified from 02/2006-02/2017. Patient and tumor characteristics, operative findings, complications and recurrences were documented. Appropriate statistical tests were applied.

Results

Among 98 cases, 53 (54%) underwent LAP and 45 (46%) MAS; 29 (64%) robotic, 16 (36%) laparoscopic. When comparing the LAP and MAS groups, there was similar age, body mass index, stage, histologic subtypes, number of patients who underwent omentectomy and hysterectomy, number of pelvic lymph nodes removed, omental weight, detection of nodal and omental metastasis, number of patients who were upstaged, and number and sites of recurrences. Mean estimated blood loss (287ml±208 vs 76ml±58, p<0.001) and hospital stay (7.4 days ±3.2 vs 3.9 ±2.8, p<0.001) were lower for MAS, operative time (162minutes ±49 vs 216minutes ±69, p<0.001) was longer. Mean number of para-aortic nodes removed was 4.7±4.4 (LAP) versus 8.7±5.9 (MAS) (p=0.005) respectively. There were similar operative- and 30-day complication rates for both groups. Mean time from re-staging until initiation of adjuvant therapy was 40.5 days (± 62.4) in the LAP group and 21.3 days (± 11.2) in the MAS group (p=0.064). There was no difference in PFS or OS between groups.

Conclusion

Re-staging of adnexal carcinoma by MAS is feasible and safe without compromising efficacy or oncologic outcome. Time from re-staging to initiation of adjuvant chemotherapy trended towards being shorter in patients operated by MAS.
TOP2A OVER-EXPRESSION AS MARKER OF RESPONSE TO PEGYLATED LYPOSOMAL DOXORUBICIN (PLD) IN EPITHELIAL OVARIAN CANCERS

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Aims

Relapsed epithelial ovarian cancer (EOC) is frequently treated with pegylated liposomal doxorubicin (PLD). Unfortunately, most patients do not benefit from treatment. To optimize the use of PLD and avoid unnecessary toxicities, prediction of response is crucial. We aimed at assessing the value of topoisomerase II alpha (TOP2A) expression as predictive marker of response to PLD-based therapy in patients with relapsed EOCs.

Method

We retrospectively analyzed Formalin fixed paraffin Embedded tissues from 94 patients with platinum resistant (PR)/partially platinum-sensitive (PPS) EOCs treated with PLD-based chemotherapy beyond second line in three different institutions between January 2010 and December 2016. TOP2A expression was measured by immunohistochemistry (IHC) in paraffin-embedded tumor material. Images of each sample were acquired by optical microscope and analyzed by using automatic counter software. Correlation between TOP2A expression and response to PLD was assessed. Because no cut-off for positivity has been validated, we dichotomized TOP2A expression based on a cut-off of 18% (mean value in this study).

Results

TOP2A expression beyond cut-off was associated with a higher probability of response to PLD, unless not statistically significant (p=0.085). No difference was observed between PR and PPS groups (p=0.445 and p=0.185, respectively). Patients with TOP2A over-expression treated with PLD monotherapy achieved a longer time to progression (TTP) compared with PLD-doublet therapy (p=0.035).

Conclusion

Our data suggest that TOP2A increased expression might predict activity of PLD in patients with PR/PPS EOCs.
NEOADJUVANT CHEMOTHERAPY VERSUS PRIMARY DEBULKING SURGERY IN ADVANCED HIGH GRADE OVARIAN CANCER PATIENTS: A COHORT STUDY

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Aims

Main objective was to report survival outcomes in advanced ovarian cancer patients treated with neoadjuvant chemotherapy (NACT) or primary debulking surgery (PDS).

Method

A retrospective cohort study was conducted. Patients included had stage IIb to IV high-grade ovarian carcinoma diagnosed between January 1, 2011 and March 31, 2016, treated either by NACT or PDS. Overall survival (OS) and progression free survival (PFS) analysis were performed using log-rank tests and adjusted Cox proportional hazards models.

Results

213 patients were eligible. 116 patients (55%) received NACT, 97 patients (45%) underwent PDS. Median OS was 24 months. 123 patients (62%) had disease recurrence, 65 (32%) had died at study census. Patients who underwent PDS were younger, had a lower initial peritoneal cancer index (PCI) and less advanced disease. Optimal cytoreduction was obtained for 179 patients (84%). On univariate analysis, older age at diagnosis, higher initial PCI, NACT and incomplete surgical cytoreduction were associated with decreased OS and PFS. On multivariate analysis, only incomplete cytoreduction remained associated with decreased OS and PFS (respectively, adjusted HR 3.80 95%CI 1.94-7.44 and HR 2.03 95%CI 1.03-4.01). High initial PCI was also associated with decreased PFS (HR 1.05 for each additional unit of PCI) but not OS. Similar results were observed when excluding platinum resistant patients.

Conclusion

Our findings suggest that survival does not depend on initial strategy of management. PDS is not associated with post-operative complications or less complete resection. NACT might be reserved for women who are not appropriate candidates for PDS for institutional or individual reasons.
OVARIAN CANCER

ESGO7-0252

ADVANCED OVARIAN CANCER: ARE WE UNDERSTAGING OUR PATIENTS? THE ROLE OF FDG-PET/CT BEFORE PRIMARY TREATMENT

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Aims

FDG-PET/CT has been suggested as a feasible but not yet broadly recommended tool to workup epithelial ovarian cancer (EOC) before primary treatment. The aim of this study was to evaluate the rate of upstaging introduced by the use of FDG-PET/CT for the initial assessment of suspected advanced EOC.

Method

Between 08/2012 and 07/2016, 48 patients presented, according to abdomino-pelvic CT and confirmed by histology, advanced EOC and were evaluated with whole-body FDG-PET/CT. Patient data were collected before primary treatment.

Results

The median age at diagnosis was 60 years (range 38-83). The median CA125 value was 1161.7 U/mL and median HE4 was 845.5 pmol/L. 60.4% showed moderate or massive ascites.

When evaluated using standard abdomino-pelvic CT we found 36 cases of suspected stage III (75%) and 12 suspected stage IV patients (25%). After FDG-PET/CT we identified that 19 patients were upstaged (39.6%), finding 21 stage III cases (43.8%) and 27 stage IV cases (56.3%). FDG-PET/CT detected patients with either cardiophrenic, internal mammary, mediastinal, supraclavicular, submandibular or axillary FDG-avid lymph nodes and patients with either pleural, splenic, adrenal and/or hepatic FDG-avid nodes suggestive of metastasis. None of these had been found by standard abdomino-pelvic CT.

Conclusion

More than one third of advanced EOC patients were upstaged by the use of FDG-PET/CT. Randomized studies should be used to clarify the role of FDG-PET/CT in the preoperative assessment of advanced EOC. We should discuss if we are staging advanced EOC patients correctly and therefore providing them with an accurate treatment.
Aims

Ever since their discovery microRNAs are in the focus of scientific research. These small epigenetic regulators act as tumor suppressor or onco-miRs during carcinogenesis. Due to their high stability in tissue and serum and characteristic expression patterns indicative not only of cancer type but also disease development and progression we aimed to determine the set of miRNAs that show unique expression changes during the course of disease progression in women diagnosed with ovarian cancer at the Department of Obstetrics and Gynaecology (University of Pécs, Medical School).

Method

A total of 25 patients were enrolled and their serum samples were prospectively collected at regular time intervals with the simultaneous registration of clinical status. Samples were stored at -70°C before microRNA isolation and SYBR-green Fluorescence based real-time relative quantification using qRT-PCR (LightCycler 480). Housekeeping and interrun calibrators were added to the runs that were repeated 3times and averaged. LighCycler Software 4.0 and SPSS Version 23 were used for quantification and data analysis.

Results

We are trying to determine the expression changes of the selected panel of microRNAs. Data assessment and evaluation in conjunction with patient characteristics and clinical status are still ongoing. Finding the right combination of miRNAs can increase significance and relevance. We are assessing our data to determine the most effective combination of miRNAs for risk assessment. Final results are due by the end of June.

Conclusion

Based on our results changes in miRNA expressions can be informative and have clinical utility. Based on sufficient evidence miRNAs are potential biomarkers in ovarian cancer.
OVARIAN CANCER

ESGO7-1068

CHANGES IN THE MANAGEMENT OF OVARIAN CANCER DUE TO THE NEW FIGO AND WHO CLASSIFICATIONS:A CASE SERIES OBSERVATIONAL DESCRIPTIVE STUDY. SEVEN YEARS OF FOLLOW UP

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Aims

Ovarian cancer is the deadliest of gynecologic cancers. Therefore, FIGO and the WHO classifications were revised. Both classifications are essential criteria for the treatment decision. We sought 1) to compare the major changes between the both classifications; 2) to examine the effects on the therapeutic and prognosis of the Ovarian, Fallopian Tubes and Peritoneum cancer in our sample.

Method

We performed a case series observational descriptive study of 210 patients who have been diagnosed with and/or treated for a malignant ovarian tumor at University Clinic Hospital of Salamanca from 2010-2016.

Results

According to the new FIGO subdivision of stage IC, we obtained 2.52% in substage IC2. The vast majority of ovarian cancer cases are in III FIGO stage. In the new WHO classification, the main change to the Serous group was the increase in the HGSC percentage. In the previous classification we had 6.48% of endometrioid malignant tumor and in the new classification this rate has decreased to 2.78%. Concerning Serous tumors, the separating line between adenomas and borderline tumors (SBOT) has been refined in the current WHO classification. In our study, the HGSC has reached 55.56% in the new WHO classification thanks to the incorporation of serous malignant adenocarcinoma (1988 WHO classification). We found 1.85% of Seromucinous Borderline Tumors. We found that 4.2% of the previous Stage IIIC patients have changed to stage IIIA2 or stage IIIB and this group of patients has a better prognosis and a superior survival rate.

Conclusion

This study demonstrated that the new-created WHO and FIGO classifications have improved the ability to predict the prognosis and consequently to change the therapeutic managements in Ovarian cancer patients.
OVARIAN CANCER

ESGO7-0298

THE ENGOT-OV26/PRIMA PHASE 3 TRIAL: NIRAPARIB MAINTENANCE TREATMENT IN PATIENTS WITH ADVANCED OVARIAN CANCER WHO RESPONDED TO FRONT-LINE PLATINUM-BASED THERAPY


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Aims

Niraparib (ZEJULA™) is a selective poly (ADP-ribose) polymerase (PARP) 1/2 inhibitor. The ENGOT-OV16/NOVA trial demonstrated the clinical efficacy of niraparib in patients with recurrent ovarian cancer (OC) who are in complete or partial response (CR or PR) to platinum-based chemotherapy, regardless of their germline BRCA mutation (gBRCAmut) or homologous recombination deficiency (HRD) status. The primary objective of this trial is to measure the efficacy of niraparib maintenance in patients with advanced OC with a CR or PR to front-line platinum-based chemotherapy.

Method

This multicenter international trial is enrolling ≈330 patients with ovarian, fallopian tube, or peritoneal cancer. Eligibility criteria includes all patients with stage IV disease, and patients with stage III disease who were treated with neoadjuvant chemotherapy followed by interval debulking surgery, or who have either inoperable disease or visible residual disease after primary debulking surgery. Patients must have had a CR or PR to front-line platinum-based chemotherapy. Stratification factors include neoadjuvant chemotherapy (yes/no), best response to platinum therapy (CR or PR), and HRD status (HRD positive, including the known deleterious BRCA mutations gBRCAmut or somatic BRCAmut, or HRD negative). Patients are randomized 2:1 to receive either oral niraparib (300 mg) or matched placebo once daily in 28-day cycles. Tumors are assessed every 12 weeks per RECIST v1.1. The primary endpoint is progression-free survival, assessed by RECIST criteria and clinical criteria using blinded central review. Secondary endpoints include overall survival, patient-reported outcomes, safety and tolerability, and time to progression on next therapy.

Results

In progress

Conclusion

In progress
OVARIAN CANCER

ESGO7-0170

OVARIAN SCLEROSING STROMAL TUMOR. A RARE OVARIAN ENTITY

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Aims

We report a case of sclerosing stromal tumor (SST) of the ovary a rare, benign sex cord stromal ovarian tumor occurring predominantly in the second and third decade of life.

Method

A 44-year-old patient was admitted to the Gynecology Department due to a solid tumor of the right ovary that was an incidental finding on routine US examination. US also revealed a fibromyomatous uterus. The patient had a history of hypermenorrhea for the last five years and menstrual irregularity in the last 12 months. Physical examination revealed a palpable abdominal mass. MRI confirmed the US examination results finding a stromal tumor of the right ovary measuring 47x34x28mm probably of the sclerosing stromal tumor type. Hysterectomy and bilateral adnexectomy was performed.

Results

On gross examination the tumor was circumscribed, solid measuring 47x34x28 mm. Microscopic examination revealed a pseudolobular pattern of growth with cellular areas forming nodules separated by less cellular edematous areas, numerous thin-walled blood vessels, a cell population consisting of an admixture of fibroblasts and rounded to oval vacuolated cells some of them with a signet-ring cell like appearance. There was no atypia in either cellular component. Mitoses were not identified. Immunohistochemical analysis revealed positive staining for Vimentin, Inhibin and Smooth Muscle Actin while AE-1/AE-3, Estrogen and Progesterone Receptors were negative.

Conclusion

The diagnosis of SST of the ovary was made. SST is a rare sex cord stromal tumor with unique clinicopathological and histological characteristics.
OVARIAN CANCER

ESGO7-1082

STAGING SURGERY IN EARLY-STAGE OVARIAN MUCINOUS TUMORS ACCORDING TO EXPANSILE AND INFILTRATIVE TYPES

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3Hospices Civils de Lyon, Pathology, Lyon, France
4Gustave Roussy, Pathology, Villejuif, France

Aims

To determine the value of surgical staging for the two histologic types (expansile or infiltrative) of apparent stage I mucinous ovarian carcinoma.

Method

We retrospectively analyzed patients treated from 1976 and 2016 for apparent macroscopic stage I ovarian mucinous carcinoma. Extra-ovarian disease and tumors that metastasized to the ovaries were excluded. Two expert pathologists performed pathologic reviews of tumor data, according to 2014 WHO classification criteria. Tumors were typed as expansile or infiltrative and clinical and histologic characteristics were studied. The value of staging procedures (peritoneal and nodal) was based on the rate of microscopic involvement in macroscopically normal specimens.

Results

Of 114 cases reviewed, 46 were excluded (26 with macroscopic stage >I; 20 inaccessible for pathologic review). Of 68 patients included, 29 had expansile and 39 had infiltrative types. 27 patients received one-step surgery and 41 received restaging surgery. 52 patients received “complete” peritoneal surgical staging (including cytology, peritoneal biopsies, and an omentectomy or large omental biopsies). 24 underwent appendectomies and 31 underwent lymphadenectomies (8 expansile and 23 infiltrative). Before histologic analyses of staging specimens, 35 had “initial” stage IA and 33 had IC disease. After histologic analyses of lymph nodes, 4 cases (17%, all infiltrative) had nodal involvement, and 2 showed microscopic peritoneal disease (1 omentum and 1 right diaphragm peritoneum). Three patients were upstaged based on isolated positive peritoneal cytology.

Conclusion

Peritoneal staging procedures are required for both types of mucinous ovarian carcinoma. Lymphadenectomy could be omitted in expansile, but required in infiltrative type.
EVALUATION OF OLAPARIB SERUM CONCENTRATIONS IN PATIENT WITH TERMINAL RENAL INSUFFICIENCY AND DIALYSIS TREATED FOR PLATIN-SENSITIVE RECURRENT BRCA POSITIVE HIGH GRADE SEROUS OVARIAN CANCER.

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²Charité - Universitätsmedizin Berlin, Department of Nephrology and Internal Intensive Medicine, Berlin, Germany

Aims

Olaparib, a PARP inhibitor, is a recommended maintenance therapy in BRCA mutated patients with relapsed, platinum sensitive high-grade serous ovarian cancer. Until now, there are lacking data of olaparib in patients with terminal renal failure (GFR< 30 ml/min) and dialysis.

Method

The serum concentrations of olaparib in a 75 year old patient with platin-sensitive recurrent high-grade ovarian cancer and terminal renal insufficiency (GFR< 15 ml/min) were measured systematically. The blood samples were taken prior, 1, 1.5, 2, 3, 4 and 6 hours after medication intake on a dialysis- and a non-dialysis day. Subsequently, the serum concentrations were analyzed.

Results

The patient is under olaparib therapy since March 2016 in a reduced dose of 200mg daily. She suffered from terminal renal insufficiency due to postoperative kidney failure after primary cytoreductive surgery by initial FIGO IIIC stage. Mild nausea and fatigue were present at the beginning of the therapy and released after few weeks. The patient is after a follow up of 14 months in a complete remission. The analysis revealed a median olaparib serum concentration of 1.46 µg/ml on dialysis and 2.93 µg/ml on non-dialysis day. No statistical significant difference between concentrations variations on these days was found (p=0.200; Mann-Whitney- U- Test).

Conclusion

To our knowledge, this is the first report evaluating olaparib serum concentration in terminal renal insufficiency and dialysis situation. Our analysis shows olaparib therapy as feasible and safe in those patients. Given to no concentrations variations differences on both days, the elimination seems to be independent from dialysis.
OVARIAN CANCER

ESGO7-0951

TERTIARY CYTOREDUCTIVE SURGERY IN RECURRENT EPITHELIAL OVARIAN CANCER: A MULTICENTER MITO RETROSPECTIVE STUDY

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4Sapienza University of Rome, Department of Gynecology- Obstetrics and Urology, Rome, Italy
5IRCCS National Cancer Institute, Department of Gynecologic Oncology, Milan, Italy
6University of Bari, Department of Biomedical Science and Human Oncology- Obstetrics and Gynecology Unit, Bari, Italy
7Centro di Riferimento Oncologico CRO National Cancer Institute, Department of Gynecological Oncology, Aviano, Italy
8IRCCS Fondazione Policlinico San Matteo and University of Pavia, Department of Obstetrics and Gynaecology, Pavia, Italy
9University of Bari, Department of Obstetrics and Gynecology, Bari, Italy
10University of Insubria- Del Ponte Hospital, Department of Obstetrics and Gynecology, Varese, Italy
11San Raffaele Hospital, Department of Obstetrics and Gynecology, Milan, Italy
12Ospedale S. Giovanni Calibita Fatebenefratelli, Medical Oncology Unit, Rome, Italy

Aims

To evaluate the impact of tertiary cytoreductive surgery (TCS) on survival in recurrent epithelial ovarian cancer (EOC), and to determine predictors of complete surgical cytoreduction.

Method

A multi-institutional retrospective study was conducted within the MITO Group on a 5-year observation period. Patients were considered eligible if they met the criteria listed in Table 1.

<table>
<thead>
<tr>
<th>Inclusion criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age ≤75 years</td>
</tr>
<tr>
<td>Performance status (ECOG) 0–1</td>
</tr>
<tr>
<td>≥6 month TFI at the time of each recurrence</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exclusion criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serological recurrence only (CA125 serum levels &gt;35 U/mL)</td>
</tr>
<tr>
<td>Non-epithelial or borderline tumors</td>
</tr>
<tr>
<td>Patients operated on for strictly palliative purposes</td>
</tr>
<tr>
<td>Patients with second malignancies who had been treated by laparotomy or who had a therapy that could interfere with the treatment of ROC</td>
</tr>
</tbody>
</table>

Table 1. Enrollment criteria.

Results

A total of 103 EOC patients undergoing TCS were included (Table 2). Complete cytoreduction was achieved in 71 patients (68.9%), with severe post-operative complications in 9.7%, and no 30-day operative mortality. Multivariate analysis identified the complete tertiary cytoreduction as the most potent predictor of survival followed by FIGO stage I-II at initial diagnosis; exclusive retroperitoneal recurrence; TCS performed ≥3 years after primary diagnosis (Table 3). Patients with complete tertiary cytoreduction had a significantly longer overall survival (median OS: 43 mos, 95% CI 31 – 58) compared to those with residual
tumor (median OS: 33 mos, 95% CI 28 – 46; \( p < 0.001 \)). After multivariate adjustment, the following variables were the most significant predictors of complete surgical cytoreduction: single lesion; good performance status (ECOG 0) (Table 3).

### Table 2. Clinical-pathologic characteristics at the time of TCS.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Hazard ratio</th>
<th>95% CI</th>
<th>( p )-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, median [range], years</td>
<td>60 [23 – 75]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years after primary diagnosis, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \geq 2 )</td>
<td>5 (4.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \geq 2 ) and ( &lt; 3 )</td>
<td>13 (12.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \geq 3 )</td>
<td>85 (82.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last TFL, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( &lt; 12 ) months</td>
<td>65 (63.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \geq 12 ) months</td>
<td>38 (36.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site of recurrence, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abdominal</td>
<td>86 (83.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distant</td>
<td>9 (8.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both</td>
<td>8 (7.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abdominal tumor involvement, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intraperitoneal</td>
<td>55 (58.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retropertioneal</td>
<td>21 (22.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both</td>
<td>18 (19.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesion number, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>48 (49.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple</td>
<td>55 (55.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completeness of TCS, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 (no visible residual tumor)</td>
<td>71 (68.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (residual modules ( \leq 0.25 ) cm)</td>
<td>13 (12.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 (residual modules ( &gt; 0.25 ) cm and ( \leq 2.5 ) cm)</td>
<td>4 (3.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 (residual modules ( &gt; 2.5 ) cm)</td>
<td>15 (14.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follow-up (months) after TCS, median [range]</td>
<td>39.5 [1 – 158]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status at last follow-up, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NED</td>
<td>26 (25.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AWD</td>
<td>25 (24.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDR</td>
<td>40 (38.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOD</td>
<td>5 (4.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>7 (6.8)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TAWD: alive with disease; DDR: dead of donor disease; DOD: dead of disease; G: grade; NED: no evidence of disease; TCS: tertiary cytoreductive surgery; TFL: treatment-free interval.

### Table 3. Significant predictors of mortality and complete tumor resection.

<table>
<thead>
<tr>
<th>Significant predictors of mortality:</th>
<th>Hazard ratio</th>
<th>95% CI</th>
<th>( p )-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Complete tertiary cytoreduction (no vs yes(^*))</td>
<td>10.7</td>
<td>4.3 – 26.2</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>- FIGO stage at initial diagnosis (I-II(^*) vs III-IV)</td>
<td>4.5</td>
<td>1.3 – 15.6</td>
<td>0.01</td>
</tr>
<tr>
<td>- Site of abdominal recurrence (other vs retropertioneal only(^*))</td>
<td>4</td>
<td>1.1 – 14.5</td>
<td>0.03</td>
</tr>
<tr>
<td>- Interval from primary diagnosis (&lt;3 vs ( \geq 3 ) yrs)</td>
<td>3.5</td>
<td>1 – 12.8</td>
<td>0.04</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Significant predictors of complete tumor resection:</th>
<th>Odds ratio</th>
<th>95% CI</th>
<th>( p )-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Single</td>
<td>14.2</td>
<td>4 – 50.6</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>- ECOG performance status 0</td>
<td>4.6</td>
<td>1.4 – 14.9</td>
<td>0.009</td>
</tr>
</tbody>
</table>

CI: confidence interval; ECOG: Eastern Cooperative Oncology Group; \(^*\): Protective.

### Conclusion

Only one further large retrospective study on TCS has been published so far. The achievement of postoperative no residual disease is confirmed as the primary objective also in a TCS setting, when considering surgical efforts aiming at improvement of survival, with acceptable morbidity. Accurate patient selection is of utmost importance to have the best chance of complete cytoreduction.
FACTORS ASSOCIATED WITH A DEVIATION FROM STANDARD SURGICAL TREATMENT IN ELDERLY PATIENTS TREATED FOR OVARIAN TUMOR.

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²Hôpital Européen Georges Pompidou, Surgery, Paris, France

Aims

To compare two groups of elderly patients treated for an epithelial ovarian cancer, to understand the outcomes leading to a deviation to standard therapy and to isolate predicting factors of this outcome.

Method

It's a retrospective, bi-centric study, about all patients over 70 years old treated for an epithelial ovarian cancer between January 2005 and January 2014. We studied the pre therapeutic data of the patients, their treatment and the outcome of it depending on the standard treatment for ovarian cancer.

Results

222 patients were included. 93 patients received a complete standard treatment and 129 had a deviation to standard therapy. The encountered causes of deviation were: the spreading of the disease in 87 cases (67.4 %), a medical refusal due to co-morbidities in 36 cases (27.9 %), surgical complications in 19 cases. An oncogeriatric analysis was performed in 22% of the cases in the group with standard therapy and in 38% in the group with deviation p = 0.02. When the oncogeriatric analysis did not promote a standard therapy, no patient had a standard treatment. There weren't more complication in surgery despite a more aggressive surgery in the group with standard treatment. Patients without deviation had an extended, survival hazard ratio 0.23 (0.14-0.39), p < 0.001.

Conclusion

Standard management of advanced EOC is associated with a substantial survival benefit in the elderly patient when it can be achieved. The main obstacle to complete a standard treatment remains the spread of the disease and the impact of aggressive surgery in frail patients.
OVARIAN CANCER

ESGO7-1148

SYNCHRONOUS PRIMARY OVARIAN AND ENDOMETRIAL CANCERS: A SERIES OF CASES AND A REVIEW OF LITERATURE

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Aims

Synchronous primary cancers of the female genital tract occurs in only 0.5-1.7% cases. In those patients, the most common combination is synchronous primary endometrial and ovarian cancers. cases of metastasis from an ovarian and endometrial cancer should be distinguished from synchronous cancer. we aim to highlight the morphological, immunohistochemical and molecular features in order to distinguish synchronous carcinoma from metastatic ones.

Method

The clinical data of 12 patients with synchronous primary cancers of the endometrium and ovary were retrospectively reviewed. Clinical and pathologic information was obtained from medical records.

Results

Median age at diagnosis was 46.8 years. almost half of the women were premenopausal and 33% were nulliparous. The most common presenting symptom was abnormal vaginal bleeding. Ovarian cancer was bilateral in 4 cases. Sixty-eight percent of patients had endometrioid histology of both their endometrial and ovarian cancers. Patients with early stage ovarian cancer tended to have a more favorable prognosis than those with advanced stage disease (median survival not reached in stage I and II versus 66 months in stage III and IV, P = 0.06). Patients with concordant endometrioid histology had a favorable prognosis (median survival 119 versus 48 months in all other groups, P = 0.02).

Conclusion

Synchronous ovarian and endometrial cancers are usually diagnosed at an earlier stage, have lower histological grade and better prognosis than single cancers.
OVARIAN CANCER

ESGO7-1161

EXPRESSION OF ACID CERAMIDASE (ASAH1) AS A PROGNOSTIC FACTOR IN OVARIAN CANCER


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3Goethe University Frankfurt, Department of Obstetrics and Gynecology, Frankfurt, Germany
4Bethesda Hospital, Department of Gynecology, Mönchengladbach, Germany
5BCCA Cancer Research Centre, Department of Molecular Oncology, Vancouver, Canada
6University Hospital Bonn, Institute of Pathology, Bonn, Germany

Aims

Acid ceramidase (AC), encoded by the ASAH1 gene, is a key enzyme of sphingolipid metabolism and frequently overexpressed in a variety of cancer types. In the present study, we investigated the expression of AC and its prognostic impact in ovarian cancers.

Method

Tissue micro arrays constructed using formalin-fixed paraffin-embedded tissue of primary ovarian cancers (n = 789) were obtained. Immunohistochemical analysis of AC was performed, and the results were correlated with clinico-pathological characteristics and survival.

Results

High AC expression was shown to significantly correlate with optimal tumour resection (p < 0.001). Kaplan-Meier analysis further revealed that low AC levels were associated with reduced progression-free survival (PFS; 44.82 months [95% confidence interval (CI): 32.21-55.43] vs. 86.49 months [95%CI: 63.01-109.97], p < 0.001) and overall-survival (OS; 68.25 months [95%CI: 59.14-77.35] vs. 108.69 months [95%CI: 85.79-131.58], p < 0.001). Subsequently, the prognostic value of AC expression together with clinical factors (i.e. FIGO stage, age, and residual tumour burden after surgery) was substantiated in univariate Cox regression analysis (PFS: hazard ratio (HR) = 1.36 [95%CI: 1.15-1.63], p < 0.001; OS: HR = 1.4 [95%CI: 1.7-1.68], p < 0.001).

Conclusion

Our results suggest that AC expression is a prognostic factor in ovarian cancer, and that low AC expression might be associated with cancer progression and suboptimal tumour debulking. To corroborate these findings, however, our results need to be validated in an independent patient cohort.
INCIDENCE AND PREDICTORS FOR CHEMOTHERAPY MODIFICATIONS AND THEIR IMPACT ON THE OUTCOME OF OVARIAN CANCER PATIENTS

S. Hatsy1, C. Brambs1, M. Kiechle1

1Technical University Munich, Gynecology and Obstetrics, Munich, Germany

Aims

Chemotherapy (CTX) is an important part of the treatment strategy of stage II-IV ovarian cancer. Chemotherapy modifications, such as delay, dose reduction or premature termination might have a negative impact on overall survival (OS) and progression free survival (PFS). The goal of this study was to determine the incidence and predictors of chemotherapy modifications and their influence on survival in an ovarian cancer cohort of a DKG* certified gynecological cancer centre.

Method

An observational retrospective cohort analysis of ovarian cancer patients who received care according to national guidelines (AGO**) was performed including 219 ovarian cancer patients from 2009 to 2013. An association of patient and disease characteristics with a chemotherapy delay, dose reduction and premature termination will be tested with multivariate logistic regression. Overall survival and progression free survival will be estimated by Kaplan-Meier analysis.

Results

39.3% (86/219) received a modification of chemotherapy. 33.7% (29/86) of women stopped chemotherapy prematurely, 20.9% (18/86) experienced a chemotherapy delay, 23.3% (20/86) had a dose reduction and 12.8% (11/86) had both a delay and a dose modification. In 9.3% (8/86) the dose needed to be split. Survival data for patients with chemotherapy modifications as well as predictors will be presented.

Conclusion

Compared to earlier studies, we detected a lower incidence of dose reduction or delay of CTX (80.9% in N. Joseph et al., Gynecologic Oncology 137 (2015), versus 39.3% in our study). This might be due to the fact that patients were treated within a comprehensive cancer centre.

*DKG = Deutsche Krebs Gesellschaft
**AGO = Arbeitsgemeinschaft Gynäkologische Onkologie
A RETROSPECTIVE ANALYSIS OF IMMUNOHISTOCHEMICAL DETERMINED IRF4 (INTERFERON REGULATING FACTOR 4) EXPRESSION IN A CONSECUTIVE COHORT OF 114 OVARIAN CANCER PATIENTS

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¹University Medical Center, Department of Gynecology and Obstetrics, Mainz, Germany
²University Medical Center, Institute of Pathology, Mainz, Germany
³University Medical Center, Institute of Medical Biostatistics-Epidemiology and Informatics IMBEI, Mainz, Germany

Aims

Tumor-infiltrating lymphocytes (TILs) influence the prognosis of solid tumors, including ovarian cancer (OC). The immunoregulatory transcription factor (IRF4) is mainly expressed in plasma cells and regulates immunoglobulin class switch recombination as well as plasma cell differentiation. Therefore, we analyzed the impact IRF4 expression in a consecutive cohort of OC patients.

Method

IRF4 expression was evaluated by immunostaining. Differences in IRF4 expression among subgroups of established clinical-pathological features like age, histological subtype, tumor stage, histological grading, postoperative tumor burden and completeness of chemotherapy were determined by x² test. The impact of IRF4 expression on progression free survival (PFS) and overall survival (OS) was examined by univariate and multivariate Cox analysis adjusted for established clinical-pathological factors and Kaplan-Meier survival analysis.

Results

114 patients entered this study. IRF4 was expressed in 51.7% of the entire cohort. 72.3% patients with high-grade serous OC showed IRF4 expression compared to 37.3% patients with a non high-grade serous OC (p<0.001). Univariate Cox-Regression analysis revealed no prognostic impact of IRF4 expression in terms of PFS (p=0.35) and OS (p=0.98). Kaplan-Meier plots failed to show any prognostic impact for PFS (p=0.35) and OS (p=0.98), too. Established clinicopathological factors retained their prognostic impact as tumor stage in terms of PFS (<0.001) and as postoperative residual tumor burden (p=0.04), tumor stage (<0.001), histological grade (p=0.02) and completeness of chemotherapy (p<0.001) in terms of OS, respectively.

Conclusion

Immunohistochemically determined IRF4 expression correlated with high-grade serous OC. However, it failed to show to any prognostic impact in this cohort of 114 patients.
DETECTION AND CHARACTERIZATION OF P53 PRIONS IN HIGH-GRADE SEROUS OVARIAN CANCER

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Aims

About 96% of high-grade serous ovarian cancers (HGSOC) harbor TP53 mutations. Recent evidence showed that several TP53 mutations lead to aggregation into prion-like amyloids, resulting in dominant-negative activity and oncogenic gain-of-function. This process could be involved in HGSOC initiation, progression and platinum-resistance. An ELISA-based technique was applied to detect p53 prions and to evaluate their prevalence and clinical relevance.

Method

Fresh-frozen tumour tissue of 123 HGSOC patients from the OVCAD study (at least five years follow-up) was analysed. An ELISA previously applied in the diagnosis of mad cow disease was optimized for the analysis of p53 prions. Data were analysed using Kaplan-Meier curves and Log-rank test.

Results

Samples carrying TP53 missense mutations showed a significantly higher prion signal compared to wild-type or frameshift mutated samples. In 37/46 (80.4%) of missense mutated cancers a p53 prion specific signal was detected. The ELISA results varied significantly between different tumours carrying the same missense mutation. A significantly diminished overall survival was observed for patients with moderate aggregation compared to patients with no p53 prions (p=0.031). In contrast, extensive p53 aggregation resulted in a prolonged overall (p=0.025) and progression-free survival (p=0.014).

Conclusion

We demonstrated the validity of the established ELISA in detecting p53 prions and their high abundance in HGSOC. Our data indicate that missense mutations alone are not sufficient and other cofactors are involved in the formation of prions. The significant correlation between survival and p53 prion levels demonstrates that the understanding of the biology of p53 prions is of high importance.
LSR PROMOTES LIPID UPTAKE, BETA-OXIDATION AND SUBSEQUENT TUMOR GROWTH IN OVARIAN CANCER

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Aims

Previously we demonstrated that high expression of lipolysis-stimulated lipoprotein receptor (LSR) was poor prognostic factor in ovarian cancer. However, the pathophysiological role of LSR in the progression of ovarian cancer remains unclear. We aimed to reveal the function of LSR in lipid metabolism and develop a new anti-tumor monoclonal antibody against ovarian cancer.

Method

In terms of lipid metabolism, we investigated the function of LSR in ovarian cancer. We treated LSR-positive ovarian cancer cell lines with VLDL and analyzed cell proliferation. Moreover, we also analyzed the expression of beta-oxidation related proteins and cell cycle regulation by flow cytometry.

Results

LSR cDNA transfected cells significantly increased uptake of VLDL (p<0.05) and reserved lipid metabolite (p<0.01). In high glucose medium, LSR promoted cell cycle via peroxisome proliferator-activated receptor (p<0.05). On the other hand, in low glucose medium, LSR promoted beta-oxidation and subsequent cell proliferation (p<0.05). Our newly developed anti-LSR monoclonal antibody inhibited these processes (p<0.05).

Conclusion

LSR promoted lipid uptake and subsequent tumor growth in ovarian cancer. Especially LSR increased beta-oxidation and promoted cell cycle. These data shows that LSR is a promising target for ovarian cancer treatment.
OVARIAN CANCER

ESGO7-0037

PREOPERATIVE LYMPHOCYTE-MONOCYTE RATIO IS A PREDICTOR OF SUBOPTIMAL CYTOREDUCTION IN STAGE III-IV EPITHELIAL OVARIAN CANCER

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Aims

To determine whether the preoperative lymphocyte-monocyte ratio (LMR) is a predictor of suboptimal cytoreduction in advanced-stage epithelial ovarian cancer (EOC).

Method

Preoperative clinico-pathologic and hematologic parameters were reviewed in a total of 154 patients with EOC submitted to primary cytoreductive surgery. Patients were categorized into two different groups according to the results of cytoreductive surgery: optimal and suboptimal cytoreduction. Continuous variables were categorized into two groups using the best cutoff points selected on the receiver operating characteristics (ROC) curve for suboptimal cytoreduction.

Results

Based on data collected from the 154 patients, 133 (86.4%) and 21 (13.6%) patients presented with stage III and IV disease, respectively. One hundred seventeen (76%) patients had serous adenocarcinoma, and 92 (59.7%) had histologic tumor grade 3. The optimal and suboptimal cytoreduction groups included 96 (62.3%) and 58 patients (37.7%), respectively. The best LMR cutoff point for suboptimal cytoreduction was 3.75. On multivariate logistic regression analysis, age, cancer antigen 125, white blood cell count and LMR were found to be the strongest predictors for suboptimal cytoreduction (P = 0.0037, 0.0249, and 0.0015, respectively).

Conclusion

Preoperative LMR is an independent predictor of suboptimal cytoreduction. It provides additional prognostic information beyond the biological parameters of the tumor.
INHIBITION OF HISTOLOGY-SPECIFIC EXPRESSION OF HOX GENES FOR OVERCOMING PLATINUM RESISTANCE IN EPITHELIAL OVARIAN CANCER

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Aims

Expression of HOX genes in epithelial ovarian cancer (EOC) was known to be histology-specific. Purposes of this study was to explore the expression level of HOX genes in EOC cell lines and finding tailored strategy of inhibiting histology-specific expression pattern of HOX genes for overcoming platinum-resistance in EOC.

Method

Eleven HOX genes were tested for identifying the histology-specific expression of HOX genes in this study. SKOV-3 and RMUG-S was selected for serous and mucinous type EOC cell lines. Cell viability after treatment of 10 μM cisplatin over 72 hours with or without 50 nM siRNA of HOX were examined using 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) assay. Signaling pathways for apoptosis, cell proliferation, and epithelial-mesenchymal transition were evaluated before and after the treatment.

Results

HOXA10 and HOXB9 showed high expression in SKOV-3 and RMUG-S. After cisplatin treatment, 91.3%±0.9% of RMUG-S and 46.5%±0.5% of SKOV-3 survived. However, co-treatment of HOXB9 siRNA with cisplatin reduced cell viability of RMUG-S to 64.9%±0.2%. HOX10 siRNA treatment decreased cell viability of SKOV-3, but not RMUG-S. By contrast, HOXB9 siRNA treatment decreased cell viability of RMUG-S, but not SKOV-3. HOX10 siRNA and HOXB9 siRNA treatments: increased the expression level of cleaved PARP and caspase-3 in SKOV-3 and RMUG-S; expression of vimentin was decreased while expression of E-cadherin was increased; SOX-2, Nanog, and Oct-4 decreased in both cell lines after siRNA treatment.

Conclusion

Our findings suggested that platinum-resistance of mucinous cell line might be defeated by inhibiting highly-expressed HOXB9, which could be a target of tailored strategy for overcoming the platinum-resistance in EOC.
**OVARIAN CANCER**

**ESGO7-0109**

**INTERACTION BETWEEN TWIST1 EXPRESSION AND TUMOR MICROENVIRONMENT FOR ANGIOGENESIS IN OVARIAN CARCINOMA**

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**Aims**

Twist1 is a transcription factor that is involved in cancer metastasis and recurrence, but little is known about the mechanisms underlying these processes. This study aimed to investigate the role of Twist1 in tumor angiogenesis in epithelial ovarian cancer (EOC) and to identify key molecules involved in the Twist1 pathway.

**Method**

A Twist1 siRNA was transfected into the EOC cell line that showed the highest expression to silence the gene, while a cDNA vector was transfected into human ovarian surface epithelial cells to generate a Twist1-overexpressing cell line. To evaluate the change in angiogenesis, HUVEC tube formation assays were performed using the control and the transfected cell lines. In addition, a cytokine array was used to determine the molecules involved in Twist1-mediated angiogenesis.

**Results**

After Twist1 knockdown in A2780 cells, the number of tubes formed by HUVECs significantly decreased. In a cytokine array, Twist1 downregulation inhibited the expression of the CXC chemokine ligand 11 (CXCL11), which was confirmed by both an enzyme-linked immunosorbent assay and a western blot assay. In contrast, Twist1 overexpression increased the secretion of CXCL11. Furthermore, the ability of Twist1-expressing A2780 cells to induce angiogenesis was inhibited after CXCL11 knockdown by CXCL11-siRNA in a tube formation assay. Conversely, CXCL11 downregulation did not inhibit Twist1 expression.

**Conclusion**

Our findings demonstrate that Twist1 plays an important role in angiogenesis in EOC and is mediated by a novel pro-angiogenic factor, CXCL11. Downregulation of CXCL11 can inhibit tumor angiogenesis, suggesting that an anti-CXCL11 therapy may offer an alternative treatment strategy for Twist1-positive ovarian cancer.
EXTERNAL MULTICENTRIC VALIDATION OF TWO SCORES PREDICTING THE RISK OF RELAPSE IN PATIENTS WITH BORDERLINE OVARIAN TUMORS: NOMOGRAM OF BENDIFALLAH AND SCORE OF OULDAMER

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Aims

Borderline ovarian tumors are rare and can occur in young women. For this patients, a fertility sparing surgery should be discussed. Two predicting borderline ovarian tumor relapse risk models were developed in 2014 (Nomogramm of Bendifallah) and 2017 (Score of Ouldamer). This study aimed to valid in an external poplulation this two scores using a multi-institutional Borderline Ovarian Tumor database.

Method

In this bicentric and retrospective study, all consecutive patients comprising the variable nomogram documented treated between January 2006 and December 2012 for Bordeline Ovarian Tumor in Centre Hospitalier de Poissy-Saint-Germain and Hôpital René Huguenin were included. A ROC model was etablished for each predicting scores.

Results

Sixty-five patients were included in the study. Twelve patients showed a recurrence (19%), three of them experienced an infiltrative cancer (5%). The median time of recurrence was 25 months (range: 8-115). The concordance index for the Nomogramm of Bendifallah and the Score of Ouldamer were 0.88 ([IC95%] 0.78-0.98) and 0.87 ([IC95%] 0.77-0.96) respectively.

Conclusion

This study from an independant population valid the Bendifallah nomogram and Ouldamer score for clinical use in predicting borderline ovarian recurrence.
FRIED FRAILTY SCORE IS A POSSIBLE PREDICTOR FOR POSTOPERATIVE COMPLICATIONS IN GYNECOLOGIC CANCER PATIENTS: RESULTS OF A PROSPECTIVE STUDY IN 237 PATIENTS

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Aims

Physicians need to risk-stratify their patients preoperatively to adjust the radicality of surgery. Aim of this study is to evaluate the predictive ability of fried frailty score for surgical outcomes after gynecologic cancer surgery.

Method

This is a prospective cohort study of patients undergoing gynecologic cancer surgery at a tertiary care academic center from October 2015 through January 2017. At baseline, we classified frailty as proposed by Fried. Surgical complications were graded using validated Clavien-Dindo criteria. Using ROC Analysis and logistic regression, we identified demographic and predictive clinical characters for postoperative complications.

Results

Out of the 237 enrolled patients the median age was 59 years. The overall prevalence of frailty based on the presence of 3 or more frailty criteria was 16.4%, the presence of 2 frailty criteria was classified as prefrail with 16% and without any presence as robust with 67.6%. Within 30 days of surgery, 9 (3.8%) patients have died and 41 (17.3%) experienced a grade≥3b complication. 12 (33.3%) of the frail patients, 10 (28.6%) of the prefrail patients and 16 (10.8%) of the robust patients developed severe complications (P=0.001). Age (p=0.34, OR 1.01, 95% CI 0.98-1.03) showed no association for postoperative complications. The logistic regression shows that prefrail patients (P=0.009, OR 3.30, 95% CI 1.34-8.10) and frail patients (P=0.001, OR 4.12, 95% CI 1.73-9.80) had a significant higher risk for postoperative complications.

Conclusion

Frailty is associated with severe postoperative complications in patients undergoing gynecologic surgery. Fried frailty score could help the surgeon to estimate the risk for postoperative complication.
OVARIAN CANCER

ESGO7-0049

A CASE OF PORT SITE METASTASIS AFTER LAPAROSCOPIC SURGERY FOR OVARIAN CARCINOSARCOMA
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Aims

Port site metastasis after laparoscopic surgery for ovarian carcinosarcoma is a rare phenomenon.

Method

We present a case report of umbilical port site metastasis from primary carcinosarcoma of the left ovary 2 months after laparoscopic surgery.

Results

A 56-year-old woman underwent abdominal hysterectomy, right salpingo-oophorectomy and suboptimal excision of tumor following laparoscopic surgery for uterine leiomyoma. The histopathologic examination of the tumor revealed stageIIB ovarian carcinosarcoma. After that, she hoped to change hospitals and receive additional treatment in our hospital. She underwent excision of the residual tumor, sigmoidectomy, left ureterectomy, omentectomy, resection of a 1.5-cm umbilical metastatic tumor involving the trocar tract and pelvic-paraaortic lymphadenectomy. Peritoneal washing cytology proved negative for malignant cells. Lymph nodes, omentum and the other lower three port-sites proved no metastasis. One month after she was treated with 6 cycles of adjuvant chemotherapy, she underwent resection of recurrent tumor of right cardinal ligament, ureteral anastomosis following right ureterectomy. Five months after she was treated with 3 cycles of adjuvant chemotherapy, she still proves no recurrence.

Conclusion

Port-site metastasis after laparoscopic surgery is usually associated with poor outcome. Further investigations are necessary to reveal the mechanisms and management to prevent this serious complication as laparoscopic surgery become more common.
OVARIAN CANCER

ESGO7-0972

MORBIDITY AND SURVIVAL OF PATIENTS TREATED FOR AN ADVANCED OVARIAN CANCER BY RETROPERITONEAL LYMPHADENECTOMY: CARACO, A FRENCH RANDOMIZED TRIAL

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Aims

The objectives of this study are to evaluate the impact of systematic pelvic and para-aortic lymphadenectomy on advanced ovarian cancer patient survival, postoperative complications and quality of life.

Method

CARACO is an ongoing French randomized multicentric and prospective study initiated in December 2008. Patients with epithelial ovarian cancer FIGO stages IIIB and IIIC with optimally debulked surgery are eligible for participation in the study.

The main endpoint is survival.

We have calculated that with a type I error limited to 0.05, a total of 450 patients would need to be accrued to afford 80% statistical power to reveal a 10% increase in the 5-year survival rate in the systematic lymphadenectomy arm.

Patients are randomized during surgery between lymphadenectomy or no lymphadenectomy.

There are three possible options in timing of surgery and inclusion. (1) Inclusion at primary debulking surgery (PDS). (2) Interval debulking surgery after neoadjuvant chemotherapy (3 or 4 courses). (3) After neoadjuvant chemotherapy (6 courses).

Results

To date, 372 patients have been enrolled, 326 were eligible for this intermediate analysis. According to the MSKCC secondary events grading system, we reported a low rate of minor and major complications (15.6% and 3%, respectively). Neither blood transfusion nor other postoperative complications significantly differed between the two groups.

Patients submitted to systematic lymphadenectomy showed a statistically longer median operative time (318.3 min vs 240.9, p<0.0001).

Conclusion

The CARACO study is ongoing, and requires a substantial effort to recruit new patients for inclusion as well as new clinical European teams in this randomized and prospective study.
OVARIAN CANCER

ESGO7-0866

HIGH SERUM SVCAM-1 CONCENTRATIONS MIGHT BE PREDICTIVE FOR EARLY OVARIAN CANCER RECURRENCE
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Aims

High levels of soluble vascular cell adhesion molecule1 (sVCAM1) are associated with cancer progression. The aim of our study was to analyze serum levels of sVCAM-1 in advanced ovarian cancer, the correlation with disease treatment and recurrence and its applicability as a tumor marker for ovarian cancer.

Method

Thirty-seven patients with advanced ovarian cancer and seventy-four controls were included. Serum samples were obtained prior to surgery, 7-10 days after the cytoreductive surgery and 6 months after the treatment was completed. sVCAM-1 concentrations were analysed by flow cytometric bead-based assay.

Results

Serum concentrations of sVCAM-1 are significantly higher in patients with ovarian cancer. There was a correlation but not significant difference between a serum sVCAM-1 at time of ovarian cancer diagnosis with serum sVCAM-1 after cytoreductive surgery (p=0.24) and after the treatment was completed (p=0.08). We have defined 1269 ng/ml as a cut-off value for serum sVCAM-1 with 84% sensitivity and 77% specificity for ovarian malignancy. Patients with sVCAM-1 concentration higher than cut-off value at diagnosis had significantly lower concentration after the treatment (p=0.04). Higher sVCAM-1 concentrations at diagnosis were associated with cancer progression or recurrence in the period of 12 months after the treatment was completed. sVCAM-1 can be satisfactory tumor marker for ovarian cancer diagnosis when compared to Ca125.

Conclusion

Increased sVCAM-1 in serum is connected with the presence of advance ovarian cancer and might be predictive for early ovarian cancer relapse. Serum sVCAM-1 can be potential tumor marker for ovarian cancer diagnosis and follow-up.
OVARIAN CANCER

ESGO7-0457

FDG-PET/CT IN THE PRE-OPERATIVE EVALUATION OF WOMEN WITH OVARIAN CANCER - EXPERIENCES WITH INCIDENTAL FINDINGS
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Aims

To assess the clinical impact of pre-operative FDG-PET/CT in women with ovarian, fallopian tube, or peritoneal cancer (OC) with special focus on consequences of incidental findings.

Method

Pre-operative FDG-PET/CT scans in the initial staging of women with OC performed from January 2011 - December 2012 were reviewed to evaluate the impact of incidental findings on additional examinations and the delay and change in planned treatment of OC. All incidental findings and decisions regarding further examination were registered at the first succeeding multidisciplinary team conference. Subsequent procedures were tracked via medical records.

Results

Of 209 included women, 44 (21.1%) presented with one or several incidental findings. Further examination was performed in 35 (79.5%). Malignancy was identified in 15/35 (42.9%), revealing metastases from OC (11), a synchronous primary cancer (3) and one recurrence of a previous cancer. The OC metastases were localized in the lungs, uterus, colon, vagina, and breasts. The remaining 20 women with incidental findings had two benign lesions and one pre-malignant lesion identified whereas no abnormality was found in 17 patients. A significant delay in time until treatment of median four days (range 1-83) was found when an incidental finding was further examined (p < 0.004).

Conclusion

In the present setting, with fast track access to additional diagnostics, further examinations of incidental findings by FDG-PET/CT delayed time to treatment of OC by median four days. The clinical implications of this must be balanced against the gain of detecting unrecognized malignancy in 15 of 209 patients (7.2%).
Aims

It is difficult to estimate carcinomatosis in ovarian cancer and identify inoperable patients. The purpose of this study was to evaluate the ability of integrated PET-MRI and MRI alone in estimating carcinomatosis using peritoneal cancer index (PCI) with the surgical PCI as gold standard.

Method

Whole-body PET-MRI was performed on 24 patients with presumed carcinomatosis of a gynecologic origin, planned for surgery. The radiologist evaluated PCI on MRI (including DWI) and PET-MRI scans separately. The surgeon estimated PCI intraoperatively. The radiologist and the surgeon were blinded to each other results.

Results

The median total PCI was 16.5 for MRI (p = 0.01), 22 for PET-MRI (p = 0.725) and 24 for surgery. Bias between radiologic and surgical PCI was for MRI 4.96±6.15 (p = 0.73) and for PET-MRI 0.04 ± 4.71 (p = 0.32). The sensitivity calculated for each region ranged from 36.8-87.5% for MRI and 53.3-95.8% for PET-MRI. In the four inoperable patients the estimated median PCI for region 9-12 (small bowel, max score 12) was 3.5 for MRI and 10 for PET-MRI respectively, surgical PCI being 9.5.
Conclusion

PET-MRI and MRI have a good ability evaluating carcinomatosis, PET-MRI slightly exceeding MRI. Possibly the most interesting finding is the indication of better sensitivity of PET-MRI to detect carcinomatosis in the small bowel, which is crucial in deciding operability.
OVARIAN CANCER

ESGO7-0333

CLINICAL ANALYSIS OF ENDOMETRIOID AND CLEAR CELL CARCINOMA OF THE OVARY WITH OR WITHOUT ENDOMETRIOSIS

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Aims

We investigated the cases of endometriosis-associated ovarian cancers (EAOC) and analyzed outcome of endometrioid carcinoma (EC) and clear cell carcinoma (CCC) with or without endometriosis.

Method

Among 678 patients, received treatments for ovarian cancer from 2004 to 2015, 126 were identified to had EC (n=70) and CCC (n=56). They divided into two groups according to the presence of endometriosis or not (n=27 and n=99, respectively).

Results

38 patients (5.6%) had EAOC; 15 (39.5%) of EC, 12 (31.6%) of CCC, 7 (18.4%) of mucinous carcinoma, 3 (7.9%) of serous carcinoma, and one (2.6%) of endometrial stromal sarcoma. The frequency of coexistence of endometriosis was 21.4% (15/70) for EC and 21.4% (12/56) for CCC. FIGO stage were not significantly different between two groups of EC and CCC with or without endometriosis. 18 at I (66.7%), 7 at II (25.9%), and 2 at III (7.4%) vs. 69 at I (69.7%), 18 at II (18.2%), 10 at III (10.1%), and 2 at IV (2.0%). There was no difference in the rate of optimal cytoreduction and response to chemotherapy. During a median follow-up of 44 months (range, 14-156), 7 cases (25.9%) in group with endometriosis had a recurrence, while 36 (36.4%) in control group (p=0.038). The 5-year disease-free survival (DFS) and overall survival (OS) of patients with endometriosis vs. without endometriosis were 75% vs. 64% (p=0.030) and 86% vs. 80% (p=0.084), respectively.

Conclusion

EC and CCC with endometriosis had the lower recurrence rate and more improved 5-year DFS. However, the coexistence of endometriosis did not affect 5-year OS.
A CASE OF PRIMARY PERITONEAL CARCINOSARCOMA

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Aims

We present a case of primary peritoneal carcinosarcoma and a literature review.

Method

A 43 year old woman presented with severe right iliac fossa pain. CT scanning revealed right ureteric obstruction with no obvious cause. Despite placing a retrograde ureteric stent, her pain worsened. MRI demonstrated an ill-defined 4cm soft tissue mass in the right adnexa, separate from the uterus, ovary and bowel. A working diagnosis of endometriosis was made and laparoscopy was undertaken. Biopsies from the mass showed primary peritoneal carcinosarcoma/malignant mixed mullerian tumour (MMMT). She underwent complete cytoreductive surgery and is receiving adjuvant chemotherapy.

A Pubmed search was performed using key words including “primary peritoneal carcinosarcoma” and “MMMT”

Results

Primary peritoneal carcinosarcoma is rare, especially in this age group.

Only 35 cases have been reported since the first in 1955 by Ober and Black. Seven cases describe resection from the rectosigmoid peritoneum. The longest disease free period in the literature is 60 months. Unfortunately most patients die within one year, with a median postoperative survival of 14 months. 34 patients had surgery, one had a diagnostic biopsy only, 19 received chemotherapy and 4 had radiotherapy.

Conclusion

As primary peritoneal carcinosarcoma is rare there is little evidence on which to base management. The mainstay of treatment is surgical resection and adjuvant chemotherapy, usually cisplatin and ifosfamide; other agents are associated with reduced overall survival. BRCA mutations and endometriosis may predispose to this condition.
Aims

The aim of this study is to describe the clinical pathological and prognostic features of the ovarian Sertoli Leydig cell tumors (SLCT) in Tunisian women.

Method

We collected 13 cases of ovarian SLCT, all diagnosed at the Gynecological Obstetrics Department and at the Anatomopathology Laboratory of the Farhat Hached Hospital of Sousse Tunisia between 2004 and 2016.

Results

The incidence of all ovarian cancers in our center was 4.7 new cases per year. Similarly, SLCT accounted for 1.5% of all our malignant ovarian tumors. The age at onset of the illness varied from 14 years to 79 years with a median age of 30 years. The median consultation period was 6 months. Endocrine signs were present in 76.92% of cases. Surgical exploration found a solid mass in 5 patients, a solido-cystic mass in 7 patients and no purely cystic mass. A peritoneal invasion was present in 5 patients. 15.4% of the patients were stage IA, 61.5% stage IC and 23% in stage IIIC. The slightly differentiated tumors represented 61.5% of the cases. Only one patient had a recurrence of her tumor two years later. Four patients developed metastasis and accounted for 30.76% of the cases. The overall survival rate at 10 years was 39.46%.

Conclusion

Sertoli Leydig cell tumors of the ovary represent a rare histological entity. They belong to the group of tumors of the sexual cords and of the gonadal stroma. The diagnosis is usually earlier than other ovarian tumors because of their endocrine clinical signs.
FEASIBILITY OF THE DIAGNOSTIC LAPAROSCOPIC SURGERY FOR CARCINOMATOUS PERITONITIS
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Aims
The surgery by laparotomy for advanced ovarian cancer has been carried out in Japan. Recently, laparoscopic surgery has also been available in some institutes. The purpose of the present study was to investigate the feasibility of the diagnostic laparoscopic surgery for carcinomatous peritonitis.

Method
Fifty-nine patients with carcinomatous peritonitis of epithelial ovarian/tubal/peritoneal cancer were evaluated from January 2010 to March 2017. In the preoperative assessments, exploratory laparotomy was supposed for all patients. They were divided into laparotomy group (N=36) and laparoscopy group (N=23). Characteristics, complications of surgery, time to start chemotherapy and hospital stay of both groups were investigated.

Results
There were no significant differences in the characteristics and operation time between two groups. Significant differences were found in blood loss (g) (laparotomy group 33.5±70.9 vs. laparoscopy group 0.78±2.86; p<0.01), the increase of WBC (/mm³) (7940±1510 vs. 6800±2140, respectively; p=0.02), C-reactive protein (mg/dl) (6.23±3.65 vs. 3.50±3.09, respectively; p<0.01). The incidence of ileus after surgery was more in laparotomy group than in laparoscopy group, though the differences were not statistically significant (13.9% vs. 4.3%, respectively; p=0.389). There were no significant differences in period to start chemotherapy and hospital stay between two groups.

Conclusion
Diagnostic laparoscopic surgery for carcinomatous peritonitis is supposed to be less invasive than laparotomy. Further follow-up is required in order to confirm complications in a long term.
Aims

Ovarian cancer (OC) is the second commonest gynaecological cancer, characterized by patients’ diversity to treatment and high mortality rate. Usually presents late in advanced stage which pose challenges to management. Recently, better understanding of the disease biology and application of aggressive surgery to achieve no visible residual has led to longer survival amongst these patients. Purpose of our study is to examine the clinical and demographic characteristics, surgical morbidity and outcomes of patients undergoing radical surgery for OC.

Method

A retrospective cohort study of women undertaking debulking surgery for OC between February 2014 and September 2016 at Aberdeen Royal Infirmary (ARI).

Results

121 women in total had debulking surgery for OC. 43 (35.6%) were stage I, 20 (25.7%) stage II, 53 (43.8%) stage III and 5 (4.1%) were stage IV. 78 (64.5%) women had radical surgery. Of these, 40 (51.3%) women had primary vs. 38 (48.7%) women who had interval debulking surgery. Commonest procedures that were performed as part of radical surgery include rectosigmoid resection (n=20, 25.6%), small bowel resection (n=10, 12.8%), splenectomy (n=9, 11.5%). Commonest morbidity outcomes included blood loss >1.5 lt. (n=17, 21.8%), hospitalization >7days (n=40, 51.2%), sepsis (n=14, 17.9%). Surgery outcomes were: no macroscopic residual disease (n=61, 78.2%), ≤10mm disease (n=6, 7.7%), and ≥10mm disease (n=8, 10.3%).

Conclusion

Identification of patients who will benefit from radical surgery avoiding unnecessary morbidity and mortality is a real challenge. We suggest that radical surgery for OC is related to acceptable morbidity after careful case selection.
OVARIAN CANCER

ESGO7-0096

ASSESSING THE RISK OF PELVIC AND PARA-AORTIC NODAL INVOLVEMENT IN APPARENT EARLY-STAGE OVARIAN CANCER: A PREDICTORS- AND NOMOGRAM-BASED ANALYSES

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Aims

Lymphadenectomy is a crucial surgical step to assess lymphatic dissemination in apparent early-stage ovarian cancer (eEOC). However, the choice to perform or not nodal dissection in eEOC is still object of debate. Here, we sought to estimate the prevalence of nodal involvement according to various disease characteristics in order to assess the prognostic advantages to have nodal dissection in eEOC

Method

Data of consecutive patients undergoing comprehensive staging for eEOC were retrospectively evaluated. Logistic regression and a nomogram-based analysis were used to assess the risk of nodal involvement

Results

Overall 377 patients were included. All patients had nodal dissection including pelvic and para-aortic lymphadenectomy in 366 and 370 cases, respectively. Forty-four (11.7%) were upstaged due to nodal involvement. Pelvic and para-aortic nodal metastases were observed in 32/366 (8.7%) and 42/370 (11.3%) patients, respectively. Nodal involvement was observed in 46/136 (33.8%), 8/24 (33.3%), 15/94 (15.9%), 4/42 (9.5%) and 1/81 (1.2%) patients with serous, undifferentiated, endometrioid, clear cell, and mucinous histology. Via multivariate analysis, we observed that poor differentiated tumor, (FIGO grade 3), serous histology and bilateral tumors were independently associated with both pelvic and para-aortic nodal involvement (p<0.01). A normogram displaying the risk of nodal involvement is reported in Figure 1

Conclusion

Our data suggested that FIGO grade 3, serous and bilateral eEOC are at high risk of having disease harboring in the lymph nodes. After receiving external validation, our data will help to identify patients deserving comprehensive retroperitoneal staging.
OVARIAN CANCER

ESGO7-0550

ULTRARADICAL OVARIAN CANCER SURGERY IN KUOPIO UNIVERSITY HOSPITAL 2013-2016
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Aims

The size of the residual tumor is the most important prognostic factor in ovarian cancer. The aim was to evaluate the quality of our ovarian cancer surgery as more radical upper abdomen surgery is now routinely involved in our debulking surgery procedures.

Method

All the primary ovarian, tubal or primary peritoneal cancer patients operated in Kuopio University Hospital during years 2013-2016, N = 156, were analyzed. Stage was III-IV in 81% of patients, N=126.

Results

Ultraradical surgery was needed in 61 (49%) of the patients. During the study period, cytoreduction to no residual tumor was achieved in 49%, less than 1 cm in 28%, and more than 1 cm in 23% of the cases. Significantly more patients would have had suboptimal cytoreduction without ultraradical surgery (p<0.0005).

Conclusion

To improve the results of cytoreductive surgery and to meet the quality standards of ovarian cancer surgery set by ESGO, upper abdominal and other ultraradical procedures are obviously needed.
OVARIAN CANCER

ESGO7-1175

CAN COPENHAGEN INDEX REPLACE RISK OF OVARIAN MALIGNANCY ALGORITHM (ROMA) IN A TRIAGE OF PATIENTS WITH PELVIC MASS?

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Aims

to comprehensively compare two algorithms, predicting ovarian cancer in patients with pelvic mass: Copenhagen index (CPH-I) and Risk of Ovarian Malignancy Algorithm (ROMA).

Method

We prospectively enrolled 320 patients with pelvic mass, which were consecutively scheduled for surgery in a single institution. Prediction results by ROMA and CPH-I, obtained before surgery, were compared to final histological diagnoses.

Results

Histological analysis revealed 26 epithelial ovarian cancers (EOC), 15 borderline ovarian tumors, 8 non-epithelial malignancies, 2 cases of ovarian metastases and 260 benign diseases. On comparing ROC-AUC, CPH-I was not inferior to ROMA neither in pre- nor in postmenopausal patients. At standard cut-off points ROMA provides a tailored specificity of about 90% in all subgroups (89.6 and 89.7% in pre- and post-menopause, respectively), whereas CPH-I in premenopausal patients demonstrated an extremely high specificity of 96.3% (95%CI: 91.6-98.4) to the detriment of sensitivity. The sensitivity of CPH-I and ROMA for EOC was 87.5% and 100%, respectively, in premenopausal patients; 92.9% and 96.4%, respectively in postmenopausal patients; and 91.7% and 97.2%, respectively.

Conclusion

Both CPH-I and ROMA are excellent algorithms for triaging patients, diagnosed with pelvic mass, with the aim of referring high-risk patients to a tertiary centers. Non-inferiority of CPH-I’s ROC-AUC relative to ROMA’s is not to be doubted. However, when using standard cut-off points, ROMA was slightly superior to CPH-I and showed more balanced specificity and sensitivity. Thus, more research aimed at a thorough validation of CPH-I’s standard cut-off level is still needed for the widespread introduction of CPH-I into clinical practice.
OPTIMIZATION OF SURGICAL TREATMENT OF PATIENTS WITH RECURRENT OVARIAN CANCER

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Aims

Treatment of patients with recurrent ovarian cancer is an actual problem of modern oncology. Involvement of the main vessels into neoplastic process often causes poor results of the surgical treatment of patients with recurrent ovarian cancer. The purpose of our research is improvement of immediate and long-term results of surgical treatment of patients with recurrent ovarian cancer.

Method

We analyzed the results of surgical treatment of 18 patients with recurrent ovarian cancer. Optimal cytoreductive resection were performed in all cases.

Results

Invasion of the major vessels with ovarian tumor intraoperatively was interpreted as an indication to the combined resection. All patients were underwent combined surgeries. Prosthetics of arteria iliaca externa were performed in 11 (61.11 %) cases: 8 (44.44%) of them were with autovenous prosthetics. Wedge resection of main veins (vena cava inferior, vena iliaca) were performed in 7 (38.9%) cases. Routine pathohistomorphological research confirmed the true invasion of the vessel wall only in 4 (22.22%) cases. Postoperative complications occurred in 3 (16.7%) cases. Median survival was 18 ± 3 months. (P <0.05).

Conclusion

Involvement of 1/3 of the diameter of main vessel is an indication for boundary resection. Involvement of 1/2 of the diameter of main vessel is an indication for segmental resection with prosthetics. Combined angioplasty leads to increase in median survival and it can be possible in case of complete or optimal cytoreductive surgery. Experience of cytoreductive surgeries with combined angioplasty in patients with recurrent ovarian cancer demonstrates possibility of successful results and improvement of life quality.
OVARIAN CANCER

ESGO7-0449

THE SIGNIFICANCE OF PREOPERATIVE SERUM CANCER ANTIGEN 125 IN MALIGNANT OVARIAN GERM CELL TUMORS

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Aims

To determine the prognostic value of preoperative serum cancer antigen 125 (CA 125) in malignant ovarian germ cell tumors (MOGCTs).

Method

Using information from medical databases, we investigated 161 patients with histologically diagnosed MOGCTs between 1993 and 2014. We chose the optimal cut-off value of CA 125 by using a receiver operating characteristic (ROC) curve.

Results

The median patient age was 24 years (range, 6-52 years). The most common histologic type was immature teratoma. Forty-eight patients had a normal range of serum preoperative CA 125 (<35 U/mL). Most patients had stage I disease. Fertility-sparing surgery was performed for 138 patients, and staging surgery in 118 patients. The median tumor size was 15 cm. Ninety-four patients had ascites at surgery. Spillage of the tumor was observed in 51 patients. Fourteen patients had positive cytology, 12 had lymph node metastasis, and 61 patients had ovarian surface involvement. Six patients had residual tumors. We determined the reference level of CA 125 (>78 U/mL) using a ROC curve. On univariate analysis, lymph node metastasis, positive cytology, ascites, ovarian surface involvement, tumor rupture, age, tumor size, and stage were significantly associated with elevated serum preoperative CA 125 levels (>78 U/mL). Patients with an elevated serum preoperative CA 125 level (>78 U/mL) had poorer disease-free survival, but this was not statistically significant. However, elevated preoperative CA 125 (>78 U/mL) was significantly associated with poorer overall survival.

Conclusion

Elevated preoperative serum CA 125 is associated with poorer prognostic factors and may have prognostic value in patients with MOGCTs.
OVARIAN CANCER

ESGO7-0754

SINGLE PORT GASEOUS LAPAROSCOPY-ASSISTED MINI-LAPAROTOMIC OVARIAN RESECTION (SP-GLAMOR): REASONABLE TREATMENT FOR OVARIAN MALIGNANCY

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Aims

Recent improvements to both optical and laparoscopic tools have enabled the use of single port laparoscopic surgery for gynecological procedures as opposed to laparotomic operation. However, laparoscopic access has several potential limitations, including tumor rupture, spillage, incomplete resection of lesions, and trocar insertion site metastasis. Here, we report a case series of ovarian cancers that were successfully removed by Single Port Gaseous Laparoscopy Assisted Mini-laparotomic Ovarian Resection (SP-GLAMOR).

Method

We reviewed the medical records of 8 women who visited St. Vincent Hospital from December 2011 until April 2017 and were diagnosed as malignant ovarian cancer with suspicion of malignancy based on imaging studies and tumor markers. After diagnosis, all of the women underwent SP-GLAMOR.

Results

The median maximal diameter of cancer mass, median umbilical skin incision size, median surgical duration and median volume of blood loss were 6.9 cm (range 4.3-8.5 cm), 2.5 cm (range 2.5-4cm), 310 minutes (range 270-420 minutes) and 800 mL (range 650-1200mL), respectively. All of 8 cases were diagnosed as epithelial ovarian cancer on frozen sections obtained during the operation. In only 2 cases, we converted them to open surgery. No major complications were observed. All patients also underwent adjuvant chemotherapy. All patients were followed up to the time of this report.

Conclusion

The results of our study suggest that the SP-GLAMOR procedure in cytoreduction of ovarian cancer is feasible, with potentially decreased perioperative abdominal wound problem and faster recovery.
OVARIAN CANCER

ESGO7-0727

ENGRAFTMENT OPTIMIZATION, CHARACTERIZATION AND TUMOR SPREAD TRACKING BY PRECLINICAL IMAGING IN OVARIAN CANCER PATIENT DERIVED XENOGRAFT MODELS
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2Haukeland University Hospital, Obstetrics and Gynecology, Bergen, Norway
3Haukeland University Hospital, Internal Medicine, Bergen, Norway

Aims

As PDX models of high grade serous ovarian cancer (HGSOC) conserve the genetic, phenotypic and functional characteristics of the primary tumor, we aim to use them to identify new biomarkers and improve image-guided surgery techniques. But insufficient engraftment rates and tumor progression monitoring hinder the use of PDX models. Therefore, firstly we optimized the tumor cell isolation from the heterogeneous tumor tissues. Secondly, we developed HGSOC xenograft models representing patient disease progression to establish molecular imaging techniques.

Method

Tissues samples from HGSOC patients undergoing debulking surgery were processed with 8 differential enzymatic cocktails. Cells were characterized in 2D and 3D cultures for cell viability, growth and cell composition. Patient derived cells and HGSOC cell lines were injected intraperitoneally and orthotopically, followed by molecular imaging.

Results

Dependent on the macroscopic characteristics of the tumor, Collagenase II for soft tumors and the Miltenyi enzyme mix for fibrotic tumors resulted in the best dissociation efficiency. Further, the combined use of calcium chloride and TrypLE enhances cell viability and fitness in both tissue categories. 3D organoids were developed and maintained for up to 10 weeks.

The developing tumors in the xenograft and PDX models were detected with high sensitivity and specificity by molecular imaging. We found that the engraftment and growth rates were different between intraperitoneally and orthotopically injected mice.

Conclusion

By optimizing the tumor dissociation, we increased the number of living cells for xenografting. The PDX model combined with the optical imaging approach should be further developed to optimize debulking surgery.
TOWARD OPERATIVE FLUORESCENCE IMAGING OF C-MET FOR PERSONALISED THERAPY IN OVARIAN CANCER

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Aims

Despite an initial therapeutic response with optimal surgical debulking, most women diagnosed with ovarian cancer will experience a recurrence, typically with peritoneal metastases. To develop novel targeted therapies, biomarker selection is a key criterion.

Method

We studied the expression of the c-Met oncogene in ovarian cancer. We stained tissue microarrays generated from individual 40 high-grade and 40 low-grade serous ovarian cancers (Gynecological Oncology Targeted Therapy Study 01). A modified cyanine 5–tagged peptide, GE137, with a high in vitro affinity for the human c-Met protein, was tested in ovarian cancer cell lines. Finally, the feasibility of detecting peritoneal metastases in vivo was tested through the intravenous injection of GE137 into mice with tumour xenografts.

Results

The histopathological analysis revealed a differential expression pattern of c-Met, indicating the importance of tumour heterogeneity for patient selection. Importantly, c-Met expression was also significantly increased in peritoneal tumour deposits compared to normal peritoneum. Next, we showed that GE137 co-localises to c-Met in SKOv3 (ovarian cancer) cells without activating downstream c-Met signalling pathways, such as AKT phosphorylation. After intravenous injection of GE137, tumour xenografts were readily detectable at a sub-millimeter resolution with the fluorescent signal being maintained for at least 8 hours.

Conclusion

This study established the expression of c-Met as biomarker in ovarian cancer and peritoneal deposits, providing a proof-of-concept of c-Met-targeted therapeutic strategies. This suggests that intraoperative optical imaging could provide a new paradigm for selecting cancer patients suitable for appropriate targeted therapies.
SHOULD AROMATASE INHIBITORS BE USED AS MAINTENANCE TREATMENT IN HIGH-GRADE SEROUS OVARIAN CANCER PATIENTS?

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²Ovarian Cancer Research Center, Department of Biomedicine, Basel, Switzerland
³Cantonal Hospital Baden, Institute of Pathology, Baden, Switzerland

Aims

Endocrine therapy is used in ER positive breast cancer and has been proposed as effective treatment in G1 serous ovarian cancer. The aim of this study was to determine the expression rate of ER in a high-grade advanced stage serous ovarian cancer cohort (HGSOC) and whether a maintenance antihormonal therapy adds a benefit in relation to the time of recurrence.

Method

We retrospectively examined ESR1 expression in breast and ovarian cancer as well as ER expression in a cohort of HGSOC. In addition, matched primary and recurrent HGSOC samples collected between 1985-2003 were inserted in a Tissue Microarray and IHC for ER expression. Furthermore, newly diagnosed HGSOC FIGO III/IV since 2013 were assessed prospectively for ER expression and when positive, offered a maintenance therapy with Letrozole 2.5mg/d in an off-label fashion. We assessed the time of first recurrence in correlation with the use or not of Letrozole using Kaplan-Meier analysis.

Results

ESR1 was strongly expressed in similar levels in HGSOC as in breast cancer. Strong ER expression in HGSOC is similar in chemotherapy-resistant primary tumors as in their recurrent counterparts. The use of Letrozole as maintenance treatment was associated with a significant prolonged recurrence free interval, with 75% of patients recurrence free after 24 months when taking Letrozole vs 40% in the control group (p= 0.01).

Conclusion

Primary HGSOC have a high ESR1 and ER expression which is similar to breast cancer where Aromatase inhibitor maintenance is routine for decades. Here we demonstrate evidence for the usefulness of a similar rationale in HGSOC.
ROLE OF INITIAL SURGERY IN MALIGNANT OVARIAN GERM CELL TUMORS

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Aims

To determine the role of initial surgery type in malignant ovarian germ cell tumor (MOGCT).

Method

Medical records of 59 MOGCT patients that underwent surgery in our department of gynecology and oncology between April 2007-2017 were retrospectively reviewed. The patients divided into three groups depending on the initial surgery type. Complete surgical staging (Group 1; defined as unilateral or bilateral salpingo-oophorectomy+bilateral pelvic and paraaortic lymphadenectomy+ cytological washing+ omentectomy±appendectomy±total abdominal hysterectomy), incomplete surgical staging (Group 2; defined as cystectomy±unilateral pelvic and paraaortic lymphadenectomy± omentectomy±appendectomy) and complementary surgery groups (Group 3; defined as the same surgery as Group 1 of referred patients after the first diagnosis by an ovarian biopsy or cystectomy).

Results

The median age was 22 years (range 12-47 years). The most common two histopathology of the tumors were immature teratoma (23 patients, 39.0%) and dysgerminoma (14 patients, 23.7%). The stage distribution was 66.1% for stage I, 5.1% for stage II and 28.6% for stage III. There were 36 (61%) patients in Group 1, 13 (22%) in Group 2 and 10 (16.9%) in Group 3. Median follow-up time was 35 months (range 1-96 months). 5-years of disease free survival was 41.8%, 69.2% and 70% (p=0.45) and 5-years of overall survival was 92.6%, 65.6% and 76.2% (p=0.46), in Group 1, 2 and 3, respectively (p=0.45).

Conclusion

In our small sample size study of this rare ovarian tumor, type of initial surgery does not appear to effect survival outcomes and further studies are needed.
OVARIAN CANCER

ESGO7-0745

ADVERSE EVENTS AFTER HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY (HIPEC) FOR STAGE III OVARIAN CANCER: PHASE III OVHIPEC STUDY

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2Center for Gynaecologic Oncology Amsterdam, Department of Gynaecologic Oncology, Amsterdam, The Netherlands
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Aims

In the OVHIPEC study (NCT00426257), the addition of HIPEC to interval cytoreductive surgery (CRS) significantly improved recurrence-free (HR 0.68, 95% CI 0.51-0.89) and overall survival (HR 0.67, 95% CI 0.48-0.94) in patients with stage III ovarian cancer. We analysed adverse events (AEs) in OVHIPEC, the first randomized study that evaluated HIPEC in primary ovarian cancer.

Method

We randomly assigned patients who showed at least stable disease after 3 cycles of carboplatin (area under the curve 6) and paclitaxel (175 mg/m²) to receive interval CRS with (n=122) or without (n=123) HIPEC using cisplatin (100 mg/m²). Patients in both arms received 3 additional cycles of carboplatin/paclitaxel post-operatively. We describe AEs graded by CTCAE v4.0 occurring up to first follow-up, defined as 6 weeks after the end of treatment.

Results

Over 95% of patients in both arms experienced at least one AE of any grade. The number of patients with grade 3-5 AEs was 30 (24%) without HIPEC and 34 (28%) with HIPEC (p=0.71). The most common grade 3-5 AEs after HIPEC were pulmonary events, infections, abdominal pain, and ileus, all occurring in less than 10% of patients (table). Three patients died within 6 weeks after the end of treatment, 1 was treatment related (CRS only arm) and 2 were due to rapid disease progression (1 in
HIPEC arm and 1 in CRS only arm).

<table>
<thead>
<tr>
<th>Table: Adverse events up to 6 weeks after the end of treatment</th>
<th>CRS-only (N = 122)</th>
<th>CRS + HIPEC (N = 122)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grade 3-5</td>
<td>Number of Events (%)</td>
</tr>
<tr>
<td>Pulmonary event</td>
<td>2 (2)</td>
<td>6 (2)</td>
</tr>
<tr>
<td>Nephropathy</td>
<td>1 (1)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Cardiovascular event</td>
<td>1 (1)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Gastrointestinal perforation</td>
<td>1 (1)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Sepsis</td>
<td>1 (1)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Nausea</td>
<td>1 (1)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Hypertension</td>
<td>1 (1)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Hypokalemia</td>
<td>1 (1)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Hypophosphatemia</td>
<td>1 (1)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Hyperparathyroidemia</td>
<td>1 (1)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Intestinal perforation</td>
<td>1 (1)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Sepsis</td>
<td>1 (1)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Constipation</td>
<td>1 (1)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Anemia</td>
<td>1 (1)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Sexual impotence</td>
<td>1 (1)</td>
<td>1 (1)</td>
</tr>
</tbody>
</table>

1. Pulmonary events include dyspnoea, hypoxia, pleural effusion, respiratory arrest and haemorrhage.
2. Nephropathy events include prerenal, renal and postrenal.
3. Cardiovascular events include pericardial, pericardial effusion and transient ischaemic event.
4. Gastrointestinal perforation includes bowel obstruction and hydronephrosis.
5. Anemia events include anaemia resulting in transfusions.

**Conclusion**

The addition of HIPEC to interval CRS does not increase adverse events and improves recurrence free- and overall survival in patients with stage III ovarian cancer.
OVARIAN CANCER

ESGO7-1328

SPONTANEOUS RUPTURE OF ENDOMETRIOMA ASSOCIATED ENDOMETRIOID ADENOCARCINOMA CAUSING ACUTE ABDOMEN

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Aims

Epithelial ovarian cancer is the most lethal gynaecological cancer, with the majority of patients (>75%) being diagnosed at the advanced stage of peritoneal metastatic disease. Although most ovarian cancers (OC) have an insidious course with patients having abdominal discomfort when the disease has already spread, we report here a patient with early stage endometrioid adenocarcinoma presenting with acute abdomen secondary to spontaneous rupture.

Method

This is a case report of a 27-year-old woman that presented at our emergency department with acute abdominal pain.

Results

The patient presented with lower abdominal pain and vomiting. Her abdomen was diffusely tender with localized guarding. The laboratory findings showed elevated white blood cells and C-reactive protein. Ultrasonography detected a cystic-solid mass of the left ovary with a moderate amount of pelvic fluid. With clinical features indicating peritonitis, the patient underwent emergent laparoscopy which revealed a ruptured ovarian mass. The histopathologic finding of the excised tissue returned as ovarian endometrioma malignantly transformed into differentiated endometrioid adenocarcinoma. The patient underwent restaging laparotomy.

Conclusion

Since the early phase of OC is mostly asymptomatic, the disease is usually detected either incidentally or in the advanced symptomatic phase of peritoneal carcinomatosis. In our patient, however, OC has become symptomatic at an early stage due to its spontaneous rupture. Furthermore, this case supports the role of endometriosis in OC pathogenesis emphasizing the importance of close monitoring of these patients. Most importantly, if they develop signs of rupture and acute abdomen, as our patient did, the occurrence of malignant transformation has to be suspected.
NOTCH 2 AS A POTENTIAL SIGNALLING PATHWAY FOR TARGETED THERAPIES IN OVARIAN CANCER
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Aims
Notch receptors and the related signalling pathways are involved in multiple physiological cellular processes while deviation of their expression is related to carcinogenesis. While Notch 3 over-expression has been confirmed in ovarian cancer, the study of Notch 2 expression is very limited. The aim is to study the gene expression of Notch 2 in comparison to Notch 3 with a view to explore potential targeted therapies related to the former.

Method
Tissues specimens from the primary ovarian tumour and the paired metastatic intra-abdominal sites were collected from seventeen patients, during the cytoreductive surgery. For the gene expression of Notch 2 and Notch 3, qRT-PCR was used while Comparative C₅ Method (ΔΔCt Method) was used for the analysis of the results.

Results
In both primary and metastatic sites, Notch 2 is equally high expressed compared to Notch 3.

Conclusion
Inhibition of Notch 3 by g-secretase inhibitors (GSI) or siRNA was found to cause reduced cellular proliferation and induced apoptosis. The equally high expression of Notch 2 render this signalling pathway a potential candidate for targeted therapies in ovarian cancer. More studies concerning the protein expression as well as in vitro treatment response are needed.
ASPIRIN USE AND RISK OF OVARIAN CANCER AMONG BRCA1 AND BRCA2 MUTATION CARRIERS

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Aims

Epidemiologic evidence suggests that aspirin use is associated with a reduction in the risk of developing ovarian cancer among women in the general population. No studies that evaluated this relationship among high-risk women. We evaluated the relationship between aspirin use and BRCA-associated ovarian cancer.

Method

We conducted a matched case-control study which included 986 cases of ovarian cancer and 3,069 controls with a BRCA1 or BRCA2 mutation. Detailed information regarding lifetime medication use (prescriptions and over-the-counter) was collected from a routinely administered questionnaire. Conditional logistic regression was used to evaluate the association between ever aspirin use, as well as, cumulative duration of aspirin use and the risk of developing ovarian cancer.

Results

Among BRCA1 and BRCA2 mutation carriers, aspirin use was not associated with the risk of developing ovarian cancer (odds ratio [OR] for ever vs. never use = 1.19; 95% confidence intervals [CI] 0.56-2.50; P = 0.65). Among women with a history of aspirin use, the risk of developing ovarian cancer associated with lifetime aspirin use for less than one year was 0.50 (95%CI 0.06-4.23) and was 1.45 (95%CI 0.65-3.24) for lifetime use of more than one year. Findings did not vary by BRCA mutation type.

Conclusion

Our findings do not support a role of aspirin for the prevention of ovarian cancer among women carrying BRCA mutations. Prophylactic bilateral salpingo-oophorectomy is the most effective primary prevention strategy for this high-risk population.
P53 PROTEINS ARE ABLE TO EXHIBIT PRION-LIKE BEHAVIOUR - A STUDY TO ESTABLISH RELIABLE DETECTION TECHNIQUES IN OVARIAN TUMOURS

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Aims

The recently discovered propensity of p53 proteins to exhibit prion-like behaviour may play an important role in initiation and progression of ovarian cancer. The aim of the present study was to establish reliable methodology to detect p53 prion-like aggregates in ovarian tumours.

Method

Three techniques to analyse p53 prion-like protein aggregates were established, i.e. immunofluorescence co-localization and co-immunoprecipitation based on 1) anti-aggregates antibodies and 2) on Seprion methodology. In a first step 10 ovarian cancer cell lines were tested, followed by analysis in tissues of patients with borderline tumours and malignant ovarian carcinomas (OC) of different histological subtypes. This included paraffin-embedded tissues (n=77) and a subset of fresh frozen tissues (n=30).

Results

p53 prion-like aggregates were found in 5/10 ovarian cancer cell lines consistently with all 3 different techniques. All positive cell lines harboured p53 missense mutations. With respect to patients samples, 3/11(27%) borderline tumours were positive for p53 prion-like aggregates and 34/66(52%) invasive OCs. 30/34(88%) positive OCs harboured p53 missense mutations, 1 showed a frameshift mutation and 3 were p53 wild-type. In the big majority of tissue samples consistency between the 3 techniques was found.

Conclusion

We demonstrated a high prevalence of p53 prion-like aggregates among the spectrum of different ovarian tumours, mainly associated with p53 missense mutations. High consistency and therewith reliability of the 3 established techniques was achieved. In a next step we plan to investigate the clinical relevance of p53 prion-like aggregates in a large homogenous cohort of prospectively collected high-grade serous OC cases.
OVARIAN CANCER

ESG07-0665

ARIEL4: AN INTERNATIONAL, RANDOMISED PHASE 3 STUDY OF RUCAPARIB VS CHEMOTHERAPY IN BRCA1- OR BRCA2-MUTATED, RELAPSED OVARIAN CANCER (OC)


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Aims

The poly(ADP-ribose) polymerase (PARP) inhibitor rucaparib is approved in the US for treatment of patients with deleterious BRCA mutation (germline and/or somatic) associated advanced OC who have been treated with ≥2 chemotherapies. Data are limited that compare PARP inhibitors to standard of care (SOC) treatment for relapsed OC. ARIEL4 (NCT02855944) is evaluating rucaparib vs SOC chemotherapy as treatment for patients with relapsed, high-grade OC (regardless of histology) and a deleterious germline or somatic BRCA1 or BRCA2 mutation who have received ≥2 prior chemotherapy regimens.

Method

Patients (n=345) stratified by progression-free interval after their most recent platinum regimen will be randomised 2:1 to receive rucaparib 600 mg BID or chemotherapy. Patients with platinum-resistant (progressive disease [PD] ≥1 to <6 months after last platinum) or partially platinum-sensitive disease (PD ≥6 to <12 months after last platinum) will receive rucaparib or weekly paclitaxel; patients with platinum-sensitive disease (PD ≥12 months after last platinum) will receive rucaparib or investigator’s choice of platinum-based therapy (single-agent or doublet). Patients receiving chemotherapy may cross over to rucaparib upon radiographic disease progression. The primary endpoint is investigator-assessed progression-free survival (RECIST v1.1). Secondary endpoints include overall survival, investigator-assessed objective response rate (ORR) by RECIST, ORR by RECIST/CA-125 criteria, duration of response, and patient-reported outcomes. Safety will be summarised descriptively using standard AE reporting.

Results

ARIEL4 is actively recruiting patients.

Conclusion

Randomised studies such as ARIEL4 are needed to assess the benefit-risk profile of PARP inhibitors vs SOC as treatment for relapsed, high-grade OC.
OVARIAN CANCER

IMMUNOHISTOCHEMICAL EXPRESSION OF NIDOGEN-1 PROTEIN IN OVARIAN CANCER TISSUES
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Aims

Late diagnosis of ovarian diagnosis is often due to the lack of sensitivity and specificity of available diagnostic methods. Protein nidogen-1 is being suggested as a potential new bio-marker for ovarian cancer. Nidogen-1 is a crucial component of basement membrane. The aim of the study was to rate the cytoplasm, intracellular and nuclear expression of Nidogen-1 in comparison to a control non malignant ovarian tissues.

Method

20 ovarian tissue samples from epithelial ovarian cancer (EOC) patients and 15 samples from healthy patients with confirmed BRCA (BRCA-1 or BRCA-2) mutations were collected. Paraffin-embedded samples and monoclonal mouse antibody against nidogen-1 were used for detect nidogen-1. Immunochemistry reaction was analyzed via light microscopes. Cytoplasmic reaction, intracellular reaction and the lack of reaction were observed and evaluated. The number of nucleus affected by the reaction was calculated. The results were compared with a group of counterparts with benign ovarian tumors (N=20). Statistical analysis were performed with "Statistica" Software.

Results

Stronger cytoplasmic reaction was detected in EOC patients comparing to intercellular reaction (p<0.001). In healthy patients with BRCA mutation most-commonly detected was intercellular reaction (p<0.001), followed by the lack of reaction. The lack of reaction was observed inmost of the patients with benign tumors (p<0.001). Nucleus was affected more frequently in the EOC group comparing to other groups.

Conclusion

Based on analysis it was concluded that nidogen-1 expression in ovarian tissues is higher in patients with EOC comparing to both healthy patients with BRCA-1 or BRCA-2 mutation and patient with benign ovarian tumors.
OVARIAN CANCER

ESGO7-0406

CYTOREDUCTIVE SURGERY WITH HYPERThERMIC INTRAPERITONEAL CHEMOTHERAPY (HIPEC) FOR EPITHELIAL OVARIAN CARCINOMA: PRELIMINARY RESULTS

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Aims

The aim of this study was to present preliminary results in terms of morbidity and survival of cytoreductive surgery (CRS) with hyperthermic intraperitoneal chemotherapy (HIPEC) for advanced epithelial ovarian carcinoma (EOC) in a tertiary care center in Canada.

Method

Patients treated for primary or recurrent EOC with CRS + HIPEC between March 2011 and February 2016 were included. All patients received perioperative platinum and/or taxane-based systemic chemotherapy. Postoperative morbidity and mortality was assessed with the Dindo-Clavien classification, and were categorized as minor (grade I and II) or severe (grade III and IV). Overall and disease-free survival calculations started at the end of adjuvant chemotherapy after CRS + HIPEC.

Results

Twenty-one patients with FIGO stage IIIB or C epithelial ovarian cancer were identified. 86% of patients (18/21) had primary EOC and 14% (3/21) had recurrent disease. The mean age at time of HIPEC was 57.8 years. CRS was complete (CC-0) in 86% (18/21) of patients and optimal (CC-1) in 14% (3/21) of patients. Nine patients (42.9%) had severe complications, 11 patients (52.4%) had minor complications and one patient (4.8%) had no complication. At a median follow-up of 23 months (range 3-39 months), 3 patients had died, 11 were disease-free and 9 were alive with disease. The median disease free interval post adjuvant chemotherapy after HIPEC was 13 months.

Conclusion

This therapeutic approach seems both feasible and safe in select patients. Preliminary survival results are encouraging but prospective studies are needed.
OVARIAN CANCER

ESGO7-0610

GHOST ILEOSTOMY IN THE MANAGEMENT OF MODIFIED POSTERIOR EXENTERATION: A RELIABLE OPTION IN OVARIAN CANCER

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Aims

Our objective was to determine the usefulness of the ghost ileostomy associated with sequential postoperative rectoscopy (SPR) in patients in which modified posterior exenteration was performed due to ovarian cancer.

Method

After modified posterior exenteration (MPE) and colorectal anastomosis were performed, a loop ileostomy was created to minimize the clinical impact of colorectal anastomotic leak instead of a real ileostomy. A SPR was performed in 4º-5º postoperative (PO) day. CRP and Procalcitonin serum levels were also monitored in 1º and 3º PO day. When anastomotic leakage was suspected, the ghost ileostomy was converted into a defunctioning ileostomy. In case of uncomplicated PO course, the loop was removed before discharge.

Results

Between January 2015 and April 2017, 139 cytoreductive procedures due to ovarian cancer were performed. In 30 out of 48 cases of MPE, a ghost ileostomy was created. SPR, CRP and Procalcitonin levels were found normal except in one patient (1/30; 3.3%). In this single case anastomotic leakage was confirmed in SPR. In consequence, real defunctioning ileostomy was created with an uncomplicated PO course.

Conclusion

Not only ghost ileostomy prevents all the complications related to defunctioning ileostomy but also presents its advantages in case of anastomotic leakage.
OVARIAN CANCER

ESGO7-0646

SENTOV I: TAILORING CLINICAL FEASIBILITY OF SENTINEL LYMPH NODE TECHNIQUE IN EARLY OVARIAN CANCER

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Aims

To determine the intraoperative detection of ovarian sentinel nodes in patients with confirmed ovarian cancer after removal of the adnexal mass.

Method

Patients scheduled for surgical staging due to epithelial ovarian cancer (EOC) after diagnosis in previous anexectomy or with intraoperative confirmation of malignancy were included.

Both laparotomy or laparoscopy, radioisotope and indocyanine green were injected under the serosa of the infundibulopelvic and ovarian ligament stump. 30 min after injection, migration of SLN were checked. A Large Field-of-View Portable Gamma camera device, a “SPIE®” camera and a gamma probe were used for the search.

Results

The recruitment began in April 2017: 2 patients met inclusion criteria and were included.

#1: 37 years old. A right anexectomy was previously performed. High grade serous ovarian tumor Stage IIA was confirmed. 2 SLN were identified (ipsilateral) in the obturator fossa and 3 in the para caval-inframesenteric region. Final study confirmed the initial Stage. Including SLN, all the nodes were negative (Pelvic: 7+9; Para-aortic: 17).

#2: 63 years. A total hysterectomy and bilateral salpingo-oophorectomy was previously performed. A high grade left serous ovarian tumor Stage IA was shown. The ovarian ligament stump could not be identified for obvious reasons. 2 SLN were identified (ipsilateral) in the para aortic-inframesenteric region. Final study confirmed the initial Stage. Including SLN, all the nodes were negative (Pelvic: 11+11; Para-aortic: 23).

Conclusion

This is the first ongoing study with clinical application of SLN technique. The cases performed showed the apparent feasibility of the procedure. Further recruitment is needed for conclusions.
OVARIAN CANCER
ESGO7-0684

NEUTROPHIL TO LYMPHOCYTE RATIO AND PLATELET TO LYMPHOCYTE RATIO IN OVARIAN MALIGNANCY

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Aims

To determine the sensitivity and specificity of neutrophil - lymphocyte ratio compared to platelet - lymphocyte ratio in predicting ovarian malignancies

Method

This research is an observational analytic study with diagnostic tests design on 37 patients with ovarian tumors which are planned to laparotomy in Prof. Dr. R. D. Kandou Hospital Manado and networks hospitals in Manado from March to May 2016. 3 cc Intra venous blood samples were taken through and then do a complete blood count.

Results

During the defined periods, we obtained a mean age of patients was 28.13 years (range 18-71 years). A total of 13 samples had malignancy with most histopathological types are cystadenocarcinoma muscinosum (27 %). Sensitivity and specificity value of neutrophil - lymphocyte ratio was 92.3 % and 95.8 % with cut off point of 2.47 and platelet - lymphocyte ratio was 61.5 % and the 75 % with cut off point 152.8.

Conclusion

Neutrophil-lymphocyte ratio and platelet-lymphocyte ratio associated with ovarian malignancy. The sensitivity and specificity of neutrophil - platelet ratio has better performance in predicting ovarian malignancies.
OVARIAN CANCER

ESGO7-1196

AGE IS NOT AN INDEPENDENT PROGNOSTIC FACTOR IN OPERATED STAGE III-IV EPITHELIAL OVARIAN CARCINOMA

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Aims

Recent data shows that older women are less likely to have complete surgery for stage III-IV ovarian Carcinoma. Moreover, this undertreatment has been linked to higher rates of mortality. Many publications have suggested that age may be a prognostic factor in ovarian carcinoma. Most of them are old and extrapolated overall survival data instead considering ovarian cancer-specific survival (OC-SV). The objective of this study was to evaluate if age is an independent prognostic factor in stage III-IV operated epithelial ovarian carcinoma.

Method

A total of 1,259 patients who underwent surgery at 2 French centres between 1985 and 2015 were identified. The primary endpoint was OC-SV. A multivariate Cox model was built including age, FIGO stage, CA125 level, surgery and chemotherapy.

Results

Median follow-up was 33 months. Median age at diagnosis was 60 (17-90). 242 (19%) patients were over 70 years of age. Patient characteristics were as follows (≥70 vs. <70y): proportions of FIGO IV were 23 vs. 17% (p=0.042), CA125>500: 55 vs. 58% (p=0.54), incomplete surgery: 42 vs. 27% (p<0.001) and 5 vs. 1% didn't had chemotherapy (p<0.001). Age<70y, FIGO III, CA125<500, complete surgery and chemotherapy were significantly associated with a better OC-SV in univariate analysis (p<0.05, Log-rank test). Only age>70y was not an independent prognostic factor of OC-SV in multivariate analysis (Hazard Ratio=1.16; 95%CI [0.84,1.6]; p=0.372).

Conclusion

This study did not identify age ≥70y as an independent prognosis factor in this population. Our results suggest that age related poor prognosis is more link to suboptimal treatment of elderly patients.
OVARIAN CANCER

ESGO7-1267

PROGNOSTIC SIGNIFICANCE OF ENDOMETRIOD OVARIAN CANCER SUBTYPE: RESULTS OF AN INTERNATIONAL MULTI-INSTITUTIONAL RETROSPECTIVE STUDY

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Aims

The prognostic significance of endometrioid ovarian cancer (OvC) subtype is unclear. We compared histoclinical characteristic of patients with OvC by pathological subtype and correlate them with overall survival (OS).

Method

Patients with endometrioid or serous OvC diagnosed in two cancer center in Italy and France between 2000 and 2016 were retrospectively identified. Data were collected in a systematic manner. A multivariate Cox model was built, including age, year of diagnosis, surgery, FIGO stage and adjuvant treatment, to determine the impact of pathological subtype on OS.

Results

Six hundred and sixty-eight cases were retrieved including 86 (12.9%) endometrioid carcinoma and 582 (87.1%) serous controls. Women with endometrioid cancer were younger (median age 55.9 vs. 61.6 years; p<0.001), had less aggressive tumors (64.5% of grades I or II vs. 28.9%; p<0.001), less advanced stage (III-IV) cancers (47.9 vs. 84.2%; p<0.001) and were less likely to receive chemotherapy (87 vs. 96.5%; p=0.001). No significant difference for complete surgery or year of diagnosis were found. Five-year OS rates were 60% in the endometrioid group and 45% in the serous group, respectively (p=0.001). In multivariate analysis, the lower risk of death from endometrioid cancer compared to serous ovarian cancer was no longer significant [HR=0.957 (IC95:0.612-1.494); p=0.846].

Conclusion

In this large cohort, the better clinical baselines characteristic seem to explain the better survival of endometrioid OvC cases. The endometrioid subtype is not an independent prognostic factor. Further analyses are needed to understand why endometrioid OvC patients are diagnosed at a younger age and at earlier stage.
OVARIAN CANCER

ESGO7-0101

STRATIFICATION BY FAGOTTI SCORE FOR PRIMARY CYTOREDUCTIVE SURGERY IN ADVANCED OVARIAN CANCER. PRELIMINARY EXPERIENCE AT A UNIVERSITY HOSPITAL IN URUGUAY

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Aims

To implement an initial laparoscopic diagnosis with Fagotti score to select primary cytoreductive surgery in patients with suspected advanced ovarian cancer.

Method

From January 2016 to January 2017, 14 patients with suspected advanced stage ovarian cancer were prospectively included in this case series. Laparoscopy and Fagotti Score were used to confirm diagnosis and to guide the primary treatment: either primary cytoreductive surgery followed by chemotherapy or neoadjuvant chemotherapy followed by interval cytoreductive surgery.

Results

Three of the 14 patients were diagnosed with another malignancy at laparoscopy and referred for appropriate treatment. In the remaining group (n=11) seven patients were candidates for primary cytoreductive surgery based on a Fagotti score Predictive Index Value (PIV) <8, but one of them had an ECOG score 3 and was assigned to the chemotherapy arm. Before this patient could begin neoadjuvant chemotherapy, she suffered a fatal pulmonary embolus. Hence, 6 patients were candidates for primary cytoreductive surgery and 4 patients underwent neoadjuvant chemotherapy. Three of the four patients that underwent neoadjuvant chemotherapy had biomarker and radiologic response and consequently submitted to interval surgery. After a median follow up of 12 months, 10 patients with diagnosis of ovarian cancer remained alive with one recurrence in the patient that received chemotherapy alone.

Conclusion

Selecting patients for primary cytoreductive surgery using laparoscopy and Fagotti Score seems to be a safe and reproducible approach in developing countries, thereby avoiding unnecessary laparotomies. This may be a promising triage strategy, but further research is necessary to validate our preliminary findings.
MORBIDITY OF RECTOSIGMOID RESECTION IN CYTOREDUCTIVE SURGERY FOR OVARIAN CANCER. RISK FACTOR ANALYSIS

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Aim: Rectosigmoid resection is often performed during cytoreductive surgery for ovarian cancer, to achieve the goal of no residual tumour. Here, we evaluated the morbidity associated with rectosigmoid resection and the underlying risk factors.

Method: We retrospectively assessed consecutive patients managed with rectosigmoid resection during cytoreductive surgery for ovarian cancer at our centre in Paris, France, between 2005 and 2013. All previously identified risk factors were analysed. Major complications were defined as grade III-IV in the Clavien-Dindo classification.

Results: Of 228 patients, 116 had primary and 112 interval surgery; 43/228 [18.9%] experienced major complications, and these were more common after primary surgery [24.1% vs. 13.4%, p=0.04]. The 69 patients who had rectosigmoid resection [33 primary vs. 36 interval surgery, p=0.32] had a higher morbidity rate compared to the other patients [30.4% vs. 14.6%, p=0.006]. The anastomotic leakage rate was 2.89%. By multivariate logistic regression, independent risk factors for morbidity were postmenopausal status [adjusted odds ratio (aOR), 13.7; 95% confidence interval (95%CI), 1.2;161.9], surgery after neoadjuvant chemotherapy [aOR, 4.4; 95%CI, 1.1;18.8], and peritoneal stripping of the left paracolic gutter [aOR, 11.3; 95%CI, 2.3;54.3].

Conclusion: The morbidity of rectosigmoid resection during cytoreductive surgery for ovarian cancer seems acceptable. Ileostomy does not seem associated with a lower risk of major complications or adjuvant bevacizumab with a higher complication rate.
PROGNOSTIC IMPACT OF THE TIME INTERVAL BETWEEN PRIMARY SURGERY AND CHEMOTHERAPY IN THE TREATMENT OF EPITHELIAL OVARIAN CANCER

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Aims

Complete surgical debulking followed by platinum-taxane is the standard therapy for epithelial ovarian cancer. The aim of this study is to assess whether the interval from primary surgical debulking to initiation of chemotherapy has an impact on progression free survival (PFS) and overall survival (OS) in ovarian cancer.

Method

One hundred and seventy eight patients underwent debulking surgery for epithelial ovarian cancer between 1/2005 and 12/2012 followed by chemotherapy. Only patients with primary surgery and advanced FIGO stage were included. We collected individual datas for these patients. Logrank test was performed to determine the effect of the time to chemotherapy (TTC) on PFS and OS.

Results

60 patients met our inclusion criteria. The median interval from surgery to chemotherapy was 35 days [Min=10; Max=115]. Median follow-up for OS was 2.77 years and 17 patients died. No statistical difference was found on OS between patient who underwent chemotherapy in the 35 first days (HR 1.49 [0.5: 4.15]). Median follow-up for PFS was 1.61 years and 37 patients had progression of disease. No statistical difference was found on OS between patient who underwent chemotherapy in the 35 first days (HR 1,29 [0,63 :2,66]). No risk factors were correlated with interval from surgery to chemotherapy.

Conclusion

The time interval between surgery and chemotherapy seems to have no impact on prognosis in epithelial ovarian cancer. However a study with a larger effective could provide more informations
OVARIAN CANCER

ESGO7-0270

ONCOLOGIC AND OBSTETRIC OUTCOMES OF CONSERVATIVE SURGERY FOR BORDERLINE OVARIAN TUMORS IN WOMEN OF REPRODUCTIVE AGE.
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Aims

To compare the oncologic and obstetric outcomes in reproductive-age females with borderline ovarian tumors (BOTs) treated with cyst enucleation (CE) or unilateral salpingo-oophorectomy (USO).

Method

The medical records of patients with BOTs treated between 1998 and 2014 were retrospectively reviewed. The recurrence rates in the USO and CE groups were compared, and the postoperative obstetric outcomes were assessed via telephone survey.

Results

Eighty-nine patients with BOTs underwent USO, and 19 underwent CE. Of these, six patients had recurrent BOTs. The recurrence rate was significantly lower in the USO group (3/89, 3.4%) than in the CE group (3/19, 15.8%) (P=0.032).

All patients with recurrent disease were successfully treated with further surgery. Of the 76 patients interviewed by telephone, 71 (93.4%) resumed regular menstruation after surgery. Twenty-six of the 32 patients (81.3%) who attempted to conceive had successful pregnancies. USO (19/24, 79.2%), like CE (7/8, 87.5%), resulted in favorable pregnancy rates for patients with BOTs.

Conclusion

USO is a suitable fertility-preserving surgery for women with BOTs. CE is also an acceptable option for select patients.
OVARIAN CANCER
ESGO7-0464

POST-DEBULKING CIRCULATING TUMOR CELL AS A POOR PROGNOSTIC MARKER IN ADVANCED STAGE OVARIAN CANCER


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Aims

To evaluate the association between the presence of perioperative circulating tumor cell (CTC) and clinical outcomes of ovarian cancer.

Method

In 30 patients who were going to undergo staging operation for ovarian cancer, peripheral blood samples were collected before and after primary debulking surgery. CTC was isolated using the tapered-slit filter (TSF) platform. Association between the presence of CTC and tumor characteristics was evaluated. The impact of the presence of perioperative CTC on progression-free survival (PFS) outcomes was also analyzed.

Results

The median age at diagnosis was 58 years (range, 24-77 years), and the median follow-up period was 15 months (range, 0-21 months). Overall, CTC positive rate was not different between pre- and post-operative peripheral blood samples (23/30 [76.7%] vs. 16/28 [57.1%], p=0.673). The presence of preoperative (6-month PFS rate, 90.5% vs. 83.3%, p=0.216) and postoperative CTC (6-month PFS rate, 80.0% vs. 100%, p=0.121) was not significantly associated with PFS outcomes. In a subgroup analysis of advanced stage, however, patients with postoperative CTC had significantly poorer PFS outcome than those without (6-month PFS rate, 75.0% vs. 100%, p=0.031). In this group of patients with advanced stage disease, postoperative CTC was more frequently detected in patients who had lymph node metastasis than those who did not (7/7 [100%] vs. 3/10 [30.0%], p=0.010).

Conclusion

The presence of postoperative CTC on the TSF platform might be associated with poorer PFS outcome in patients with advanced stage ovarian cancer. Further study with larger number of patients is needed to confirm our study results.
CHANGES OF SURVIVAL FOR OVARIAN CANCER OVER 20 YEARS IN KOREA

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Aims

To estimate the change in survival rates of women with ovarian cancer during the past 20 years in Korea

Method

Data were obtained from the Korea Central Cancer Registry for patients who were diagnosed with epithelial ovarian cancer between 1995 and 2014. Demographic and clinicopathologic factors, and survival outcomes were extracted and analyzed using Kaplan-Meier and Cox regression models.

Results

A total of 22,830 women were diagnosed with epithelial ovarian cancer. The 5-year relative survival rate across 1995-1999 and 2010-2014 improved from 57.2% to 63.8% (P<0.001). Regarding histology, the survival outcomes increased gradually for serous carcinoma type during past 20 years. However, significant improvements were not observed in those with mucinous, endometrioid, and clear cell carcinoma type. Multivariate analysis showed that younger age, early-stage, favorable histologic subtypes, standard surgery, and recent time interval from 2010-2014 were independent favorable prognostic factors.

Conclusion

Although the survival of epithelial ovarian cancer has improved over 20 years, clinical unmet needs are found for advanced-stage and non-serous carcinoma types. New treatment strategies are urgently required for this disease subset.
THE EXPRESSION OF PD-Ls AND PROGNOSIS OF OVARIAN CANCER: A META-ANALYSIS

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Aims

To evaluate the effect of the expression of PD-Ls on the prognosis of ovarian cancer.

Method

A comprehensive literature search was carried out 19 articles that compare PD-Ls expression and prognosis of patients with ovarian cancer. We performed a meta-analysis using 5 cohort studies published to December 2016 after a literature review.

Results

We analyzed 5 studies comprising 853 patients. The combined hazard ratio (HR) of the overall survival was 1.10 (95% confidence interval (CI) 0.91-1.33, P=0.33), the HR of the progression free survival was 1.10 (95% CI 0.92-1.33, P=0.29) for patients with tumors exhibiting PD-Ls overexpression. Moreover, the included studies have no public bias.

Conclusion

Our findings show that the expression of PD-Ls did not affect the prognosis of ovarian cancer patients.
OVARIAN CANCER

ESGO7-1291

BEVACIZUMAB ASSOCIATED DIAPHRAGM RUPTURE IN PATIENTS WITH OVARIAN CACNER
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Aims

Bevacizumab is an angiogenesis inhibitor used for adjuvant chemotherapy and maintenance therapy after cytoreductive surgery for advanced ovarian cancer patients. Various adverse effects are encountered in the treatment of bevacizumab, which include gastrointestinal perforation, delayed wound healing, proteinuria, hypertension, congestive heart failure, nasal septal fistula. However, bevacizumab associated diaphragm rupture is a rare entity. We herein report a case of diaphragm rupture, which is the first reported complication of bevacizumab in ovarian cancer to our knowledge.

Method

A 54-year-old woman was treated with cytoreductive surgery for advanced ovarian cancer, followed by 6 cycles of paclitaxel and carboplatin combined with 5 cycles of bevacizumab, because largest diameter of residual disease was 1.5 cm. The response evaluation of adjuvant chemotherapy was complete remission. After 1 cycle of bevacizumab maintenance, she visited the emergency room with uncontrolled epigastric and chest pain. Abdomen computed tomography revealed diaphragmatic hernia with stomach herniation by diaphragm rupture.

Results

Diaphragmatic hernia was repaired by thoracic surgeon.

Conclusion

Diaphragmatic rupture is a serious complication that may occur during the use of bevacizumab in the treatment of ovarian cancer.
OVARIAN CANCER

ESGO7-0529

IMPACT OF TIME INTERVAL BETWEEN COMPLETION OF NEOADJUVANT CHEMOTHERAPY AND THE INITIATION FOR POSTOPERATIVE ADJUVANT CHEMOTHERAPY IN ADVANCED OVARIAN CANCER

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Aims

The aim of our study was to investigate the relationships between the time interval from the end of neoadjuvant chemotherapy (NAC) to initiation of postoperative adjuvant chemotherapy (POAC) and survival outcomes benefit.

Method

We retrospectively investigated 224 patients with pathologically confirmed epithelial ovarian cancer who received NAC at Yonsei Cancer Hospital between 2006 and 2016. Time interval was defined as the time from completion of NAC to initiation of POAC, in days. According to time interval all patients were divided into two groups: 43 days or fewer and longer than 43 days.

Results

Median time interval was 43 (range 22-201) days; 103 patients (54.2 %) had POAC within 43 days of their last dose of NAC, 87 patients (45.8 %) after more than 43 days. Patients who underwent POAC more than 43 days after NAC had poorer overall survival (OS) than patients underwent POAC within 43 days (p=0.004). There was no difference in progression free survival (PFS) between two groups (p=0.129).

Conclusion

The findings from this study suggest that OS may be significantly lower in patients who undergo POAC later than 43 days after NAC.
OVARIAN CANCER

ESGO7-0153

ASSOCIATION BETWEEN OVARIAN OR EXTRA-OVARIAN ENDOMETRIOSIS AND CANCER IN PELVIC MRI: CLINICAL CASES

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Aims

1. Discuss the epidemiology of endometriosis description as a risk factor for epithelial ovarian cancer (more commonly endometrioid or clear cell carcinoma).
2. Review the MRI findings of malignant degeneration, more often arising in an ovarian endometriotic cyst, but also in deep pelvic or parietal pelvic endometriosis lesions (all endometriosis sites are possible).
3. Explain endometriosis-associated ovarian and extra-ovarian cancers is rare, but it must be recognized in pelvic MRI. Atypical endometriosis imaging or suggesting malignancy (whether adnexal, deep pelvic or parietal) should be suspected preoperatively by pelvic MRI (excluding the context of endometriosal decidualization during pregnancy).
4. Remember the differential diagnosis of atypical parietal endometriosis remains the sarcomatous or desmoid tumor pathology justifying histological evidence by biopsy.

Method

Epidemiology of endometriosis-associated cancers.

Review of clinical cases (MRI and pathologic correlation).

Results

MRI findings from atypical imaging to malignant transformation and pathologic correlation:

- in ovarian endometriomas.

![Image of MRI results]
Conclusion

In case of atypical endometriotic imaging (ovarian, deep pelvic or parietal), the objective of the radiologist is to optimize MRI protocol in order to orient the surgeon to a borderline or malignant pathology.
OVARIAN CANCER

ESGO7-0948

CD-147 AND CA-9 ARE OVER-EXPRESSED IN SPHEROIDS OBTAINED FROM SEROUS OVARIAN CANCERS

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Aims

In recent years, accumulating evidence suggests that the presence of cancer stem cells (CSCs) in epithelial ovarian cancer (EOC) has a role in chemo-resistance and relapse. Identification of these cells by CSC-markers can serve for the development of novel CSC-targeted personal precision nanomedicine. The aim of the present study was to characterize and compare different EOC cells by molecular stem cell markers.

Method

Cells were obtained from 5 serous EOC established cell lines (NAR, CAOV-3, OVCAR-8, OVCAR-3 and A2780) and from 16 patients with primary and recurrent serous EOC. Cells forming non-adherent spheroids were considered as CSCs. Known CSCs surface markers such as CD44, CCR5, CD117, CD133, and CD326 were analyzed by flow cytometry. In addition, RNA expression of stem cell marker genes, such as: Nanog, nestin, CD133, CD117, CD147, oct-4, CA-9, and ABCB1 were evaluated by quantitative PCR (qPCR).

Results

All 5 cell lines grew stable spheres while <50% of the patient samples (cells obtained from tumors or ascites) were capable of forming self-renewing spheres. Spheroids were CD44+ in the cell lines and in cells obtained from patients. We found that CD147, a transmembrane glycoprotein, involved in cell adhesion, invasion and metastases and CA-9 which is an enzyme induced by hypoxia and related to chemo-resistance were significantly expressed in spheroids obtained from patients' specimens.

Conclusion

The over expression of CD-147 and CA-9, might have clinical implications for targeted and tailored therapy against these highly expressed stem cells molecules through personalized precision medicine.
OVARIAN CANCER

ESGO7-0242

EFFECTS OF SC-560 IN COMBINATION WITH TAXOL OR CIS-PLATIN ON EXPRESSION OF CYCLIN D1, APOPTOSIS AND KI-67 OF OVARIAN CANCER IN VIVO

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Aims

To evaluate the effects of SC-560 (a COX-1 selective inhibitor) combined with taxol or cisplatin on the expression of cyclin D1, apoptosis and cell proliferation in human ovarian SKOV-3 carcinoma cells xenograft-bearing mice.

Method

Mice were treated with intraperitoneal (i.p.) injections of SC-560 6 mg/kg/day, i.p. injections of cisplatin 3 mg/kg every other day and i.p. injections of taxol 20 mg/kg once a week for 21 days. Expression of cyclin D1 and the index of Ki-67 in tumor tissues were determined by immunohistochemistry. The apoptotic index was detected by the terminal deoxynucleotidyl transferase-mediated deoxyuridine triphosphate nick end labeling (TUNEL) method.

Results

Downregulated cyclin D1 expression and cell proliferation were statistically significant, while the apoptotic index was notably increased in the drug-treated groups (all \( p < 0.05 \) compared with the control group). SC-560/taxol combination therapy demonstrated a synergistic effect than SC-560 or taxol alone on the inhibition of cyclin D1 expression and the quantification of the Ki-67 positive cells (all \( p < 0.05 \)), and promoting cell apoptosis (\( p < 0.05 \)).

Conclusion

This study suggests that the combination of SC-560 and taxol have a synergistic effect on suppressing cyclin D1 expression, cell proliferation and promoting cell apoptosis in human ovarian cancer xenografts.
OVARIAN CANCER

ESGO7-0780

CLINICAL SIGNIFICANCE OF C-MET AND PHOPHO-C-MET IN OVARIAN CANCER

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³MacKay Memorial Hospital, Department of Medicine, New Taipei City, Taiwan R.O.C.

Aims

C-Met is expressed in human ovarian cancer tissues and phosphorylation of c-Met activates signaling cascades that might affect the behavior of cancer cells. C-Met inhibitors are now under investigation. In this project, we evaluate the clinical significance of c-Met and phospho-c-Met in ovarian cancer.

Method

Tissue arrays consist of archived ovarian cancer tissues from 269 patients were stained with anti-Met mAb and anti-phospho-Met (Tyr1234/1235) mAb. The stainings were scored on a scale of 0 to 3+. High expression was defined as over 50% of moderate and intense staining. Patients’ charts were reviewed until April 2017 for analysis.

Results

Patients with late stage had significant increased lower expression in both c-Met and phospho-c-Met (P=0.0016 and 0.0037). Besides, low expression of c-Met also correlated with higher histological grade (P<0.0001). Lower progression-free survival were found in low expression of c-Met and phospho-c-Met (P=0.0024 and 0.0163) despite no significant difference in overall survival (P=0.1308 and P=0.5351).

Conclusion

High expression of c-Met and phospho-c-Met are associated with better progression-free survival.
DIFFERENT TUMOR BEHAVIOR OF SEROUS AND NON-SEROUS OVARIAN CARCINOMA, FOCUS ON DISTRIBUTION OF STAGE, LATERALITY AND SURVIVAL

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Aims

To determine if ovarian serous carcinoma had different tumor behavior compared to non-serous ovarian cancer.

Method

We retrospectively collects the medical records of patients with ovarian cancer in our hospital during Jan, 2010 to Dec, 2015. We analyzed the distribution of laterality, pathological stage and survival. Chi-square test was used for analysis of distribution of category variables. Kaplan-Meier method and Cox regression were used for analysis of survival outcomes.

Results

There were 268 patients were included in this study. The percentage of serous carcinoma was 38.1% which is much lower compared to general data.

The patient with serous carcinoma had more frequency of advanced disease included extra-ovarian disease (89.2% vs. 34.3%, p=0.000), abdominal disease (69.6% vs. 22.9%, p=0.000), lymph node metastasis (39.2% vs. 14.4%, p=0.000), para-aortic lymph node involvement (17.7% vs. 5.4%, p=0.000) and FIGO stage III and IV disease (78.4% vs. 28.3%, p=0.000). Also, serous carcinoma tends to involve bilateral ovaries (65.7% vs. 22.3%, p=0.000) in all patients and in patient with FIGO stage I and II disease (31.8% vs. 7.6 %, p=0.001).

Although serous carcinoma presented as advanced disease more, it seems had similar overall survival compared to non-serous carcinoma (5-year overall survival 62.2% vs. 77.9%, p=0.062). In addition, patient with serous carcinoma had better overall survival in advanced stage (HR 0.557, 95% CI=0.318-0.978, p=0.042), especial in stage III disease (HR 0.406, 95% CI=0.215-0.767, p=0.005).

Conclusion

Ovarian serous carcinoma presented as advanced disease more but tends to have better outcome compared to non-serous carcinoma.
OVARIAN CANCER

ESGO7-1288

RETROSPECTIVE ANALYSIS OF THE IMPACT OF PLATINUM DOSE MODIFICATIONS ON THE OUTCOMES OF STAGE I-IV OVARIAN CANCER PATIENTS

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⁵Lithuanian University of Health Sciences, Oncology and hematology department, Kaunas, Lithuania

Aims

The objective of this study was to evaluate the impact of platinum dose reduction and delays on progression free survival (PFS) and overall survival (OS) in patients with stage I-IV ovarian cancer.

Method

Medical records of patients with FIGO stage I-IV ovarian cancer were reviewed. PFS was calculated as the time from surgery until the date of progression or death, OS from surgery until the date of death. Last follow up was on 2016-05-30.

Results

Patients were divided into four platinum response status groups: 1) platinum refractory (N=19), OS 17 months (95% CI: 2.4-31.5); 2) platinum resistant (N=26), OS 20 months (95% CI: 15.1-24.8); 3) partially platinum sensitive (N=16 patients), OS 33 months (95% CI: 19.8-46.1); 4) platinum sensitive (N=39), OS not reached (Figure 1), P<0.0001.

Patients were divide into four chemotherapy delay/platinum reduction groups. 38 patients experienced no dose delay or reductions, OS was 40 months (95% CI: 23.8-56.1); 12 patients had a dose reduction, OS was 21 months (95% CI: 15.6-26.3); 38 patients had a delay, OS was 45 months (95% CI: 17.5-72.4); 12 patients had both schedule and dose modifications, OS was 33 months (95% CI: 29.8-36.2), P>0.05 (Figure 2). The main reason of chemotherapy modification was neutropenia (52%) (Figure 3).

Conclusion

There were no statistically significant OS differences the the four groups of chemotherapy modifications. Neutropenia is the most common side effect affecting dose modifications.
Aims

Primary mucinous ovarian tumours and mucinous ovarian metastases of the gastrointestinal (GI) tract can be difficult to differentiate, especially in the presence of pseudomyxoma peritonei (PMP). We evaluated whether this differentiation is relevant for treatment and chance of recurrence.

Method

In this single-centre, retrospective study, 94 patients diagnosed with a mucinous ovarian tumour with or without PMP between January 2000 and February 2017 were reviewed. Demographics, clinical data, histological data and follow-up data were collected and analysed.

Results

Sixty-six (70%) mucinous tumours originated in the ovary, 23 (25%) were metastases from the GI tract and 5 (5%) had an unknown origin. PMP occurred significantly more often in patients with metastases (70%) compared to patients with primary ovarian tumours (17%, p<0.05). Results of immunostaining, serum tumour marker measurements and treatment are shown in Table 1. There was no significance difference in the incident of recurrence between patients with primary ovarian tumours (33%) and patients with metastases (32%, p=0.930) and between patients with PMP (22%) and patients without PMP (39%, p=0.150). Follow up ranged from 3 months–12 years.

Conclusion

No serum tumour marker or immunostaining can differentiate with certainty between primary ovarian tumours and metastases from the GI tract. The incidence of recurrence is independent of the origin and of the presence of PMP, suggesting that both origins have similar biological behaviour and require similar diagnostic work up and treatment protocols.

<table>
<thead>
<tr>
<th>Patients with PMP</th>
<th>Primary ovarian tumour</th>
<th>GI-metastases</th>
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</thead>
<tbody>
<tr>
<td>Immunostaining (%-positive)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CK7</td>
<td>50%</td>
<td>29%</td>
</tr>
<tr>
<td>CK20</td>
<td>90%</td>
<td>100%</td>
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<tr>
<td>Tumour markers (%-elevated)</td>
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</tr>
<tr>
<td>CEA</td>
<td>62%</td>
<td>100%</td>
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<tr>
<td>CA125</td>
<td>78%</td>
<td>88%</td>
</tr>
<tr>
<td>HIPEC procedure</td>
<td>64%</td>
<td>88%</td>
</tr>
</tbody>
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OVARIAN CANCER

ESGO7-1093

BORDERLINE EPITHELIAL OVARIAN TUMORS: CLINICAL FEATURES, DIAGNOSIS AND TREATMENT


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Aims

To evaluate the clinical outcome and pathological features of patients with borderline ovarian tumors (BOT) with special emphasis on serous and mucinous histology.

Method

A retrospective study of patients diagnosed with borderline ovarian tumor between January 2000 and December 2013 was performed. The follow-up consisted of clinical assessment, determination of tumor markers and ultrasound control. Survival rates were analyzed using the Kaplan Meier curves.

Results

A total of 202 patients are included, with a mean age of 50 years. The serous tumor was present in 104 patients and the mucosa in 88. 89.9% of the patients with mucosal tumor presented clinic at the time of diagnosis, compared to 68.3% of serous patients (p <0.0001). 86.1% of patients had stage I of FIGO at the time of diagnosis, 2% had stage II and 11.9%, stage III. Disease-free survival at 2 and 5 years was 99.5% and 89.6%, respectively. There were 17 relapses, two of which died. Finally, overall survival at 2 and 5 years was 99% and 96.7%, respectively.

Conclusion

Younger patients are those with serous tumor, with a mean of 43.24 years. More clinical symptomatology appears and a greater number of laparotomies are performed on mucosal tumors. Surgical staging is performed more frequently in the serous type, therefore a greater number of stage III tumors is observed in this histological type and a larger number of stages I in mucosal type tumors. Finally, serosal recurrence is more frequent, but there are no significant differences in mortality between the two groups.
OVARIAN CANCER

ESGO7-1032

ANALYSIS OF MIR-196A, MIR-146A AND TWO MIR193B SINGLE NUCLEOTIDE POLYMORPHISM IN OVARIAN CANCER PATIENTS

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Aims

Some polymorphisms of microRNAs were found to be associated with development of ovarian cancer. Analysis of these polymorphisms might help in indispensable early diagnosis. We aimed to determine miR-196a rs11614913, mir-146a rs2910164, miR-193b rs30236 and rs1649942 polymorphisms in ovarian cancer patients and controls.

Method

75 ovarian cancer patients, 75 controls were recruited. 15-16 ml EDTA anti-coagulated blood was drawn; DNA was isolated with silica adsorption method. LightSnip kits were used for detection of rs11614913, rs2910164, rs1649942 and rs30236 polymorphisms. Melting temperatures of PCR fragments were determined by LightCycler96 instrument and melting curve analysis was used for allele classification. Allele and genotype frequencies were calculated and chi-square test was used for statistics.

Results

Based on the melting curve analysis of miR-196a rs11614913 we found 32.67% T allele frequency in patient and 40.67% in control group. In case of mir-146a rs2910164 we found 18% C allele frequency in patient and 27.33% in control group. During the analysis of mir-193b rs30236 T allele was found in 28.29% in patient group and 37.83% in controls. In case of mir-193b rs1649942 the T allele was present in 69.74% in patient group and 78.00% in controls. Statistical analysis showed marginal significance in alterations of studied polymorphisms.

Conclusion

Determining the above mentioned polymorphisms in a group of Hungarian ovarian cancer patients and healthy controls differences of marginal significance were found in genotype frequencies. We plan to collect more samples to continue the determination of polymorphisms and find out the exact role of these SNPs in development of ovarian cancer.
OVARIAN CANCER

ESGO7-0324

ROLE OF TUMOR MARKERS IN CLINICAL RESPONSE TO THERAPY IN PATIENTS WITH EPITHELIAL OVARIAN CANCER (EOC)

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Aims

Overall survival at 5 years of epithelial ovarian cancer (EOC) is 41% and most of EOC recur several time, so it’s important to have a tool to predict the response to chemotherapy. The aim of the study is to evaluate the role of biomarkers as predictive factors for the patients with EOC, treated with chemotherapy.

Method

CA-125 and HE4 values were determined for each cycle of chemotherapy in 41 patients aged ≥18 with EOC and ≥3 cycles. The average value, the slope of the straight line passing through the values of the first and third cycle (point 1 and point 3) and the half-life of the markers were analyzed through univaried analysis and correlated with response according to RECIST criteria. To calculate p values, T student test was used. For the analysis of the curves a generalized linear model was used for repeated measures.

Results

The curves plotted with average of HE4 and CA-125 show a statistically significant difference between responders (RR) and non-responders (NN) groups (CA-125: p=0.008; HE4: p=0.005). Comparing HE4 (RR=46.5 die, NN=79.3 die; p=0.005) and CA-125 (RR=28.8 die, NN=53.8 die; p=0.004) half-lives, these results are independent predictors for response to chemotherapy. The slope of the curve passing through the points 1 and 3 is different for CA-125 (RR=-132.175; NN=-53.14) and HE4 (RR=-141.625; NN=-3.5).

Conclusion

In conclusion, serum levels of CA-125 and HE4 and their half-lives can predict the clinical response to chemotherapy, in patients treated for EOC.
A COST-EFFECTIVENESS STUDY OF A NOVEL SURGICAL DEVICE USING NEUTRAL ARGON PLASMA (PLASMAJET) IN GYNAECOLOGICAL ONCOLOGY

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Aims

Principle behind the surgical management of epithelial ovarian cancer (EOC) is to achieve nil macroscopic residual disease. This often comes at the cost of bowel surgery and stomas, bleeding and results in intensive care admissions and delayed discharges.

The aim of this study is to evaluate if the use of the PlasmaJet(PJ) device is cost effective in comparison to standard surgical technique(SST).

Method

Retrospective data collection on 10 patients (PJ=5, SST=5) with Stage 3/4 epithelial EOC undergoing primary/interval debulking surgery. Each patient was matched to one of five criteria (large bowel resection, large/small bowel resection, body mass index over 30, length of hospital stay over 10 days, none of the above). Comparisons were made directly between participants within each criteria. Estimates of medical expenditures were obtained from the finance department of a tertiary oncology centre. Quality of life (QoL) analysis was conducted by evaluation of two (EORTC) questionnaires completed by each patient at various stages.

Results

Preliminary results suggest PJ is more cost-effective than SST with mean cost of admissions being £8,654.20 and £14,195.22 respectively. LOS was generally lower in PJ arm compared with SST. Analysis of QoL scores suggests significant improvement in QoL scores in the PJ arm.

Conclusion

This is the first cost-effectiveness study of PlasmaJet™ suggesting it is more cost-effective than SST although studies with a larger sample size are required in the form of a health economics evaluation reporting quality-adjusted life-years (QALYs) and incremental cost-effectiveness ratio (ICER) to determine the relationship between QoL and use of PlasmaJet™.
RESULTS ON FEASIBILITY RCT ON USE OF (PLASMAJET) TO ACHIEVE COMPLETE CYTOREDUCTION DURING DEBULキング FOR EPITHELIAL OVARIAN CANCER

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²University of Surrey, Department of Maths and Statistics, Guildford, United Kingdom

Aims

Epithelial ovarian cancer (EOC) is the 2nd common gynaecological cancer and is the commonest cause of death. Standard treatment of EOC is combination of cytoreductive surgery and chemotherapy.

Recent studies (EORTC 55971 and CHORUS) suggest that complete cytoreduction should remain the objective when surgery undertaken.

The primary aim of this study is to evaluate if the use of the PlasmaJet(PJ) device enables increased cytoreduction rates in comparison to standard surgical technique(SST).

Secondary aims include morbidity and mortality data, Quality of life (QoL) and survival.

Method

Following ethics approval and clinical trials registration (NCT02376231 & ISRCTN26261491), patients recruited when discussing surgery after consent obtained, patient blinded randomised controlled trial, Baseline Qol and at various timepoints collected, Randomisation performed in theatre and patient blinded, Operative details and post op data collected.

Results

110 patients recruited with nearly half in each arm. 8 adverse events. Results suggest decreased bowel resection rate in PJ arm (p<0.05), reduced stoma rates despite higher cytoreduction rate (p, 0.05) and higher diaphragm stripping (p<0.05) rates.

LOS was generally lower in PJ arm compared with SST. Analysis of QoL scores suggests significant improvement in QoL scores in the PJ arm.

Conclusion

This is the first RCT of PlasmaJet™ suggesting it may play a role in improving debulking rates while reducing morbidity. A larger multicentre RCT is being recruited to for further evaluation of the reduced stoma rates. Translational work is ongoing with the samples collected at the time of surgery to evaluate reasons behind the response in the PJ arm.
OVARIAN CANCER

ESGO7-0401

MAINTENANCE TREATMENT WITH OLAPARIB IN BRCA-MUTATED HIGH GRADE SEROUS OVARIAN CANCER (HGSOC): OUR EXPERIENCE IN A CASE REPORT

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Aims

We report the first case of a patient with BRCA-mutated high grade serous ovarian cancer (HGSOC) who received Olaparib to treat advanced disease platinum-sensitive relapsed.

Method

A 48 year old commenced in August 2010 with abdominal distension, pain and asthenia. Familiar history of ovarian and breast cancer. CT scan was performed: great left ovarian mass behind the uterus. September 18th, 2010: Surgery: Oophorectomy + hysterectomy + omentectomy + multiple peritoneal biopsies: high grade serous papillary bilateral ovarian cancer with capsule infiltration. Cytokeratin 7 +, CK20 -, WT1 +. CA125: 7.8 (35).

She completed chemotherapy with Carboplatin AUC5 and Paclitaxel 175mg/m2 (6 cycles from November 2010 to February 2011) and continued surveillance with CT scan in March 2010 no evidence of residual disease.

Results

She consulted in June 2015 with abdominal distension and pain. US was performed: ascites and multiple abdominal and pelvic nodules. Ca 125: 312 (35). PET Scan: multiple hypermetabolic nodules in abdominal and pelvic cavity and free liquid.

The patient started chemotherapy with Carboplatin AUC5 + Paclitaxel 175mg/m2 + Bevacizumab 15mg/kg. She completed 3 cycles with clinical improvement. CA 125: 45,20 (35). In October 2015: the patient completed 6 cycles. CA 125 response: 18,82 (35). PET scan: reduction in number, size and metabolism of abdominal nodules. She completed 2 cycles more without Bevacizumab. BRCA mutation assessment: BRCA1 mutation +.

January 2016: the patient started Olaparib 800mg/daily. CT Scan in July 2016: reduction of peritoneum nodules.

Conclusion

The patient is undergoing treatment with Olaparib since January 2016, with acceptable tolerance and still no relapse.
OVARIAN CANCER

ESGO7-0018

IT’S COMPLICATED: A CASE REPORT OF MALIGNANT PERITONEAL MESOTHELIOMA PRESENTING AS OVARIAN NEW GROWTH

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Aims

To present a case of a 25 year old nulligravid with a 2 month history of abdominal enlargement.

Method

Imaging studies to evaluate the cause of abdominal enlargement such as ultrasound and CT scan. Tumor markers like CA-125, CA 19-9, LDH and CEA can be done however not specific. Surgery is the definitive management and chemotherapy for palliative care. Immunohistochemical staining for differentiation and identification of histologic type.

Results

Ultrasound showed ascites, inflammatory versus neoplastic hence paracentesis and tumor markers were requested which all showed normal results. CT scan revealed a suspicious complex mass on the right adnexa. Patient underwent pelvic laparotomy which revealed multiple implants, yellowish to pinkish necrotic and friable masses scattered over the bowel loops, omentum, peritoneal surface, right adnexa, posterior cul de sac, liver surface and subdiaphragmatic area. Histopathologic diagnosis was atypical papillary structures, reactive versus neoplastic. Immunohistochemical staining was positive to Calretinin and Epithelial membrane antigen favoring Malignant peritoneal mesothelioma.

Conclusion

Peritoneal mesothelioma is a very rare disease with an incidence of 1 case per 4-5 million of the population and accounts for 20-30% of all mesothelioma type cancers. Early diagnosis of mesothelioma is often difficult since symptoms are usually atypical or nonspecific such as abdominal enlargement present in the patient. It may be mistaken as being a disease of the gastrointestinal tract or reproductive tract. Therefore, diagnosis often occurs at an advanced stage when it is widespread throughout the peritoneal cavity. Treatment approaches ranges from palliative surgery, systemic chemotherapy like Cisplatin to aggressive cytoreductive surgery and perioperative intraperitoneal chemotherapy.
OVARIAN CANCER

ESGO7-1165

PROGNOSTIC VALUE OF HISTOLOGIC PATTERN IN ADULT GRANULOSA CELL TUMORS

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Aims

Adult granulosa cell tumors (AGCT) are rare neoplasms, corresponding for about 5% of all ovarian neoplasms. They are known for their indolent behavior, often with initial disease at diagnosis. However, a significant group of patients, independent of clinical stage, may experience disease recurrence, often years after diagnosis. To date, no data correlated histological pattern and survival. Our aim was to analyze the prognostic value of histological pattern in AGCT.

Method

We retrospectively analyzed a series of 60 patients treated at A.C. Camargo Cancer Center from April 1980 to August 2015. Of these, the histological pattern data was available in 41 cases.

Results

Median age was 51 years (range, 23-84). Median follow-up time was 48 months (range 1-272 months). Ten (16.7%) patients had fertility sparing surgeries. Of the 41 cases with histological pattern retrieved, most presented with diffuse tumors (37 cases; 90.2%). Micronodular pattern was found in 14 cases (34.9%), usually along with diffuse pattern. In univariate analysis, the presence of micronodular pattern showed worse disease free survival (56.1% vs. 95.5%; p=0.044), with retained as significant in multivariate analysis (HR: 10.79; CI95%: 1.19 – 97.48; p= 0.034). Yet, there was no difference on overall survival (91.7% vs. 96%; p=0.952).

Conclusion

Our data suggest that micronodular pattern has worse disease free survival in patients with AGCT.
**OVARIAN CANCER**

**ESGO7-0615**

**SQUAMOUS CELL CARCINOMA ARISING IN A MATURE CYSTIC TERATOMA: TWO CASE REPORTS**

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**Aims**

Mature Cystic Teratoma (MCT) is the most common benign Germ cell tumours (GCT). Malignant transformation is rare and occurs in up to 2% of cases with squamous-cell carcinoma (SCC) being the most frequent histological type.

**Method**

We present two cases of SCC arising on the background of MCT.

**Results**

First patient was a 36 year old women who presented with abdominal pain. Abdominal ultrasound and MRI showed ovarian mass suggestive of MCT with features concerning for malignancy (solid component with intrinsic T1 high signal). A unilateral salpingo-oophorectomy and subsequent histopathological analysis revealed an invasive poorly differentiated SCC arising in a MCT. Staging CT demonstrated para-aortic lymphadenopathy and biopsy of it confirmed the presence of metastases and FIGO stage IIIC disease. She underwent completion surgery followed by adjuvant chemotherapy and radiotherapy. She is well with no evidence of recurrence 12 months after treatment completion.

Second patient was a 83 year old women who was diagnosed with left ovarian mass suggesting MCT. Due to her multiple medical comorbidities she was managed conservatively. She presented 2 years later with worsening left sided abdominal pain and incidental finding of pulmonary embolism. MRI showed increased in size MCT with features suggestive of malignant transformation. She underwent cytoreductive surgery with excision of sigmoid and rectum. Histological examination revealed poorly differentiated SCC arising on a background of a teratoma giving FIGO stage IIIC. Sadly she deteriorated after surgery and passed away 12 days later.

**Conclusion**

Malignant transformation in MCT remains low. Clinicians should be aware of this possibility and should remain vigilant when treating patients with suspected MCT. Certain features on MRI could help in diagnosing malignant teratoma.
OVARIAN CANCER

ESGO7-0625

CANCER-RELATED SEVERE HYPERCALCEMIA IN OVARIAN ADENOSARCOMA – A CASE REPORT

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Aims

Hypercalcemia affects up to 44.1% of cancer patients and cancer is the leading cause of hypercalcemia in hospitalised patients. Unfortunately cancer-related hypercalcemia carries a very poor prognosis, as it is often associated with advanced disease stage.

Method

We report a case of 59 year old women with severe cancer related hypercalcemia secondary to ovarian adenosarcoma.

Results

She initially presented to our Emergency Department with a large pelvic mass, anaemia and incidental pulmonary embolism. Laparotomy revealed 30cm left ovarian cyst, morbidly adherent to the small bowel mesentery, sigmoid and pelvic side wall. There was evidence of old endometriosis. Optimal debulking surgery was performed. Histological examination showed ovarian adenosarcoma associated with grade 1 uterine endometrioid adenocarcinoma, FIGO stage IIIB. Due to rarity of the condition, a second opinion sought and confirm the diagnosis. Our patient made a good recovery and was discharged home 12 days later. She represented 4 weeks post-surgery with: nausea, constipation, poor appetite, lack of energy and confusion. On examination the patient appeared severely dehydrated and lethargic. Her abdomen was distended and she had reduced muscle power. Labolatory results showed severe hypercalcemia (corrected calcium 4.91), signs of acute kidney injury (creatinine 267, GFR 16) and low parathormone level (9.6). Abdominal imagining demonstrated multiple soft tissue masses (largest 12.7cmx6cm), ascites and peritoneal nodularity consistent with recurrent disease. During the inpatient stay she developed a new pulmonary emboli and a heart failure. Sadly she passed away few days later.

Conclusion

Cancer-related hypercalcemia has a poor prognosis. Ovarian small cell carcinoma should be always considered in differential diagnosis. This should be taken into account when counselling the patient and the family regarding the goals of care and disease prognosis.
OLAPARIB IN GERMAN ROUTINE CLINICAL PRACTICE – INTERIM RESULTS OF THE NON-INTERVENTIONAL STUDY C-PATROL

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Aims

The PARP inhibitor olaparib is approved in the EU for maintenance therapy of BRCA-mutated (BRCAm+) platinum-sensitive relapsed ovarian cancer patients who are in response to their most recent platinum-based chemotherapy. So far, only limited data on real-world olaparib treatment are available.

Method

The German prospective, non-interventional study C-PATROL (NCT02503436) collects real-world clinical and patient-reported outcome data in BRCAm+ platinum-sensitive relapsed ovarian cancer patients treated with olaparib according to label. This first preplanned interim analysis (cut-off date: 06 April, 2017) provides data on safety and dosing under real-life conditions. Data were analyzed by descriptive statistics.

Results

This interim analysis comprises the first 75 patients (median age 61 [45 to 80] years; ECOG ≤1: 93.3%; patients with ≥2 relapses: 49.3%, patients with ≥3 prior platinum-based chemotherapeutic regimens: 53.3%) with ≥3 months observation after start of olaparib therapy. Patients started with a median daily dose of 800 [300 to 800] mg olaparib. For 70.7% of patients no dose reduction was reported. For 29.3% of patients dose interruptions (median duration 10.0 [2 to 51] days) were documented. Olaparib therapy was permanently stopped due to an adverse event in 3 patients. Treatment-emergent adverse events (all grades) were documented for 85.3% of patients. Anemia (34.7% of all patients), nausea (29.3%) and fatigue (26.7%) were the most common ones.

Conclusion

The current interim analysis indicates that under routine conditions olaparib is well tolerated with a manageable toxicity profile. The toxicity profile is in line with the results of the clinical trial program of olaparib.
OVARIAN CANCER

ESGO7-1184

MOVING BEYOND THE MICROSCOPE AND INTO PRECISION MEDICINE: ESTABLISHING PROOF-OF-PRINCIPLE FOR A “MOLECULAR” SECOND LOOK SURGERY IN OVARIAN CANCER
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Aims

Ovarian cancer (OvCa) survival has not improved over 4 decades nor has our ability to identify true treatment responders. We hypothesized that coupling ultra-deep sequencing technology to the theoretically powerful technique of second-look surgery (SLS) could transform a relatively low resolution cytopathology-based technique into a precision medicine tool of extreme sensitivity and specificity. The simultaneous goals would be to identify potentially drug targetable mutations at the start of treatment and then response to that treatment.

Method

We identified 10 patients with advanced-stage, high-grade serous OvCa who had previously undergone traditional SLS. Targeted next-generation panel sequencing (NGS) interrogating 56 cancer-relevant genes was used for ultra-deep sequencing primary and recurrent tumor specimens, blood, ascites fluid and peritoneal washes. All NGS-identified mutations were validated using an orthogonal technology, digital droplet PCR (ddPCR) or Sanger sequencing.

Results

26 tumor-specific mutations were identified including TP53 mutations in all patients. All five patients who originally had positive cytopathology from SLS were also positive by “molecular” SLS. Notably, mutations present in primary tumor were identified in both SLS and even tumor recurrences 2 years after initial presentation. Three of the five SL patients with negative cytopathology were re-diagnosed as molecular positive. Importantly, these mutations were detected in tumor recurrences 3 years later.

Conclusion

For the first time, we establish through targeted ultra-deep DNA sequencing that tumor-specific mutations present in a patient's primary and recurrent tumors are detectable at the time of SLS. The clinical value of this enhanced molecular diagnostic approach will need to be defined in future studies.
OVARIAN CANCER

ESGO7-0373

OVARIAN SMALL CELL CARCINOMA : A CASE REPORT

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Aims

Extra-pulmonar small-cell carcinoma has a very low incidence (0.1% - 0.4%) and it represents less than 1% of ovary cancers, with less than 25 cases described in the literature.

It affects young women (average age 24 years) and it generally appears as a big sized, bilateral solid mass with bleeding and cystic degeneration areas.

It's constituted by a small cells diffuse neoplastic proliferation with scanty cytoplasm, abundant follicle-like structures with eosinophil content, elevated mitotic activity and necrosis areas.

It's a very aggressive tumor even with it is diagnosed on early stages, with survival rate less than 2 years. There is no consensus over the optimal treatment.

Method

Results

A 37 years old woman admitted to emergency due to pain and abdominal distension. CT Findings: ascites, bilateral anexial solid cystic masses, solid lump in pouch of Douglas compatible with ovarian neoplasia with peritoneal implants. CA 125 (14470U/ml)

A left adnexectomy with positive BIO for invasive ovarian cancer is carried out before surgical laparoscopy and it is complemented with optimal primary cytoreduction surgery.

Pathological Anatomy: small cells carcinoma in both ovaries. Metastasic tumor in peritoneal implant, positive peritoneal lavage. 45 Isolated nodes are unaffected (21 para-aortic / 24 pelvics). Stage IIB (pT2b pN0 pM0)

After presenting case at tumor Committee Tumors, concomitant chemotherapy (etoposid-cisplastino) with associated radiotherapy is proposed.

Following 9 months after treatment was finalized, the patient remains disease-free.

Conclusion

Small-cells carcinoma is a rare tumor with high level of malignancy and there is low experience in its treatment.
OVARIAN CANCER

ESGO7-0084

PROGNOSIS OF EPITHELIAL OVARIAN CANCER PATIENTS (EOC) WITH ABDOMINAL WALL METASTASIS (AWM)

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Aims

Patients with the detection of AWM in EOC are categorised as FIGO IVB irrespective of other biologic factors. We evaluated the impact of AWM on patients’ overall survival (OS).

Method

This retrospective study includes 48 patients treated at our institution between 2005 and 2015 and categorized in group A (FIGO IIIC, n=18), group B (FIGO IV-only AWM, n=20), and group C (FIGO IV- metastases other than AWM, n=10). Clinicopathological parameters and survival data were extracted from our prospectively maintained tumor registry. Survival analyses were calculated using Kaplan-Meier method and Cox regression models.

Results

The median overall survival (OS) in group A, B, and C was 37, 58, and 25 months (p <0.001) respectively. Multivariate analysis revealed that in reference with FIGO IIIC OS in patients with FIGO IV-only AWM was not significantly inferior (HR 0.84, 95%CI 0.55-1.23, p=0.340), but was superior compared with FIGO IV-metastases other than AWM (HR 1.61, 95%CI 1.25-2.04, p<0.001). Further independent prognostic factors for OS were pT-stage, nodal status, performance status, and residual tumor, respectively.

Conclusion

Prognosis of patients with AWM as the only site of distant metastasis differs significantly from other stage IV-patients. Therefore, up-staging of patients with AWM to FIGO IVB seems not be justified with respect to prognosis. A revision/clarification of the FIGO classification system should be considered to avoid unnecessary stigmatisation as FIGO IVB and to better classify these patients in their respective prognostic group.
OVARIAN CANCER

ESGO7-1074

PALB2 MUTATIONS IN HIGH-RISK WOMEN WITH OVARIAN OR BREAST CANCER

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Aims

In the current study, we examined the frequency of PALB2 mutations in women with breast or ovarian cancer who met criteria for genetic testing for BRCA1 and BRCA2 and tested negative.

Method

DNA samples from women with ovarian or breast cancer, who met criteria for provincial BRCA1 and BRCA2 genetic testing and tested negative between the years of 2007 and 2014 were included in this study. All 13 coding exons of PALB2 plus 20 base pairs from the exon boundaries were amplified using Wafergen SmartChip technology. The amplified DNA were paired-end sequenced at 2x250 cycles using an Illumina MiSeq sequencer.

Results

2,225 women with breast cancer and 429 women with ovarian cancer were tested for PALB2 mutations. No PALB2 mutations were found in women with ovarian cancer. Seventeen deleterious PALB2 mutations were detected in women with breast cancer (0.8%). The frequency of PALB2 mutations was significantly higher in women with bilateral breast cancer (2.4%) compared to women with unilateral breast cancer (0.6%) (p=0.01). There was no significant difference in age at diagnosis between those with and without a PALB2 mutation (50.9 years vs 53.8 years; p=0.34).

Conclusion

Genetic testing for PALB2 should be considered for high-risk women with breast cancer, especially those who present with bilateral breast cancer. However, PALB2 does not appear to contribute to ovarian cancer which has implications for counselling women who are identified with a PALB2 mutation.
MALIGNANT OVARIAN GERM CELL TUMORS - A RETROSPECTIVE ANALYSIS AT A TERTIARY CENTRE FROM 2001 - 2016

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Aims

Malignant ovarian germ cell tumors (MOGCTs) are rare, accounting for 2-3% of all ovarian malignancies. Typically, they arise in girls and younger women. Due to the rarity and the distinct tumorigenesis, MOGCTs represent a challenge in diagnosis and therapy.

Method

In this retrospective analysis, we included all patients with the diagnosis of a MOGCT in the period from 2001 to 2016 at the University Women's Clinic Dresden. We examined the following parameters: age, presenting symptoms, tumor staging and the operative and systemic therapies.

Results

9 patients aged between 19 and 35 years were treated during the study period (5 immature teratomas, 3 dysgerminomas, 1 yolk sac tumor). In 78% of cases the disease was diagnosed in FIGO stage IA. The most frequently presenting symptoms were abdominal pain and a palpable tumor in the lower abdomen. In 44% of cases a typical tumor marker constellation indicated the presence of a MOGCT. Staging was mainly performed by CT of the chest and abdomen. The patients were treated primarily by surgery (a minimum of: unilateral adnexectomy and peritoneal sampling). In the majority of cases, it was possible to perform fertility-sparing surgery. 33% of the patients received adjuvant systemic chemotherapy according to the BEP scheme. All patients were followed-up in our clinic. To date, all patients are disease-free.

Conclusion

The majority of MOGCTs are diagnosed at an early stage of the disease. Due to fertility-sparing surgery and the use of platinum-based systemic therapy, this study confirms that these highly chemotherapy-sensitive tumors have an excellent survival outcome.
SIMPLE RULES, NOT SO SIMPLE

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Aims

Analyse how well untrained examiners – without experience in the use of International Ovarian Tumor Analysis (IOTA) terminology or simple ultrasound-based rules (simple rules) - are able to apply IOTA terminology and simple rules. And to assess the level of agreement between non-experts and an expert.

Method

This prospective multicentre cohort study enrolled women with ovarian masses. Ultrasound was performed by non-expert examiners and an expert. Ultrasound features were recorded using IOTA nomenclature, and used for classifying the mass by simple rules. Interobserver agreement was evaluated with Fleiss’s kappa and percentage agreement between observers.

Results

Fifty consecutive women were included. We observed 46 discrepancies in the description of ovarian masses when non-experts utilized IOTA terminology. Tumour type was misclassified often (n=22), resulting in poor interobserver agreement between the non-experts and expert (kappa=0.39, 95%-CI 0.244-0.529, percentage of agreement =52.0%).

Misinterpretation of simple rules by non-experts was observed 57 times, resulting in an erroneous diagnosis in 15 patients (30%). The agreement for classifying the mass as benign, malignant or inconclusive by simple rules was only moderate between the non-experts and expert (kappa=0.50, 95%-CI 0.300-0.704, percentage of agreement =70.0%). The level of agreement for all 10 simple rules features varied greatly (kappa index range: -0.08–0.74, percentage of agreement 66-94%).

Conclusion

Although simple rules are useful to distinguish benign from malignant adnexal masses, they are not that simple for untrained examiners. Training with both IOTA terminology and simple rules is necessary before simple rules can be introduced into guidelines and daily clinical practice.
OVARIAN CANCER

ESGO7-0273

PATTERNS OF LYMPH NODE METASTASES IN APPARENT STAGE I LOW-GRADE EPITHELIAL OVARIAN CANCER: A MULTICENTER STUDY.

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Aims

To determine oncological outcomes and incidence of lymph node(LN) metastases in women who underwent systematic pelvic and para-aortic lymphadenectomy for surgical staging of apparent stage I low-grade epithelial ovarian cancer(LGEOC).

Method

A retrospective study was performed at nine institutions across Europe and USA. Patients who underwent surgical staging for presumed stage I LGEOC between 2000 and 2016 were included. A minimum number of ≥10 pelvic and ≥10 para-aortic LN was required. Patients with preoperative radiologic or clinical evidence of extraovarian or LN-disease, and those with non-epithelial histology, were excluded.

Results

The overall incidence of LN metastases was 4.3% in the 163 evaluated patients. The incidence of LN involvement in serous, endometrioid and mucinous subtypes was 10.7%, 1.5% and 0%, respectively. Upstaging due to LN involvement alone occurred in only 2.4% of the patients. Eighty-nine (54.6%) patients received adjuvant chemotherapy due to FIGO stage ≥IC disease. The five-year progression-free and overall survival was 93.2% (95%CI:89.4-97.1%) and 94.5% (95%CI:90.9-98.0%), respectively. There was no significant difference in PFS or OS between LN-negative versus LN-positive patients. However, fewer patients received adjuvant chemotherapy in the LN-negative group. Multivariate analysis did not identify any independent prognostic factor of survival.

Conclusion

The risk of LN involvement in non-serous apparent stage I LGEOC appears low with a rate of <1% in this retrospective analysis, raising questions about the value of lymphadenectomy in those patients. Larger scale prospective studies are warranted to evaluate the oncologic safety of omitting systematic LN-staging in apparent stage I non-serous LGEOC.
Aims

Macrophage migration inhibitory factor (MIF), CD74 and Ki-67 emerge as important players in pathogenesis and angiogenesis of several types of malignant tumors. The purpose of this study was to evaluate the expression of MIF, CD74 and Ki-67 in ovarian borderline tumor and ovarian cancer and explore the potential roles they play in ovarian tumor.

Method

Macrophage migration inhibitory factor, CD74 and Ki-67 expression was assessed by immunohistochemistry in 102 cases with various degrees of ovarian tissues, including 10 normal ovarian tissue, 46 borderline tumor, 48 ovarian cancer. Correlation between immunostainings and clinicopathological parameters, as well as the follow-up data of patients, was analyzed statistically.

Results

Immunohistochemical analysis showed that CD74 expression was significantly higher in ovarian cancer(26/48) than borderline ovarian tumor(10/46) and normal samples(0/10) (P< 0.01). Ki-67 expression was higher in ovarian cancer (18/48) than borderline ovarian tumor(2/46) and normal samples(0/10). (P< 0.001). MIF expression was high in all three group (40/48 vs 38/46 vs 10/10). Correlation analysis revealed that high CD74 expression in tumor cells were associated with advanced clinical stage, and worse prognosis of patients.

Conclusion

Correlation analysis revealed that high CD74 expression in tumor cells were associated with advanced clinical stage of patients.
POORLY DIFFERENTIATED CARCINOID TUMOR METASTATIC TO OVARY WITH PERITONEAL DISSEMINATION-A CASE REPORT

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Aims

Neuroendocrine tumors account for about 2% of all gynecological malignancies, but may be also metastatic from other sites. Despite new developments for treatment of advanced neuroendocrine tumors, there are still not established standard protocols for management of this rare malignant disease. Every case report or small series of patients could make a contribution in this field.

Method

We report a case of woman, who had presented to our hospital under diagnosis of pelvic tumor in the right adnexal lodge, suggesting ovarian malignancy. After two surgery procedures, pathohystology and immunohistochemistry findings confirmed metastatic ovarian tumor, originating from neuroendocrine colorectal cancer.

Results

A 36-year old woman, who underwent postpartal hysterectomy with conservation of right adnexa, was referred to our Clinic with pelvic mass adjacent to right adnexa, hydronephrosis on the right kidney and possible infiltration of the right ureter. She underwent first diagnostic and second extensive open surgery procedure. Final immunohistochemical report confirmed high-grade poorly differentiated carcinoid tumor stage IVb, in most cases originated from appendix. She received four cycles of chemotherapy specific for colorectal cancer. The subsequent evaluation revealed complete regression of lesions and she was doing well 6 months after treatment.

Conclusion

The most common neuroendocrine neoplasms are gastroenteropancreatic. Most of patients with high grade poorly differentiated neuroendocrine carcinoma have metastatic disease and may present with large ovarian Krukenberg tumor. High-grade neuroendocrine colorectal cancer is a very rare differential diagnosis for secondary ovarian malignancies. Surgery is therapeutic choice for localised disease, but extent disease requires multidisciplinary approach and further future research in treatment.
OVARIAN CANCER

ESGO7-1169

PELVIC NODAL METASTASIS IN PRIMARY MALIGNANT SEX-CORD STROMAL TUMOURS OF THE OVARY: A SINGLE INSTITUTION EXPERIENCE

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Aims

To evaluate the incidence of pelvic nodal metastasis in patients with primary malignant sex-cord stromal tumours (SCSTs) of the ovary and add to the limited data available on nodal metastasis in ovarian SCSTs.

Method

A retrospective 5-year single institution review of patients with primary malignant ovarian SCSTs at The Gujarat Cancer and Research Institute (GCRI) between 2009 and 2014 was done. Information was collected regarding patient and tumour characteristics from pathology and medical records.

Results

A total of 48 patients were reviewed, 36 (75%) had granulosa cell tumour followed by fibroma-thecoma group (14.6%). All the nodal tissues examined in these patients were negative. Stage I (85.4%) was most common at presentation.

Table: Tumor characteristics as per histologic type

<table>
<thead>
<tr>
<th>Histologic type</th>
<th>Stage (% of cases)</th>
<th>Median age (range)</th>
<th>Ovary involved* (%)</th>
<th>Positive pelvic nodal metastasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Granulosa cell tumor</td>
<td>I: 29 (60.4%)</td>
<td>10 - 70</td>
<td>IV: 15 (31.2%)</td>
<td>0</td>
</tr>
<tr>
<td>Thecoma</td>
<td>II: 1 (2%)</td>
<td>14 – 99</td>
<td>IV: 0</td>
<td>0</td>
</tr>
<tr>
<td>Sertoli – Leydig cell tumor</td>
<td>I: 6 (12.5%)</td>
<td>22 – 59</td>
<td>IV: 0</td>
<td>0</td>
</tr>
</tbody>
</table>

*R = Right, L = Left

Conclusion

Our study supports the recommendation of recent published data regarding lack of lymph node metastasis in SCSTs and abandonment of lymphadenectomy for staging procedures of these tumours in primary upfront surgeries.
OVARIAN CANCER

ESGO7-1170

PELVIC NODAL METASTASIS IN PRIMARY MALIGNANT SEX-CORD STROMAL TUMOURS OF THE OVARY: A SINGLE INSTITUTION EXPERIENCE

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Aims

To evaluate the incidence of pelvic nodal metastasis in patients with primary malignant sex-cord stromal tumours (SCSTs) of the ovary and add to the limited data available on nodal metastasis in ovarian SCSTs.

Method

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A total of 48 patients were reviewed, 36 (75%) had granulosa cell tumour followed by fibroma-thecoma group (14.6%). All the nodal tissues examined in these patients were negative. Stage I (85.4%) was most common at presentation.

<table>
<thead>
<tr>
<th>Histology</th>
<th>Stage (%)</th>
<th>Median age (range)</th>
<th>Positive pelvic nodal metastasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Granulosa cell tumor</td>
<td>1 - 25 (6)</td>
<td>42 years (13 - 70)</td>
<td>0</td>
</tr>
<tr>
<td>Fibrin - Thecoma</td>
<td>1 - 6 (13)</td>
<td>37 years (14 - 70)</td>
<td>0</td>
</tr>
<tr>
<td>Sarcoma - Lymphatic cell tumor</td>
<td>1 - 2 (13)</td>
<td>25 years (22 - 30)</td>
<td>0</td>
</tr>
</tbody>
</table>

*Re - Right, Lt - Left

Conclusion

Our study supports the recommendation of recent published data regarding lack of lymph node metastasis in SCSTs and abandonment of lymphadenectomy for staging procedures of these tumours in primary upfront surgeries.
OVARIAN CANCER

ESGO7-0007

PREOPERATIVE HEMATOLOGIC MARKERS IN PROGNOSIS OF OVARIAN CANCER SURGICAL OUTCOME

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Aims

The current study aimed at assessing the association between Neutrophil-Lymphocyte Ratio (NLR) and Platelet Lymphocyte Ratio (PLR) for the prognosis of the surgical outcome of Epithelial Ovarian Cancer (EOC).

Method

EOC patients’ medical records of surgical operations between January, 2005 and December, 2015 were reviewed and their data of clinicopathological Complete Blood Counts (CBCs) and surgical outcomes were collected. To predict the surgical outcomes, PLR and NLR optimal predictive values were determined and then compared with each other.

Results

A statistically significant relation was found between surgical outcomes and NLR and PLR (p<0.001 and p<0.001), for which a new cutoff point was gained (PLR: 192; NLR: 3). The sensitivity and specificity was 0.74 and 0.67, respectively for PLR and 0.74 and 0.58, respectively for NLR.

Conclusion

NLR and PLR seem to be useful methods for the prediction of surgical outcomes in patients with EOCs. Enhancements of NLR and PLR as prognostic factors proved to be beneficial for poor surgical outcomes. Moreover, PLR increase showed to further help in the prognosis of EOC suboptimal debulking.
OVARIAN CANCER

ESGO7-0008

NEUROENDOCRINE CARCINOMA OF THE OVOTESTIS: A CASE REPORT AND REVIEW OF LITERATURES

M. Mohamadianamiri

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Aims

Case:

Here we represent a 77-year-old woman with primary amenorrhea, infertility and 10cm solid mass in left adnex with 46 XY in karyotype with ovotestis neuroendocrine neoplasm in pathology report which was treated with a multi-modality manner including surgery and chemotherapy but she came back with pulmonary metastasis after 2 cycles of chemotherapy.

Method

For women who present with a stage 1 primary ovarian neuroendocrine tumor the prognosis is excellent with greater than 90% survival. Neuroendocrine tumor of the ovary represents 3 % of all neuroendocrine tumors. The prevalence of ovotestis is 1/20000 births. For women with more advanced disease, the prognosis is poor. Neuroendocrine carcinoma of the ovary is a rare and aggressive tumor commonly associated with other surface epithelial and germ cell neoplasms. The prevalence of ovotestis is 1/20000 births and gonadal malignancies are the most reported neoplasm affected the ovotestis.

Results

Here we report a case of ovotestis which is presented with neuroendocrine carcinoma and poor prognosis.

Conclusion

Neuroendocrine carcinoma of the ovary is a rare and aggressive tumor commonly associated with other surface epithelial and germ cell neoplasms. The prevalence of ovotestis is rare and gonadal malignancies are the most reported neoplasm affected the ovotestis.
OVARIAN CANCER

ESGO7-0009

METASTASIC PAPILLARY SEROUS AXILLARY LYMPH NODE FROM OVARIAN ORIGIN: A CASE REPORT
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1, Tehran, Iran

Aims

From among gynecologic cancers, Epithelial Ovarian Cancer (EOC) is the major cause of mortalities in the United States, accounting for 3.6% of all types of gynecologic cancers. A major reason for this poor treatment is that most EOC patients are frequently involved in an advanced stage of the disease.

Case Presentation: Here we report a present a 70-year-old patient with ovarian cancer in whom an isolated metastatic axillary lymph node was detected following cyto-reductive surgery and adjuvant chemotherapy.

Method

Here we report a present a 70-year-old patient with ovarian cancer in whom an isolated metastatic axillary lymph node was detected following cyto-reductive surgery and adjuvant chemotherapy.

Results

Axillary area as a site of metastasis from ovarian carcinomas is unusual, representing as 0.03–0.6% of all breast malignancies. The most common type of ovarian malignancy to metastasize to the breast is serous carcinoma.

Conclusion

Case Presentation: Here we report a present a 70-year-old patient with ovarian cancer in whom an isolated metastatic axillary lymph node was detected following cyto-reductive surgery and adjuvant chemotherapy.

Keywords: Axillary lymph node, Ovarian cancer, metastasis
FERTILITY OUTCOME IN PATIENTS WITH BORDERLINE OVARIAN TUMOR IN IRAN
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Aims

Objective:
To assess outcome and fertility in patients treated conservatively for a low malignant potential (LMP) ovarian tumor.

Method

Design: Retrospective study.

Setting: Gynecologic oncology department of Emam Khomeini Hospital, Tehran University of Medical Sciences

In this cohort-retrospective study we evaluated reproductive outcomes in women with borderline ovarian tumors treated with fertility-sparing surgery in Imam Khomeini hospital from 2011 to 2017.

Results

There are totally 43 patients included in the study. 24 patients had strong desire to become pregnant, from these 14 women had a successful spontaneous pregnancy and two patients had pregnancy with IVF (58.3% pregnancy rate). According to the lab data 22 of 24 patients had proper ovary preservation (91.7%). In this study we did not find any statistically significant difference in fertility between different types of pathologies, stages of tumors and type of surgery (laparotomy versus laparoscopy), but in the patients with relapse fertility rate reduced. For each year increasing in the age of the patient, the probability of conception decreased by 24%.

Conclusion

According to the fact that the major population of BOT patients are under forty, nowadays fertility-sparing operation methods are considered as the primary choice. Also because of most of the recurrences are borderline lesions so for women who wish to preserve their child bearing potential and who are willing to undergo careful and prolonged follow-up examination, conservative method and fertility-sparing surgeries can be an option.
OVARIAN CANCER

ESGO7-0544

IS SELECTIVE INTERVAL DEBULKING SURGERY REALLY A FAULT IN THE MANAGEMENT OF ADVANCED HIGH-GRADE SEROUS OVARIAN CARCINOMAS (HGSOC)?

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Aims

Survival assessment of a series of HGSOC patients in a tertiary cancer center.

Method

We retrospectively reviewed the data of 228 consecutive patients diagnosed with advanced stages (FIGO stages IIIIC and IV) HGSOC, managed between 2008 and 2013 in our center.

Primary debulking (PDS) or Interval debulking surgeries (IDS) after chemotherapy were performed after a decisional laparoscopy for biopsy and tumor load assessment using Sugarbaker’s peritoneal cancer index (PCI), with the intent to perform a macroscopically complete (CC0) and safe surgery. During follow up, secondary surgery might have been indicated and repeated in selected recurrent diseases.

Results

PDS was possible in 28.6% and 71.3% for IDS, but 43 patients could never be operated. Median PCI was 10 (3-24), 24 (3-39) and 30.3 (8-39) in PDS, IDS and no surgery group respectively. CC0 was obtained in 92.5% cases and in 90.2% for PDS and IDS group respectively. With 35 months median follow-up, OS and DFS were 94.2/32.9, 67.9/20.5 months in PDS and IDS respectively.

During follow-up, 74.1% of patients recurred (50.9% and 83.3% in PDS and IDS respectively). For those who could be (optimally) operated, 79.7% were alive 5 years after the diagnosis versus 42.7% if surgery was not possible (p<0.0001).

Conclusion

In optimally cyto-reduced advanced HGSOC, initial tumor load is a more important survival factor than the moment of surgery. A centralized surveillance seems necessary as secondary surgical efforts represent an important factor to increase OS in these patients.
OVARian CANCer

ESGO7-1222

IMPACT OF RIGHT UPPER QUADRANT CYToreDUCTive TECHNIQUES FOR ADVANCED OVARIAN CANCER ON POSTOPERATIVE HEPATIC FUNCTION AND LIVER FAILURE

S. Nasser1, K. Lathouras1, J. Campbell2, L. Jiao3, C. Fotopoulou1

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2Hammersmith Hospitals- Imperial College NHS Trust, Department of Anaesthesia, London, United Kingdom
3Hammersmith Hospitals- Imperial College NHS Trust, Department of Hepatobiliary and Pancreatic Surgery, London, United Kingdom

Aims

The study evaluates postoperative hepatic function and risk of liver failure in patients with advanced ovarian cancer who underwent extensive right upper-abdominal cytoreductive surgery in the primary, relapsed or interval setting.

Method

Medical records were retrospectively reviewed for all women with primary or relapsed ovarian cancer(OC) between 01/2016-12/2016

All patients who underwent liver and/or right diaphragmatic cytoreduction were included in the present study.

Postoperative liver enzyme function(LFTs), as evaluated by alanine transaminase(ALT), alkaline phosphatase(ALP) and bilirubin(Bil), was reviewed and correlated with postoperative complications.

Results

A total of 39 patients were identified. 28(72%) with primary OC had undergone upfront, 8 (21%) interval and 11 (28%) secondary/tertiary cytoreduction.

Thirty-one cases were high grade serous at FIGO IIIC(22/39). The surgical procedures were full-thickness diaphragmatic resection(n=26; 67%), right partial pleural resection(n=in 3;12%), cardiophrenic lymph-node resection(n=2;8%), liver capsule stripping with subcapsular tumor resection(n=22; 56%) and porta-hepatis tumor resection(2; 5%). All patients(39/39) had normal preoperative LFTs.

In 2(56%) patients LFTs increased immediately and peaked on the 1st postoperative day. Mean value of the highest ALT across all patients was 89(range: 6-244), ALP 56(24-210) and Bilirubin 13(4-27).

In 33(85%) cases elevated LFTs normalized by 5th postoperative day with no major changes in bilirubin. No immediate complications were directly linked to right upper-quadrant cytoreduction. Two patients developed pulmonary oedema and atrial flutter that resolved with conservative management.

Conclusion

Right upper-abdominal debulkign for OC is associated with a transient 50-100% increase(of upper normal limit) in liver-enzymes postoperatively, with little clinical implications. Due to the existing, albeit rare, risk of liver failure patients should be monitored carefully.
EVALUATION OF RISK FACTORS ASSOCIATED WITH RELAPSE AND RECURRENCE OF BORDERLINE OVARIAN TUMORS WITH NO INVASIVE IMPLANT

N. Tounsi¹, H. Bouzaïene¹, M. Chemlali¹, N. Abdelwahed¹, R. Doghri², H. Hantouse², H. Bouazize¹, M. Hechiche¹, J. Ben Hassouna¹, K. Rahel²

¹Salah Azaïez, Department of Surgery Carcinologique, Tunis, Tunisia
²Salah Azaïez, Department of Pathology, Tunis, Tunisia

Aims

Borderline ovarian tumors (BOTs) have a good prognosis; however a few BOTs patients experience the relapse of disease, either borderline or malignant. The aims of this study were to analyze the risk factors of relapse.

Method

This is a retrospective study of 31 patients with confirmed BOTs treated in the Salah Azaiez Oncologic institute between 2005 and 2015.

Results

31 cases were identified; median age was 43 years. Most of the patients 27 (87%) demonstrated stage IA.

8 patients had laparoscopic surgery and they were all treated conservatively. 23 patients, which had laparotomy only two cases, underwent conservative surgery. The overall risk of recurrence was occurred in 5 (16.13%). The relapse was occurred 120 months after the primary surgery.

Among 5 recurrent cases, one cancerous transformation and 4 borderline recurrences were detected. 3 recurrences of 8 laparoscopic surgery group and 2 recurrent cases of 23 laparotomic surgery groups were observed. Laparoscopic approach was not related to higher recurrence rate (P= 0.093). 3 recurrences of 10 conservative surgery group and 2 recurrent cases of 21 comprehensive surgery groups were observed. However, it did not show significant difference (P=0.175).

Mean age of disease-recurrence group was 42, 8 years whereas the one of non-recurrent group was 46, 5 years (P=0.65), age was not risk factor of disease recurrence.

Conclusion

Age, conservative treatment and laparoscopic technique does not seem as a risk factor for recurrence. However, it is necessary to perform more randomized controlled trials to confirm such an assumption.
CARCINOSARCOMA OF THE OVARY: ANALYSIS OF 18 CASES

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2Salah Azaize, Department of Pathology, Tunis, Tunisia

Aims

Carcinosarcoma is a rare clinical entity, and account for less than 1% of all ovarian cancers. These tumors represent one of the most highly aggressive cancers of female genital tract with poor long-term prognosis. The aim of this study was to review our experience with ovarian carcinosarcoma, to analyze their clinical and histopathological features, to discuss about diagnostic and therapeutic difficulties.

Method

Retrospective chart review of 18 patients referred for ovarian carcinosarcoma was carried out from 1996 to 2015 in institute of Salah Azaiz.

Results

The median age at diagnosis was 59 years. All patients underwent initial surgical treatment. Stage distribution was as follows: 4 stage I, 1 stage II, 12 Stage III, and 1 stage IV. 16 patients underwent complete surgical staging. Optimal cytoreductive surgery with no residual tumor was performed in 6 patients. Three Patients demonstrated heterologeous histology.

14 patients underwent adjuvant chemotherapy, from these: 4 patients achieved a complete response, 4 a partial response, 6 had progressive disease. Two patients suffered from recurrence of disease.

A median follow-up was 20.7 months. Only 3 (16.66%) patients have 5-year overall survival.

Conclusion

Some reports indicate that complete cytoreduction, advanced age, grade, and the use of adjuvant chemotherapy are prognostic factors.

Further prospective trials are clearly warranted in a larger group of patients.
OVARIAN CANCER

ESGO7-0299

OVARIAN CARCINOSARCOMA WITH PERIRENAL METASTASIS: A CASE REPORT
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\textsuperscript{1}Cambridge University Hospital NHS Foundation Trust- Addenbrooke's Hospital, Department of Gynaecological Oncology, Cambridge, United Kingdom
\textsuperscript{2}Cambridge University Hospital NHS Foundation Trust- Addenbrooke's Hospital, Department of Urology, Cambridge, United Kingdom
\textsuperscript{3}Cambridge University Hospital NHS Foundation Trust- Addenbrooke's Hospital, Department of Radiology, Cambridge, United Kingdom
\textsuperscript{4}Cambridge University Hospital NHS Foundation Trust- Addenbrooke's Hospital, Department of Pathology, Cambridge, United Kingdom

Aims

Ovarian carcinosarcoma is a rare and aggressive biphasic tumour comprising of both carcinomatous malignant epithelial and sarcomatous mesenchymal elements. Patient usually presents with advanced stage disease which is associated with poor prognosis. The mainstay of treatment is cytoreductive surgery followed by platinum-based chemotherapy.

Method

We report a case of a patient with ovarian carcinosarcoma with metastasis to perirenal space, which is unusual for ovarian malignancy.

Results

A 76-year-old woman presented with abdominal bloating and examination found a large mass arising from the pelvis. CT scan showed 20cm complex right ovarian tumour with internal septations and solid mural nodules, small volume ascites, peritoneal disease within the pelvis and a 6.3cm enhancing mass at the upper pole of the right kidney. Her CA125 was 89 kU/l and serum creatinine 70 umol/l. Preoperative differential diagnosis included synchronous primary ovarian and renal malignancies or ovarian carcinoma with renal metastasis. She underwent primary debulking surgery with laparotomy, total abdominal hysterectomy, bilateral salpingo-oophorectomy, right nephrectomy, omentectomy and peritoneal stripping of nodular disease. Optimal debulking was achieved with <1cm residual disease. Histopathology showed right ovarian carcinosarcoma with heterologous elements and metastatic carcinosarcoma to right perirenal space (tumour arise in perinephric fat), pelvic peritoneum, omentum, bilateral parametrium and left ovary. Postoperatively, she made a good recovery and received adjuvant chemotherapy.

Conclusion

Ovarian cancer may rarely metastasise to perirenal space, especially in high grade tumours. Preoperative diagnosis to differentiate between synchronous cancers and metastasis may be difficult.
BEVACIZUMAB IN EPITHELIAL OVARIAN, FALLOPIAN TUBE AND PRIMARY PERITONEAL CANCER: A SINGLE CENTRE EXPERIENCE

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1The University of Hong Kong, Department of Obstetrics & Gynaecology, Hong Kong, Hong Kong S.A.R.

Aims

To review the use of bevacizumab in epithelial ovarian, fallopian tube and primary peritoneal cancer at the Division of Gynaecological Oncology, Queen Mary Hospital, Hong Kong.

Method

Patients who received bevacizumab with chemotherapy between January 2011 and December 2015 were included. A retrospective chart review was performed. Main outcome measures were adverse events and progression-free survival.

Results

41 patients received bevacizumab: 24 for primary treatment and 17 for recurrent disease. Of 24 patients who received bevacizumab as primary treatment, the median age was 52 years, 13% had early-stage high-risk disease, 88% had FIGO stage III/IV disease, 46% had high-grade serous adenocarcinoma and 54% had residual disease after debulking surgery. Of 17 patients who received bevacizumab for recurrent disease, the median age was 52 years, 94% were having their first recurrence, 65% had platinum-sensitive disease and 41% had high-grade serous adenocarcinoma. Median follow-up was 28 months (range 4-76 months), at which point 26 patients had died. Grade 3 or higher hypertension and proteinuria occurred in 22% and 7% of patients, respectively. Bevacizumab was discontinued due to proteinuria in 10% of patients, while none discontinued bevacizumab because of hypertension. The median progression free survival was 18.1 months (95% CI 14.3-21.9) for primary treatment and 10.9 months (95% CI 8.1-13.7) for recurrent disease.

Conclusion

The most common adverse events were hypertension and proteinuria, but these rarely led to discontinuation of bevacizumab. The progression free survival was comparable to those reported in large randomised trials.
OVARIAN CANCER

ESGO7-0411

COMPARISON OF DIAGNOSTIC PERFORMANCES OF HE4, RISK OF MALIGNANCY ALGORITHM AND MORPHOLOGY INDEX IN DISCRIMINATION OF OVARIAN ENDOMETRIOSIS FROM EPITHELIAL OVARIAN CANCER IN PREMENOPAUSAL WOMEN

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Aims

Comparison of the diagnostic performance of HE4 with the Risk of Malignancy Index (RMI) and Morphology Index (MI) in differentiation of ovarian endometriosis from epithelial ovarian cancers (EOC) in premenopausal women.

Method

Prospective, comparative study was conducted at the University Clinic of Obstetrics and Gynecology in Skopje. 164 premenopausal women were consecutively recruited and analyzed in three study groups: ovarian endometriosis-ASRM stage III and IV (37 cases), “other benign pelvic masses” (57 cases), EOC (11 cases) and one control group (59 healthy women). Morphology Index was calculated as a sum of the scores for tumor’s structure and tumor’s volume according to the Ueland’s criteria. RMI was calculated according to the Jacobs’ criteria. After ultrasonography, all subjects were blood sampled for HE4 and CA125. Surgery and histology verification of the material was performed. Group classification done according to the histologic results. Cut-offs for HE4, RMI and MI as follows: ≥70pmol, ≥25 and ≥5, respectively.

Results

Sensitivity, specificity, positive and negative predictive values and accuracy for ovarian endometriosis vs. EOC, for each of the tested markers are given accordingly: HE4 (81.82%; 100%; 100%; 94.87%; 95.83%); RMI (90.91%; 35.14%; 29.41%; 92.86%; 47.92%) and MI (100%; 75.68%; 55%; 100%; 81.25%).

Conclusion

HE4 performs best in discrimination of ovarian endometriosis from EOC in premenopausal women, but ultrasonography through MI is most sensitive method, detecting all cancer cases. Both HE4 and MI should be done for optimal management in a patient with pelvic mass.
OVARIAN CANCER

ESGO7-0701

DESCRIBING INTRA-TUMOURAL HETEROGENEITY IN HIGH GRADE SEROUS OVARIAN CANCER

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²Peter MacCallum Cancer Centre, Cancer Genomics and Genetics Program, Melbourne, Australia
³West London Gynaecological Cancer Centre- Imperial College NHS trust, Surgery and Cancer, London, United Kingdom

Aims

High Grade Serous Ovarian Cancer (HGSOC) remains the leading cause of death among gynaecologic malignancies despite advances in surgical techniques and novel targeted regimens. Disparity in response to treatment is partially due to the vast spatial and temporal intra-tumoural heterogeneity (ITH) observed, making the development of longer term effective therapeutic approaches challenging. We aim to characterise this ITH to understand the molecular mechanisms behind peritoneal dissemination and to define the link between heterogeneity and patient outcome.

Method

Tumour deposits from multiple anatomical sites were collected from advanced (FIGO III/IV) HGSOC patients during maximal effort upfront debulking at a single institution. Tumour cells were extracted, cultured short-term in-vitro, treated with cisplatin and apoptosis and cell viability measured. Patients are tracked for relapse and relapse samples collected where possible.

Results

Thirty-eight patients (mean age: 60 years; range 32-91) were anatomically mapped. Mean number of tumour deposits collected was 8 (range: 4-16) across the entire peritoneal cavity and paracardiac lymph nodes. Phenotypic apoptosis assays showed vast heterogeneity in platinum response across different tumour deposits and individual patients in 64% of patients sampled to date (>2 standard deviation (SD) score of in-vitro cisplatin sensitivity). Correlation with clinical response showed a trend of low heterogeneity (low SD score) with higher probability of future development of platinum-resistant relapse.

Conclusion

Data from phenotypic assays demonstrate a spatial and temporal functional tumour heterogeneity in advanced HGSOC. This functional data coupled with parallel proteomic and genomic analysis will provide a definitive description of ITH and clonally evolved chemo-resistance in HGSOC.
INCIDENTAL THORACIC FINDINGS ON ROUTINE COMPUTED TOMOGRAPHY IN EPITHELIAL OVARIAN CANCER

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Aims

Epithelial ovarian carcinoma is the most common cause of death from gynecological malignancy in Europe and the United States. Typically disease is restricted to the peritoneal cavity at presentation. Distant metastases are more common than previously thought, with studies showing metastases in up to 38% of cases at some time over the natural history of the disease. Many centres image from the lung apices to the inguinal region, however recent European Society of Urogenital Radiology guidelines recommend reducing exposure to radiosensitive breast tissue by only imaging up to the lung bases. The aim of this retrospective study was to investigate the incidence of thoracic findings on CT imaging in patients with epithelial ovarian carcinoma.

Method

An assessment of 100 consecutive computed tomography scans of the thorax, abdomen, and pelvis for surveillance of epithelial ovarian carcinoma in a tertiary referral unit was performed.

Results

35 (35%) patients were found to have thoracic findings on CT. Pleural effusions developed in 14 (40%) of these patients. Small lung nodules (<1cm) were present in 13 (37%) patients. Mediastinal lymphadenopathy was seen in six (17%) patients. Two patients (6%) had thyroid nodules of unknown significance. Pleural effusions are the most common thoracic finding in ovarian cancer. Small lung nodules were present at a similar level to that of the general population.

Conclusion

The CT protocol proposed by the European Society of Urogenital Radiology is safe for monitoring patients with tissue-proven epithelial ovarian cancer. This reduction in scanning may alleviate patient anxiety, and offers a cost benefit to hospitals.
OVARIAN CANCER

ESGO7-0814

DOES OVARIAN CANCER HAVE A DIFFERENT BEHAVIOR IN THE ELDERLY?
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Aims

The mean age at diagnosis of ovarian cancer (OC) is 66.7 years (yrs). However, a substantial proportion is above 75. Since increasing evidence arises that the immune system behaves differently in elderly, considering age in treatment might be relevant. This study provides an overview of OC patients aged above 75 to map histopathology, survival and treatment tolerance.

Method

Women with OC, diagnosed between 2005 and 2015, were included into two groups (above 75yrs (+75yrs) or below 75yrs (-75yrs)). Groups were matched for stage, year of diagnosis and histopathology.

Results

We included 129 patients +75yrs and 88 patients -75yrs. In the +75yrs, 17.05% refused initial treatment. In 69.77% chemotherapy was indicated, of which 3 patients underwent surgery but refused chemotherapy. The difference in delay in chemotherapy administration was non-significant between groups. Thrombocytopenia was more common in +75yrs receiving Carboplatin-Paclitaxel (TC) (p=0.012). For anemia and neutropenia no significant differences were found. A trend was seen to more neutropenic fever in the -75yrs who received Carboplatin (p=0.08). Recurrence occurred in 73.56% +75yrs who underwent the state-of-the-art treatment from which 15 patients chose palliation in second line, compared to 68.12% -75yrs from which only 5 chose palliation. There was no statistical age related difference in progression free survival (PFS) when patients received optimal treatment. The overall survival after 12 months was better in the -75yrs (p=0.0132).

Conclusion

The toxicity profile of TC or Carboplatin in the elderly is comparable to toxicity in younger patients. When elderly patients are treated with the state-of-the-art treatment PFS is similar to -75yrs.
OVARIAN CANCER

ESGO7-0418

SURVIVAL COMPARISON IN PATIENTS WITH AND WITHOUT NORMAL-SIZED OVARY CARCINOMA SYNDROME: PROPENSITY-SCORE MATCHING STUDY

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1Samsung Medical Center, Obstetrics and Gynecology, Seoul, Republic of Korea

Aims

Normal-sized ovary carcinoma syndrome (NOCS) is an ovarian cancer with ovaries being of normal size, accompanied by diffuse metastatic disease of the peritoneal cavity. We aimed at comparing survival outcomes of EOC patients with and without NOCS by propensity score matched analysis.

Method

The clinical records of EOC patients treated at Samsung Medical Center between 2002 and 2015 were retrospectively reviewed. We investigated 429 EOC patients with serous type histology and FIGO stage III and IV who underwent primary debulking surgery and adjuvant chemotherapy, and we identified 49 patients with NOCS. A propensity score match was performed to compare 49 patients with NOCS to 147 patients without NOCS (ratio 1:3) according to age, FIGO stage, initial CA-125 level, and residual disease status after primary debulking surgery.

Results

Of the included 429 EOC patients, 304 patients (70.9%) experienced relapse and a further 194 patients (45.2%) died within a median follow-up period of 43 months. The matching was successful without significant differences between the two groups in all matched variables. After matching, there was no significant differences in progression-free survival (PFS) (median PFS, 18.9 vs. 20.9 months, p=0.243) but disadvantage of overall survival (OS) was shown in group with NOCS (median OS, 41.4 vs. 71.5 months, p=0.025). In multivariate analysis for OS, NOCS remained as significant factor.

Conclusion

The current study among matched patients indicates there is statistically significant difference in OS (but not in PFS) between EOC patient with and without NOCS.
OVARIAN CANCER

ESGO7-0420

CLINICAL OUTCOMES OF PATIENTS WITH CLEAR CELL AND ENDOMETRIOID OVARIAN CANCER ARISING IN ENDOMETRIOSIS


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Aims

The aim of this investigation was to compare outcomes of patients with clear cell carcinoma (CCC) and endometrioid carcinoma (EC) of the ovary arising in endometriosis (ES) to CCC and EC not arising in ES.

Method

This study retrospectively enrolled 224 CCC and EC patients treated in Samsung Medical Center from 2001 to 2015 to identify cancer arising in endometriosis. Clinicopathologic variables, progression-free survival (PFS) and overall survival (OS) were recorded. Student’s t test and chi square test were used to analyze continuous and categorical data. The Kaplan–Meier method was used for survival analysis.

Results

Forty-five cases arising in ES were identified and then compared with 179 cases without ES. CCC and EC arising in ES tended to be presented with early age (mean 45.2 years vs. 49.2 years p=0.003), early stage (stage I and II, 92.7% vs. 62.3 %, p<0.001), lower CA125 level (mean 307.1 vs. 556.7, p=0.041), higher percentages of no gross residual disease after surgery (87.8% vs.56.8%, p=0.001), and higher percentages of negative lymph node metastasis (82.9% vs. 59.0%, p=0.008) compared with those without ES. Kaplan-Meier curves for PFS and OS seemed to show better outcome for group arising in ES (p=0.014 for PFS, and p=0.010 for OS). However, association with ES was not significant in multivariate analysis.

Conclusion

CCC and EC with tumors associated with endometriosis appear to be diagnosed at an earlier stage and confers trend of better survival outcome.
TOTAL PARIETAL PERITONECTOMY WITH POSTERIOR PELVIC RESECTION FOR ADVANCED OVARIAN CANCER MAY HIDE POSTOPERATIVE PERITONISM SYMPTOMS. A CASE REPORT

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Aims

Parietal peritoneum is innervated by pain nerve fibers. The aim of this report is to highlight possible alterations of abdominal symptoms after an extended debunking with a total parietal peritonectomy for treatment of advanced ovarian cancer.

Method

All clinical datas were collected from medical reports of our department.

Results

A 59 years old patient affected with advanced ovarian cancer with peritoneal carcinomatosis was admitted to our department. CT-scan demonstrated subdiaphragmatic involvements, omental cake, and presence of a big pelvic mass infiltrating the uterus and pelvic peritoneum.

Primary debulking surgery was decided due to the likelihood of complete cytoreduction.

The patient underwent a dissection of the parietal peritoneum from the subdiaphragmatic, paracoelic and pelvic areas, retrograde retroperitoneal hysterectomy with bilateral salpingo-oophorectomy, resection of rectosigmoid colon and cul-de-sac with primary anastomosis. End result: no macroscopic disease.

On the 14th post-operative day, patient had no abdominal symptoms and a completely normal clinical examination, faecal material was observed within the drain tube.

Explorative laparotomy was performed and fecaloid peritonitis was found due to anastomosis dehiscence.

The patient underwent an extended adhesiolysis and formation of an end colostomy.

Recovery after re-operation was uneventful and she is going to receive adjuvant chemotherapy regularly.

Conclusion

Total parietal peritonectomy in a context of an extended debunking for advanced ovarian cancer is a feasible procedure for removing peritoneal metastasis because contributes to optimal cytoreduction in order to improve prognosis but clinicians need to be aware during the postoperative recovery that abdominal symptoms that may be hidden by the absence of the parietal peritoneum.
COMPARISON OF SEROUS VERSUS MUCINOUS BORDERLINE OVARIAN TUMORS

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Aims

The staging and surgical method for borderline ovarian tumor (BOT) are controversial issue. In BOT compare to malignant ovarian tumors, it is difficult to determine the surgical method due to development of tumors at the earlier stage and in younger women. This study aims to compare the serous (sBOT) and mucinous borderline ovarian tumors (mBOT), with respect to clinic-pathologic factors, disease-free survival (DFS), and recurrence.

Method

This is a retrospective study conducted at Asan Medical Center, Seoul, Korea between 1990 and 2009 among patients diagnosed with borderline tumors histopathologically.

Results

Of the total 428 patients, patients with sBOT and mBOT were 138 and 290, the mean ages were 43.6-years and 39.8-years, and the largest tumor diameter were 10.0-cm and 17.1-cm respectively. Patients who underwent open surgery was 70.7%(sBOT) and 79.9%(mBOT). The rate of staging procedure was 42.9%(sBOT) and 25.3%(mBOT). In sBOT, the recurrent rate was lower in the staging procedure group compared with the non-staging group. While, there was no difference in the recurrent rate according to the staging procedure in mBOT. Furthermore, there was also no difference in DFS between sBOT and mBOT (p=0.003).

Conclusion

During surgery, sBOT was found to be more advanced than mBOT. Also, the recurrent rate was lower in the staging procedure group compared with the non-staging group in sBOT. Our study has shown that the staging procedure can be omitted in mBOT, however it should be considered carefully when stage is more than IA in sBOT. Also, more research is needed to confirm whether the staging procedure is meaningful.
THE SAFETY AND EFFICACY OF BLEOMYCIN, ETOPOSIDE AND CISPLATIN (BEP) CHEMOTHERAPY IN PATIENTS WITH MALIGNANT OVARIAN GERM CELL TUMOR

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Aims

The safety and efficacy of bleomycin, etoposide, and cisplatin (BEP) chemotherapy have rarely been evaluated in malignant ovarian germ cell tumor (MOGCT) because of its rarity. The aim of this study was to evaluate the safety and efficacy of BEP chemotherapy in MOGCT patients.

Method

This was a retrospective study including 150 patients with MOGCT who underwent surgery followed by adjuvant BEP chemotherapy at Asan Medical Center (Seoul, Korea). The safety of BEP chemotherapy was evaluated by Common Terminology Criteria for Adverse Events (CTCAE) v 4.03. Response rates and survival outcomes were analyzed.

Results

150 patients received 687 cycles of BEP chemotherapy after surgery. 112 patients had stage I/II (74.7%) disease while 38 patients had stage III/IV (25.3%) disease. Ninety-three (62.2%) patients had grade 3-4 hematologic toxicity and 16 patients (10.7%) had grade 3-4 non-hematologic toxicity. Twenty-five patients (16.7%) suffered from neutropenic fever. Dose reduction due to toxicity was required in 7 patients (4.7%), and schedule delay due to toxicity was required in 7 patients (4.7%). Bleomycin was deleted during chemotherapy due to toxicity in 22 patients (14.7%). Cisplatin was replaced with carboplatin during chemotherapy due to toxicity in five patients (3.3%). 141 patients (94.0%) achieved complete response; one patient showed a partial response, three patients had stable disease, and eight patients experienced progression of disease with BEP chemotherapy. 14 patients had recurrent disease, and four patients died of disease. Overall survival rate was 94.7%.

Conclusion

BEP chemotherapy was highly effective and showed acceptable toxicity profile for patients with MOGCT.
OVARIAN CANCER

ESGO7-0669

FOUR RISK OF MALIGNANCY INDICES IN EVALUATION BETWEEN BORDERLINE AND MALIGNANT PELVIC MASSES

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Aims

The purpose of this study was to evaluate the ability of the four malignancy risk indices for discrimination of a borderline mass from a malignant pelvic mass.

Method

This is a retrospective study of 339 women admitted to the Department of Obstetrics and Gynecology of Donga University College of Medicine, between January, 2000, and December, 2015, for surgical exploration of a pelvic mass (borderline = 115, malignant = 224). Sensitivity, specificity, positive (PPV) and negative predictive values (NPV), and diagnostic accuracy of four RMIs (RMI 1, RMI 2, RMI 3, and RMI 4) were obtained for diagnosis of a malignant pelvic mass.

Results

Results of receiver operating characteristic (ROC) analysis of RMI 1-4 showed values of the area under the curve of 0.792, 0.791, 0.785, and 0.785, respectively. The achievement of RMI 1, RMI 2, RMI 3, and RMI 4 at different cutoff levels are 235, 340, 235, and 630, respectively. The four RMIs showed no statistical difference (p > 0.05).

Conclusion

Four RMIs (RMI 1, RMI 2, RMI 3, and RMI 4) were found to be statistically significant diagnostic criteria, which can discriminate between borderline and malignant pelvic masses.
E. Pavlik

University of Kentucky, Obstetrics & Gynecology, Lexington, USA

Aims

The unique intricacies of ovarian cancer screening and the associated perspectives of each screening method are presented as ten considerations.

Method

The basis for these ten considerations are empirically based, arising from observations in the Kentucky Ovarian Screening Program that includes 46000+ participants in over 20 years of operation. These considerations are presented in depth along with illustrations of how they impact the outcomes of ovarian cancer screening.

Results

Included in the considerations presented are: (1) Deciding on the number of individuals to be screened with the intent of identifying incident cancers; (2) Anticipating screening group reductions due to death; (3) Deciding on the duration and frequency of screening; (4) Deciding on an appropriate follow-up period after screening; (5) Deciding on time to surgery when malignancy is suspected; (6) Deciding on how screen-detected ovarian cancers are treated and by whom; (7) Deciding on how to treat the data of enrolled participants; (8) Deciding on the most appropriate way to assign disease-specific death; (9) Deciding how to avoid biases caused by enrollments that attract participants with late-stage disease who are either symptomatic or disposed by factors that are genetic, environmental or social; and (10) Deciding whether the screening tool or a screening
Conclusion

The considerations presented provide explanations of effects that have an important bearing on interpreting ovarian screening outcomes.
OVARIAN CANCER

ESGO7-0541

OVARIAN CANCER INCIDENCE CORRECTED FOR OOPHORECTOMY
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Aims

Current reported incidence rates for ovarian cancer may significantly underestimate the true rate because of the inclusion of women in the calculations who are not at risk for ovarian cancer due to prior benign salpingo-oophorectomy (SO). We have considered prior SO to influence risk estimates for ovarian cancer and here report the effect of SO on population risk.

Method

Kentucky Health Claims Data, International Classification of Disease 9 (ICD-9) codes, Current Procedure Terminology (CPT) codes, and Kentucky Behavioral Risk Factor Surveillance System (BRFSS) Data were used to identify women who have undergone SO in Kentucky, and these women were removed from the at-risk pool in order to re-assess incidence rates. All age-adjusted rates were calculated based on the standard 2000 US population. The protective effect of SO on the population was determined on an annual basis for ages 5–80+ using data from the years 2009–2013. Analyses were done using SAS Statistical software version 9.4. and for programs calculating the complete prevalence rates from the KHCD data. Statistical tests were two sided with a p-value ≤ 0.05 for statistical significance.

Results

The corrected age-adjusted rates of ovarian cancer that considered SO ranged from 33% to 67% higher than age-adjusted rates from the standard population. Correction of incidence rates for ovarian cancer by accounting for women with prior SO gives a better understanding of risk for this disease faced by women.

Conclusion

The calculated rates of ovarian cancer were substantially higher when SO was taken into consideration than those obtained from estimates for the standard population.
OVARian cancer

ESGO7-0559

PAIN Persisting AFTER THE RESOLUTION OF OVARIAN ABNORMALITIES

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Aims

To determine whether pain continues when ovarian abnormalities spontaneously resolve.

Method

Ovarian abnormalities were identified in a population of 44,475 individuals that had received 270,302 ovarian screens by transvaginal ultrasonography. Participants reported the presence or absence of abdominal pain using a detailed questionnaire (CLINICAL OBSTETRICS GYNECOLOGY 55,36–42, (2012). Chi square testing was used for all comparisons.

Results

8067 women with 20303 ovarian abnormalities completed questionnaires with 2737 reporting symptoms of abdominal pain. Ovarian abnormalities included: cysts (n=5033), cysts with septations (n=1931), cysts with solid areas (n=900) or solid ovarian structures (n=203). Abnormalities were followed through 31627 sonographic exams (average=3.9 exams). The majority of women (96.2%, 2634/2737) reported resolution of pain when the ovarian abnormality spontaneously resolved. There were no differences in frequency of pain with regard to type of ovarian abnormality (P=.28153, table). For those reporting pain versus no pain after resolution, there were differences observed in BMI (P=.056) and volume of the abnormality prior to resolution (P<.0001), but not patient age (P=.19730). After the ovarian abnormality was no longer visualized, women were less likely to report pain with BMI <25 or when the abnormality had been small (<20mL).

<table>
<thead>
<tr>
<th>Type of Structure</th>
<th>Cyst</th>
<th>Cyst &amp; Septation</th>
<th>Cyst &amp; Solid</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>5033</td>
<td>1931</td>
<td>900</td>
<td>203</td>
</tr>
<tr>
<td>Scans, n=</td>
<td>21954</td>
<td>5907</td>
<td>3027</td>
<td>739</td>
</tr>
<tr>
<td>Resolved Structures, n=</td>
<td>1791</td>
<td>762</td>
<td>302</td>
<td>62</td>
</tr>
<tr>
<td>Reported pain after resolution</td>
<td>65 (3.6%)</td>
<td>30 (3.9%)</td>
<td>5 (1.7%)</td>
<td>3 (4.8%)</td>
</tr>
</tbody>
</table>

Conclusion

One third of women monitored by serial transvaginal sonography will have pain associated with their ovarian abnormality. When the abnormality is followed to resolution, associated abdominal pain will disappear in 96% of cases. The frequency of pain resolution does not appear to be related to the type of ovarian cyst, but may be associated with the volume of the ovarian abnormality.

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OVARIAN CANCER

ESGO7-0575

ULTRASOUND SURVEILLANCE OF OVARIAN ABNORMALITIES CHARACTERIZED BY STABLE MORPHOLOGY OR MORPHOLOGIES CHANGING BETWEEN CYSTS, SEPTATED CYSTS, CYSTS WITH SOLID STRUCTURE OR SOLID STRUCTURES

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¹University of Kentucky, Obstetrics & Gynecology, Lexington, USA

Aims

To determine time to resolution of ovarian abnormalities that demonstrated either stable or changing morphologies.

Method

44,475 individuals received 270,302 ovarian screens by transvaginal ultrasonography. Ovarian abnormalities that demonstrated changes in morphology and resolved (n=1117) were compared to ovarian abnormalities with stable morphology that resolved (n=1800). Significance was determined by Chi square and t-testing.

Results

1117 resolving ovarian abnormalities, characterized by changes in structure, were examined: (cysts=503, cysts with septation(s)=396, cysts with solid areas=180, solid abnormalities=38). Resolving abnormalities received a total of 5658 scans by transvaginal sonography for an averaged 5.1 scans, see table. Resolution times of abnormalities with changing morphology paralleled those with a stable morphology (shown in parenthesis). Half of the cysts & cysts with septations that changed morphology resolved in ~24 months while over 75% resolved in 4+ years and the remainder took more than 5 years. Half of the unstable cysts with solid areas resolved in 8 months. Half of the unstable solid structures resolved in 18 months. Resolution time increased by 10 months with cysts and cysts with septations that had changes in morphology compared to those with unchanging morphology.

<table>
<thead>
<tr>
<th>Type of Structure</th>
<th>Cyst</th>
<th>Cyst &amp; Septation</th>
<th>Cyst &amp; Solid</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women, n=</td>
<td>292</td>
<td>215</td>
<td>104</td>
<td>21</td>
</tr>
<tr>
<td>Scans, n=</td>
<td>2643</td>
<td>1937</td>
<td>882</td>
<td>196</td>
</tr>
<tr>
<td>Structures, n =</td>
<td>503</td>
<td>396</td>
<td>180</td>
<td>38</td>
</tr>
<tr>
<td>Average Scan Number</td>
<td>5.3</td>
<td>4.9</td>
<td>1.2</td>
<td>5.2</td>
</tr>
<tr>
<td>Mean ± SEM, months</td>
<td>36.4±1.7*</td>
<td>33.6±1.8*</td>
<td>25.3±1.4**</td>
<td>27.8±5.3**</td>
</tr>
<tr>
<td>(Unchanging structure)</td>
<td>(31.0±0.97)</td>
<td>(26.5±1.6)</td>
<td>(23±2.7)</td>
<td>(26.4±7.2)</td>
</tr>
<tr>
<td>Range (months)</td>
<td>0.9-234</td>
<td>0.6-219</td>
<td>0.4-167</td>
<td>0.7-132</td>
</tr>
<tr>
<td>Median (months)</td>
<td>23.8</td>
<td>22.3</td>
<td>7.7</td>
<td>16.8</td>
</tr>
<tr>
<td>75th percentile</td>
<td>49.6</td>
<td>42.3</td>
<td>16</td>
<td>30.4</td>
</tr>
<tr>
<td>90th percentile</td>
<td>85.4</td>
<td>76.6</td>
<td>39.2</td>
<td>94.8</td>
</tr>
</tbody>
</table>

* P<0.05; **not significantly different changing vs unchanging.

Conclusion

When the morphology of an ovarian abnormality is changing, time to resolution increases for cysts and cysts with septations. Half will resolve within 24 months regardless of complexity. Half of the remainder will resolve under a four year surveillance plan. The remainder will persist for more than 5 years before resolving and should be subject to continuing surveillance.
OVARIAN CANCER

ESGO7-0811

UTERINE LAVAGE: AN OFFICE PROCEDURE WITH A PROMISING POTENTIAL FOR DIAGNOSING EARLY-STAGE OVARIAN CANCER THROUGH LIQUID BIOPSY

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2Sheba medical center, Oncology, Ramat Gan, Israel
3Sheba medical center, The Suzanne Levy-Gertner Oncogenetics Unit, Ramat Gan, Israel

Aims

To date, no screening strategy exists for early diagnosis of high-grade ovarian carcinomas (HGOC). In-line with the increasing evidence that HGOC originate from the fallopian tube, it is potentially possible to obtain tumor cells or tumor-associated biological molecules from a liquid-biopsy through uterine lavage. We aimed to develop the technique into a feasible test for early-HGOC detection in high-risk populations.

Method

Eligible patients were BRCA-mutation non-pregnant carriers, who have not undergone risk-reducing salpingo-oophorectomy. An intrauterine insemination-catheter (InsemiTM-Cath, 3.5Frq13cm, Cook Inc. USA) was inserted into the cervical canals during routine office-visit. No anesthetic or analgesic was administered and no cervical dilatation/manipulation was used. Ten mL saline were infused into the uterine cavity and immediately retrieved. The liquid was analyzed for proteins, DNA and RNA biomarkers. Proteomic-profiling of microvesicles to characterize early “cancer signature” in biopsies are being developed.

Results

To date, we performed the lavage procedure on 18 patients who provided informed consent, some repeatedly during two consecutive follow-up visits. Time consumption was 1-2 minutes. Most patients reported no-or-minimal discomfort or pain. One lavage procedure was stopped due to pain, and two patients reported mild spontaneously-resolving abdominal pain. In all cases, enough fluid (average 4-5ml) was retrieved for further analysis, enabling the characterization of 2500 different proteins in a sample and providing enough DNA and mRNA to allow PCR and next-generation sequencing.

Conclusion

Our uterine lavage technique is an easy, low-burden, minimal-complication office-procedure, providing a potential method for obtaining liquid-biopsy for early detection of HGOC.
OVARIAN CANCER

ESGO7-0883

BEVACIZUMAB- CONTAINING FIRST LINE CHEMOTHERAPY MIGHT REDUCE PROGRESSION-FREE SURVIVAL AFTER RECURRENCE IN ADVANCED EPITHELIAL OVARIAN CANCER

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²Meir Medical Center, Gynecologic Oncology, Kfar-Saba, Israel

Aims

Recently, the VEGF inhibitor Bevacizumab was added to the standard front-line therapy of high-grade epithelial ovarian carcinoma (HGEOC). Large randomized trials have shown Bevacizumab benefit, with both progression-free and overall survival. Yet, it was shown that tumor vessels can rapidly regrow after cessation of Bevacizumab, and tumor burden can then increase. We aimed to describe changes in progression free survival after recurrence (PFS2) in advanced stage HGEOC patients treated with and without Bevacizumab at first line.

Method

Included in this cohort study were all consecutive HGEOC patients who have had a debulking surgery between 2011-2015, with either stage 4 or stage IIIC with any residual disease. Sixty seven patients were treated with carboplatin-paclitaxel. Fourty-one patients who were diagnosed after 2013 were treated with carboplatin-paclitaxel-Bevacizumab as it was then approved in our country. Their clinical data was compared.

Results

The groups did not differ in either age at diagnosis, stage, rate of BRCA-mutation carriers or neoadjuvant chemotherapy use. Median follow up was 29 and 32 months in the patients treated with and without Bevacizumab respectively. Progression free survival (PFS) was longer in the Bevacizumab group (14.5 Vs. 10.5 months). Although response rate to second line was comparable, PFS2 in those who received Bevacizumab at first line was significantly shorter (5.9 vs.8.8 months).

Conclusion

According to our cohort, bevacizumab prolongs progression-free survival after first line in stages IIIC with residual disease and stage 4 HGEOC patients, yet it might interfere with PFS2.
OVARIAN CANCER

ESGO7-0137

IMPACT OF MAGE-A10 IMMUNOEXPRESSION ON EFFICACY OF FIRST-LINE PLATINUM-BASED CHEMOTHERAPY IN ADVANCED OVARIAN CANCER

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3Clinical Hospital Centre Split, Department of Pathology, Split, Croatia
4KBC Zagreb, Department of Oncology, Zagreb, Croatia
5Institute for Surgical Research and Hospital Management, Department of Biomedicine, Basel, Switzerland

Aims

In search for predictive biomarkers we have analyzed correlation between immunoexpression of MAGE-A10 (melanoma-associated antigen) and efficacy of first-line platinum-based chemotherapy in patients with advanced-stage high-grade serous ovarian carcinoma.

Method

The expression of MAGE-A10 was analyzed immunohistochemically in formalin-fixed, paraffin-embedded samples from 93 patients with advanced-stage high-grade serous ovarian cancer treated at our institutions between January 1996 and December 2013. The MAGE-A10 was related to response to platinum-based chemotherapy, platinum sensitivity, patients progression free survival (PFS) and overall survival (OS).

Results

Negative MAGE-A10 expression predict significantly better response to first line platinum-based chemotherapy ($p=0.005$) and platinum sensitivity ($p<0.001$). Moreover, positive MAGE-A10 expression predict significantly poorer PFS ($p<0.001$) and OS ($p<0.001$). The multivariate analysis for OS showed that negative MAGE-A10 expression is predictor to platinum sensitivity ($p=0.005$) and longer OS ($p<0.001$).

Conclusion

Negative MAGE-A10 expression seems to be a predictor of better response to first-line platinum-based chemotherapy, platinum sensitivity and favorable clinical outcome in patients with advanced-stage serous ovarian cancer. Larger retrospective and prospective confirmation of this finding is warranted.

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OVARIAN CANCER

ESGO7-0061

SURGICAL CYTOREDUCTION OF THE UPPER ABDOMEN IN GYNAECOLOGICAL CANCER: AN EXPERIENCE OF ADDITIONAL SKILL ACQUISITION BY THE GYNAECOLOGY ONCOLOGY TEAM FROM COLLABORATION WITH HEPATOBIILIARY SURGEONS

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Aims

A recent survey in UK reported clinical equipoise with regards to ultraradical cytoreductive surgery and nationwide inequalities in available resources and surgical training. Upper-abdominal debulking procedures often require skills of, or learnt from hepatobiliary (HBP) surgeons. We compare surgical outcomes in two cohorts: GO and HPB operating together (combined) and the GO team operating without the direct input of the HPB team (independent).

Method

Consecutive patients who had upper abdominal procedure for cytoreduction for advanced stage ovarian cancer from 01/2010 till 11/2015 were retrospectively analysed; 47 patients were included in the combined cohort and 19 in the independent cohort. Primary endpoints were R0 resection rate and 30-day post-operative complications.

Results

Most patients (95%) had high grade serous ovarian carcinoma. Twenty four patients (36%) had primary debulking surgery. Median complexity procedure score was 7 (IQR: 6-8) and median of 3.5 organs (IQR: 3-5) were resected. R0 resection was achieved in 88%. Major complication rate was 18%, including one perioperative death. The median length of stay was 7 days (IQR: 6-11). The two cohorts displayed similar FIGO stage, Peritoneal Carcinomatosis Index, and complexity procedure score; liver resections were performed only in the combined surgery cohort. Comparative analysis of the two cohorts showed no significant differences in terms of R0 resection (85% v 95%; p=0.42) and complication rate (23% v 5.3%; p=0.15).

Conclusion

Following skill acquisition by collaboration with HBP surgeons, upper abdominal surgery can be performed safely by GO surgeons with acceptable perioperative morbidity and oncological outcome.
RECOMMENDATION FOR BENCHMARKING AND QUALITY STANDARDS IN OVARIAN CANCER.

Aims

Combined surgery and platinum-based chemotherapy is the internationally agreed standard therapy for advanced ovarian cancer (AOC). However, international cancer registry datasets demonstrate a significant proportion of patients do not receive both or either therapies. Our objective was to evaluate the effect of total patient cohort data (‘Denominator’) on median overall survival (OS) and determine how frequently this was reported in literature.

Method

We retrospectively reviewed OS outcomes for 593 patients diagnosed with AOC for 77 months at a regional cancer centre. Patients were stratified into five progressively overlapping categories based on treatment received: Primary debulking surgery (PDS), PDS or Interval debulking (IDS), all surgery and those considered for IDS, patients receiving any treatment and total patient cohort. A systematic search of literature was performed.

Results

Median OS progressively decreased from 54.5 months in patients receiving PDS, 38.7 months in the PDS+IDS group, 35.4 months in the PDS/IDS + patients considered for IDS, 33.3 months in patients receiving any treatment and 30.2 months in the total patient cohort. OS in the surgically treated group was statistically significantly different from the OS in the total patient cohort (Denominator)(p=0.000353). Denominator descriptors were identified in 11% of studies.

Conclusion

Denominator data is critical to understanding selection and OS in AOC. Published outcomes of selected cohorts should routinely incorporate outcomes for all women managed within the reporting Centre. This is essential for benchmarking and quality assurance in gynaecological cancer and should be an integral part of any publication on outcomes from AOC.
OVARIAN CANCER

ESGO7-0805

GENE CO-EXPRESSIOAN NETWORK ANALYSIS REVEALS NECTIN 4 AS NEW THERAPEUTIC TARGET FOR A POOR-PROGNOSIS SUBTYPE OF OVARIAN CANCER

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Aims

High grade serous ovarian cancer (HGSOC) is comprised of clinically and molecularly distinct subtypes, characterized by peritoneal tumor spread—miliary versus non-miliary—different origin—fallopian tube secretory versus ovarian epithelial cells—and different outcome. Patients with miliary spread of fallopian origin with unfavorable outcome would benefit most from new targeted therapies.

Method

We constructed a planar-scale free small world-co-association gene network from The Cancer Genome Atlas samples (using “Tool for Inferring Networks of GEnes” and R-package “Multiscale Clustering of Geometrical Network”). Sub-networks with corresponding hub-genes were identified and searched for significant associations to peritoneal tumor spread.

Results

A sub-network significantly up-regulated in miliary tumors was identified with Nectin 4 as hub-gene and positively validated for its survival impact via gene signature in six cohorts (Fig. 1). Ovarian cancer cell lines were also characterized according spread type, origin, and Nectin 4 gene expression, revealing each three HGSOC cell lines of either miliary characteristic and tubal origin with high versus non-miliary characteristic and ovarian origin with low (36-times) Nectin 4 expression, useful for in vitro and murine cancer model experiments.

<table>
<thead>
<tr>
<th>Sub-network</th>
<th>Hazard Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.MTAB.386</td>
<td>1.14 [0.67, 1.96]</td>
</tr>
<tr>
<td>GSE26712</td>
<td>1.33 [0.68, 2.03]</td>
</tr>
<tr>
<td>GSE49997</td>
<td>1.40 [0.64, 3.04]</td>
</tr>
<tr>
<td>GSE9891</td>
<td>1.13 [0.66, 1.94]</td>
</tr>
<tr>
<td>TCGA</td>
<td>1.51 [1.11, 2.05]</td>
</tr>
<tr>
<td>TCGA.RNASEqV2</td>
<td>1.19 [0.79, 1.80]</td>
</tr>
<tr>
<td>Overall</td>
<td>1.32 [1.10, 1.58]</td>
</tr>
</tbody>
</table>

Conclusion

An anti-Nectin 4 antibody with a linked antineoplastic drug (monomethyl auristatin), Enfortumab Vedotin, already used in trials, would render a perfect candidate for a targeted therapy for patients with metastatic HGSOC of the poor-prognosis miliary tumor spread type.
Aims

We analysed PARP immunohistochemistry results and clinical data of 65 advanced (stage III and IV) ovarian cancer cases to clarify prognostic relevance of PARP expression.

Method

PARP protein expression was determined by immunostaining using a Leica Bond MAX Immunostainer (Leica Microsystems, Wetzlar, Germany) with rabbit polyclonal anti-PARP antibody (ab6079330, Abcam, Cambridge, UK). Intensity and distribution of immunostaining was assessed by light microscopy (Leica DM2500 microscope, DFC 420 camera and Leica Application Suite V3 software; Leica) and evaluated with a four grade (0-3+) system. Mean progression-free survivals were generated for each groups of PARP expression.

Results

Thirty-five cases (53.8%) were chemotherapy naive and 27 of them (77%) showed no PARP expression. PARP expression among 30 cases following at least one prior line of chemotherapy was negative in 20 cases (67%). Mean PFS after first-line chemotherapy was 17.5 months. PFS of PARP 0, 1+, 2+ and 3+ cases were 18.4, 20.3, 7.8 and 7.4 months, respectively. Mean PFS after second-line chemotherapy was 11.8 months. Among PARP 0, 1+, 2+ and 3+ cases PFSs were 10.4, 12.8, 8.7 and 22.6 months, respectively. Restricting analysis to the population dichotomized by “any” or “no” PARP expression resulted in a significant difference in PFS achieved by first-line taxol-carboplatin chemotherapy (9.9 vs 19.2 months, respectively, p=0.0067). PFS achieved by the second-line chemotherapy also showed survival advantage for PARP negative cases (22.7 vs 13.8 months), however this difference was not statistically significant (p=0.4770).

Conclusion

PARP expression assessed by immunohistochemistry may predict platinum-sensitivity in ovarian cancer.
OVARIAN CANCER

ESGO7-0839

OREO PHASE IIIB TRIAL: OLAPARIB MAINTENANCE RETREATMENT IN PLATINUM-SENSITIVE, RELAPSED EPITHELIAL OVARIAN CANCER PATIENTS PREVIOUSLY TREATED WITH A PARP INHIBITOR (PARPI)


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13University of Leuven and BGOG, Gynaecological Oncology, Leuven, Belgium

Aims

Maintenance monotherapy with the PARPi olaparib (Lynparza™) significantly improves PFS in patients with platinum-sensitive relapsed ovarian cancer receiving olaparib either in capsule formulation (Ledermann et al NEJM 2012) or tablet formulation (Pujade-Lauraine et al SGO 2017). Patients with epithelial ovarian cancer (EOC) typically respond to multiple lines of platinum-based chemotherapy. OReO/ENGOT Ov-38 (NCT03106987; D0816C00014) will evaluate whether patients with EOC and platinum-sensitive disease who have previously received PARPi therapy can derive clinical benefit with olaparib maintenance retreatment.

Method

OReO/ENGOT Ov-38 is a randomized, double-blind, placebo-controlled study recruiting patients with non-mucinous EOC who have received maintenance PARPi treatment (Table 1) and had at least a partial response to their most recent platinum-based chemotherapy. Patients will be randomized 2:1 to olaparib (300 mg twice daily) or placebo (Figure 1). Primary endpoint is investigator-assessed PFS (RECIST v1.1). Secondary endpoints include TTP by GCIG criteria (time to the earliest of disease progression by RECIST or CA-125, or death); TDT; TSST; TSST; HRQoL using FACT-O; safety, including adverse events of special interest (potential risks of myelodysplastic syndrome/acute myeloid leukemia, other new primary malignancy, pneumonitis). Target for enrolment: ~416 patients.
Results
N/A

Conclusion
N/A
AHIF, A HYPOXIA-INDUCED LONG NONCODING RNA, ENHANCES HYPOXIA EPITHELIAL OVARIAN CANCER PROLIFERATION BY INHIBITING APOPTOSIS

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Aims

Hypoxia is a common characteristic of solid tumor, and is a key stress that triggers apoptosis in many cancer types, including epithelial ovarian cancer (EOC). Previous studies discovered a hypoxia-upregulated long non-coding RNA (lncRNA), named “a natural antisense transcript of hypoxia-inducible factor 1 (aHIF)” in some tumors. However, the contributions of aHIF to EOC remain unknown. In this study, we aimed to investigate the expression, function and underlying mechanisms of aHIF under hypoxia conditions in EOC progression.

Method

Expression of aHIF in EOC tissues and its correlation with clinicopathological factors were examined. A series of in vitro and in vivo assays were performed to determine the function and mechanism of aHIF in hypoxia-induced EOC progression.

Results

Clinically, aHIF was overexpressed in EOC tissues relative to normal controls, and the overexpression correlated with advanced International Federation of Gynecologists and Obstetricians stage and high histological grade. In vitro, aHIF was upregulated by hypoxia in EOC cells. Under hypoxia conditions, aHIF knockdown inhibited cell proliferation and accelerated apoptosis. In vivo, aHIF knockdown inhibited tumorigenesis of EOC cells. Mechanically, Dysregulation of mitochondrial apoptosis pathway-associated genes including Caspase-9, Caspase-7, Bax and Bcl-2 by aHIF may partially explain aHIF-induced EOC progression under hypoxia conditions.

Conclusion

Our data offers convincing evidence for the first time that aHIF could enhance EOC proliferation by inhibiting apoptosis through aHIF-mitochondrial apoptosis pathway under hypoxia conditions. These results can help to understand hypoxia-induced EOC progression from the perspective of lncRNA.
ELNCRNA1, A LONG NONCODING RNA TRANSCRIPTIONALLY INDUCED BY OESTROGEN, PROMOTES EPITHELIAL OVARIAN CANCER CELL PROLIFERATION

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Aims

We previously identified a novel oestrogen (E2)-upregulated IncRNA, TC0101441, via microarray analysis. However, the detailed mechanism by which E2 upregulates TC0101441 and the role of TC0101441 in epithelial ovarian cancer (EOC) progression have not been elucidated. In the present study, we further analysed TC0101441, which we designated oestrogen-induced long non-coding RNA-1 (ElncRNA1), and investigate the function and underlying mechanisms of ElncRNA1 in E2-dependant EOC progression.

Method

A serial of assays were performed to determine the mechanism by which E2 upregulates ElncRNA1. ElncRNA1 expression in EOC tissues was examined. In vitro and in vivo functional assays were performed to elucidate the role of ElncRNA1 in E2-dependant EOC progression.

Results

E2 transcriptionally upregulates ElncRNA1 through the oestrogen receptor α (ERα)-oestrogen response element (ERE) pathway using RNA stability assays, bioinformatics-based searches for ERE binding sites, chromatin immunoprecipitation (ChIP) assays and dual luciferase reporter assays. Clinically, ElncRNA1 levels are significantly higher in EOC tissues than in normal ovarian surface epithelium. In vitro and in vivo loss-of-function assays revealed that ElncRNA1 promotes EOC cell proliferation. This pro-proliferation effect of ElncRNA1 was partially mediated by the regulation of Cyclin D1/CDK4/CDK6 pathway.

Conclusion

These findings provide the first evidence that E2 upregulates ElncRNA1 at the transcriptional level through the ERα-ERE pathway and that this novel E2-upregulated IncRNA has an oncogenic role in EOC growth. The placement of ElncRNA1 in the E2-ERα-ERE-Cyclin D1/CDK4/6 signalling pathway may provide greater insight into the effects of oestrogen on EOC progression from the perspective of IncRNA.
C-REACTIVE PROTEIN AS A PREOPERATIVE DIFFERENTIAL DIAGNOSTIC MARKER IN PATIENTS WITH ADNEXAL MASSES

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Aims

Various serum tumor markers have been investigated as a preoperative differential diagnostic marker in women with adnexal masses. Serum C-reactive protein (CRP) is a widely used biomarker for inflammatory processes and was shown to be a valid prognostic biomarker in patients with epithelial ovarian cancer (EOC).

Method

CRP serum levels of 3234 patients with adnexal masses and subsequent surgery were investigated (patients with benign ovarian tumors: n= 2719; borderline tumor of the ovary [BTO]: n = 125; EOC: n = 390).

Results

Mean (standard deviation) serum CRP in patients with benign ovarian tumors, BTO, and EOC were 0.9 (2.5) mg/dL, 1.2 (2.5) mg/dL, and 3.7 (4.7) mg/dL, respectively (p < 0.001). Sensitivity and specificity for the combination of CRP and CA 125 was 80.1% and 90.8%, respectively. NPV (negative predictive value) and PPV (positive predictive value) was 92.2% and 76.9%, respectively. In univariate and multivariate analysis, CRP serum levels were independently associated with the diagnosis of BTO and EOC (HR 6.7 [5.2-8.5], p<0.001 and HR 2.2 [1.4-3.3], p < 0.001). The combination of CRP and CA-125 serum levels resulted in number needed to treat (NNT) of 1.5 (suspicious ultrasound and normal CRP and CA-125 serum levels compared to suspicious ultrasound and elevated CRP and CA-125 serum levels) to detect one additional case of EOC/BTO.

Conclusion

CRP serum levels independently predicted the presence of BTO and EOC in patients with adnexal masses. Particularly in combination with CA-125, CRP serum levels seem to be of additional value in the preoperative differential diagnosis of adnexal masses.
PERITONEAL CARCINOMATOSIS FROM OVARIAN CANCER: COMPARISON BETWEEN EARLY POST-OPERATIVE INTRAPERITONEAL CHEMOTHERAPY (EPIC) AND HYPERThERMIC INTRAPERITONEAL CHEMOTHERAPY (HIPEC)

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Aims

Compare results between HIPEC and EPIC in our hospital.

Method

We analyzed 19 patients diagnosed with IIIC-IV ovarian cancer between 2012 and 2015.

Results

10 patients received EPIC (52.6%) with:

Day 1: Intravenous paclitaxel. Day 2: Cisplatin intraperitoneal. Day 8: Intraperitoneal paclitaxel. Every 21 days, 6 cycles or 4 cycles if they received neoadjuvant chemotherapy.

3 patients completed treatment (27.3%), 2 are still under treatment (18.2%) and 6 didn’t complete treatment (54.5%), 4 were non-tolerant (36.1%) and 2 were anaphylactic (18.2%). The cycles average were 3 ± 1.7 (1-6).

9 patients received HIPEC (42.1%), 1 (5.3%) after surgery, EPIC and relapse. 3 (33.3%) received cisplatino and adriamicina. 6 (66.7%) cisplatino and doxorribicina. 8 EPIC patients and 7 of HIPEC (77.8%) received neoadjuvant chemotherapy (72.7%). All patients underwent optimal surgery.

The rate of postoperative complications was higher in HIPEC group (44.4% (4/9) versus 36.4% (4/10)), for transfusion 77.8%(7/9) versus 54.5%(6/10)) and for hospital stay (8.56 ± 2.8 (2-12) versus 6.64 ± 4.6 (3-17)). 2 patients relapsed in EPIC group (18.1%) and 5 in HIPEC group (55.6%). 3 patients died in HIPEC group (33.3%).

Conclusion

We found higher rates of post-surgical complications and hospital stay in HIPEC group.

In EPIC group, 54.5% of the patients couldn’t complete treatment.

We found higher recurrence rate in HIPEC group (5.6% versus 18.2%) and mortality (33.3% versus 0%).

Despite the poor tolerance, EPIC presents a lower relapse and mortality rate. However it is necessary wait more time to evaluate the patients evolution because they present less follow-up time.
WHAT ARE THE EXPECTATIONS AND PREFERENCES OF PATIENTS WITH OVARIAN CANCER TO A MAINTENANCE THERAPY? A NOGGO/ENGOT-OV22 SURVEY (EXPRESSION IV) IN 2101 PATIENTS


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11Tampere University Hospital, Department of Obstetrics and Gynecology, Tampere, Finland

Aims

The primary aim of the survey was to investigate the expectations of European patients about maintenance therapy.

Method

A 24-item questionnaire was provided to ovarian cancer patients via internet or paper-version in 9 European countries (Austria, Belgium, France, Germany, Italy, Romania, Slovenia, Finland and Turkey). Data was captured about demographics, tumor stage and therapy after first line and/or recurrent disease and particularly about preferences of administration and expectations concerning a maintenance therapy.

Results

2101 questionnaires were evaluated. 96% of the patients had a surgery and 93% received a chemotherapy. 38% of respondents had recurrent disease. 45% patients had already heard of and 29% received maintenance therapy. 85% of the patients heard about maintenance therapy from the doctor and 10% from other patients, 9% read about it on the internet. The four most disturbing side effects of maintenance therapy were polyneuropathy (37%), nausea (36%), loss of hair (34%) and vomiting (34%). The main objective of maintenance treatment was to increase the chances of cure (73%), followed by an improvement in the quality of life (47%) and the delay of tumor growth (37%). Many patients are willing to take a maintenance therapy until tumor progression (38%). 39% would prefer an oral administration. When we performed cross country sub-analysis we observed no significant differences of expectations to a maintenance therapy.

Conclusion

There is an urgent need for more information regarding side effects and treatment goals of maintenance therapy to avoid misunderstandings by patients. This information may increase patient’s compliance for maintenance therapy in ovarian cancer.
THE ROLE OF THE PERITONEAL CANCER INDEX IN SURGERY FOR ADVANCED OVARIAN CANCER

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Aims

The Peritoneal Cancer Index (PCI) is integrated in the ESGO Ovarian Cancer Operative Report as it describes peritoneal tumor distribution and is a predictor of residual tumor (RT).

We hypothesized that the qualitative anatomical distribution, and not the sum of PCI, predicts RT.

Method

Prospective data from 213 consecutive patients with epithelial ovarian cancer FIGO IIIB-IV undergoing upfront surgery with maximal cytoreductive effort from the Kliniken Essen-Mitte were analyzed with regards to pre-, peri-, and postoperative factors.

Results

Total PCI was significantly related to CA-125 and albumin levels, ascites, FIGO stage, surgical complexity score, duration of surgery, blood loss and number of transfusions and was predictive of RT (P<0.0001).

Complete resection rates according to PCI scores were: PCI 1-5:100%, PCI 6-10:85%, PCI 11-15:70%, PCI 16-20:42%, PCI 21-25:47%, PCI>25:47%. With a cut-off of 15, ROC curve analysis for RT provided an AUC of 0.75 with a sensitivity of 74% and a specificity of 67%.

There was RT in 82 patients (38%). The only limiting intraperitoneal areas were carcinosis in the liver hilus, on the small bowel or in the mesenteric root corresponding to PCI regions 2 and 9-12 respectively (N=68 (83%)).

Seven patients had only extra-abdominal, visceral or retroperitoneal metastases not evaluable with PCI. Conclusion

The anatomical locations and not the sum of PCI predict complete resection.

Evaluating the liver hilus and the small bowel gives adequate information of possible RT in most patients. Therefore, PCI seems of questionable clinical relevance in ovarian cancer surgery.
OVARIAN CANCER

ESGO7-0309

THE PERITONEAL CANCER INDEX (PCI): SELECTED REGIONS - AND NOT THE TOTAL PCI - ARE PREDICTIVE OF SURVIVAL IN ADVANCED OVARIAN CANCER
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Aims

The peritoneal cancer index (PCI) describes the peritoneal cancer spread in 13 peritoneal areas (0-12) and has been shown to correlate with complete resection (CR) rates in advanced epithelial ovarian cancer (AOC).

We hypothesized that only certain PCI-areas were predictors of complete resection.

In this study we critically evaluate the usefulness of the PCI as a predictor of complete resection (CR) and median overall survival (OS) (months) in AOC.

Method

Prospective preoperative, surgical and survival data from 878 consecutive cases of AOC was obtained from the Nationwide Danish Gynecological Cancer Database.

Results

CR rate was 57%. Patients with CR had significantly longer OS compared to patients without CR: 62.6 (95%Confidence Interval (CI): 53.7-71.5) vs. 23.9 (95%CI:19.1-28.6); p<0.0001.

Patients with PCI>median (13) had poorer OS compared to patients with PCI ≤ median: 26.7 (95%CI: 23.7-28.9) vs. 56.8 (95%CI: 49.5-64.2); p<0.0001.

In COX regression, TotalPCI (HR:1.028(95%CI:1.017-1.039)), Tumor Rest (HR:1.64(95%CI:1.29-2.08)), Performance Status (HR:1.31(95%CI:1.15-1.50)), Age (HR:1.02(95%CI:1.01-1.03)) and FIGO stage (HR:1.05(95%CI:1.02-1.09)) were significant cofactors for survival.

In 88% of the cases, the primary limiting factor for CR was carcinosis on the small bowel/mesenterium, stomach or hepatoduodenal ligament, corresponding to areas 2 and 9-12 in PCI (PCI 2+9-12).

ROC curve AUC for the total PCI was 81%. Selecting only PCI 2+9-12, AUC increased to 83%. In COX regression, PCI 2+9-12, had a higher HR than TotalPCI (HR:1.061(95%CI: 1.03-1.09).

Conclusion

Liver hilus and small bowel carcinosis are stronger predictors of CR and survival than the sum of the PCI. PCI therefore seems of limited value in the peri-operative evaluation of AOC.
QUALITY OF LIFE OF LONG-TERM SURVIVORS AFTER COMPLETE RESECTION FOR ADVANCED OVARIAN CANCER WITH MAXIMUM CYTOREDUCTIVE EFFORT: LYMPH NODE DEBULKING COMPROMISES QOL MOST
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Aims

Objective: Analysis of which procedure step in complete resection of advanced ovarian cancer compromises QOL after 10 years of survival.

Method

Methods: Review of patients at least 10 years after complete resection of advanced ovarian cancer with maximum cytoreductive effort in our department. Seventy patients returned validated questionaires. Maximum effort was defined as a debulking procedure including atypical liver resection, splenectomy, lymphadenectomy in the upper abdomen (proximal of left renal vein), bowel resection or diaphragm resection.

Results

Results: Statistically significant morbidity regarding QOL resulted from debulking lymphadenectomy with persistent lymphedema. Other procedures had not impact QOL persistently.

Conclusion

Conclusion: Overall quality of Life of long-term survivors after complete resection for advanced ovarian cancer with maximum cytoreductive effort was acceptable. Lymphadenectomy for debulking remains a factor contributing to persistent lymphedema compromising QOL.
Aims

Paragangliomas are extremely rare tumors. Incidence of paraganglioma is 2-8 per million. They are chromaffin cell tumors that develop from the neural crest cells in the autonomic nervous system, and their usual location is along the paraaortic chain. The absence of its symptoms, as paroxysmal hypertension, headache and palpitations, an extraadrenal paraganglioma may be incidentally discovered during unrelated surgery, at autopsy, or with abdominal CT for abdominal pain or abdominal mass. Paraganglioma and ovarian carcinoma very rarely occur together. In our case, paraaortic paraganglioma mimicking lymph node metastasis in an ovarian carcinoma patient.

Method

A 67 year-old, postmenopausal woman visited our hospital, with complaints of abdominal pain. Radiologic image analysis showed bilateral polycystic ovarian mass with solid components. She underwent total abdominal hysterectomy, bilateral salphingo-oopherectomy, omentectomy, pelvic and paraaortic lymphadenectomy. Paraortic lymph nodes were palpable. During the paraaortic lymph node dissection, blood pressure fluctuated intraoperatively. Immediately after the paraaortic lymphadenectomy, the blood pressure declined precipitously.

Results

The pathological diagnosis showed that bilateral ovarian tumors were high grade serous papillary carcinoma and histopathology revealed ovarian cancer metastasis to lymph nodes and paraganglioma in the paraaortic lymphadenectomy material. She was diagnosed as having ovarian carcinoma stage IIIA1i (FIGO) with coincident paraganglioma. Surgical excision remains the mainstay of treatment in paragangliomas. Our patient underwent six cycles carboplatin-paclitaxel chemotherapy for metastatic ovarian cancer but not for paraganglioma.

Conclusion

If blood pressure fluctuation is observed during dissection of the paraaortic lymph node, paraganglioma should be suspected and blood pressure must be carefully controlled.
OVARIAN CANCER

ESGO7-0576

APPENDICEAL MUCINOUS NEOPLASM MIMICKING OVARIAN CANCER : TWO CASE REPORTS

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²SELCUK UNIVERSITY, Pathology, KONYA, Turkey

Aims

Appendiceal mucocele is an entity that is characterized by cystic dilatation in the lumen of the appendix, caused by the intraluminal accumulation of mucoid material. Its incidence is 0.2–0.7% ; it is more common in females. Because of a lack of specific sign or due to its sometime quiet presentation, Appendiceal mucocele must be considered in differential diagnosis of adnexial masses. We presented two cases operated as ovarian cancer but definitive diagnosis was appendiceal mucocele

Method

51–year-old and 63–year old postmenauposal women were admitted with abdominal pain. The gynecological exam, usg and MRI revealed a right adnexial mass both of them. They underwent exploratory laparotomy for ovarian cancer diagnosis. During exploration bilateral adnexa and uterus were observed to appear normal. In first case, there were intensively mucoid material in pelvis. Appendix was found to be enlarged and it was observed that perforated previously. We performed total abdominal hysterectomy and bilateral salpingo-oopherectomy, peritoneal washing and appendectomy. In second case, 50x40 mm appendix originate cystic mass was detected. We performed right hemycolectomy and ileotransversostomy.

Results

The pathological diagnosis showed that in first case, low grade appendiceal mucinous adenocarcinom spread to both ovary and in second case, low grade appendiceal mucinous neoplasm.

Conclusion

Appendiceal mucocele can be confused radiologically with an ovarian tumor, which may prove to be a diagnostic challenge. Definitive therapy is controversial, although requires surgery. Accurate preoperative diagnosis of the appendiceal mucocele is very important to prevent rupture during surgery, which can cause pseudomyxoma peritonei, in predicting malignant transformation.
LIMITED DEVELOPMENT OF PROLIFERATION ACTIVITY MONITORED BY KI-67 EXPRESSION IN REPEATEDLY RELAPSED MALIGNANT PERITONEAL MESOTHELIOMA.


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Aims

Ki-67 could be the indicator for cellular proliferation activity as well as drug sensitivity. This study was conducted to extend the monitoring of chronological increase of Ki-67 expression in malignant peritoneal mesothelioma (MPM) reported recently (Int Canc Conf J 2017) to investigate the biological characteristics of this rare tumor.

Method

The case is a 29-year-old Japanese woman showed upper abdominal induration with adnexal tumor. On primary surgery, all tumors were resected completely. Histologically, the tumor was diagnosed as MPM, for which she received adjuvant chemotherapy containing platinum agent. After primary treatment, she experienced 3-times relapse every 2-5 years. Each time of her relapse, she received complete resection followed by platinum containing chemotherapy except for the last time. Clinically, chemotherapies were all evaluated as responded. The Ki-67 expression was examined in each tumor by calculating MIB-1 index in 500 cells in most strongly expressed area.

Results

MIB-1 indices were 4.2 ± 1.1 (mean ± SE), 11.8 ± 2.3, 37.3 ± 2.5, and 34.2 ± 2.5 in primary, 1st-, 2nd-, and 3rd-relapsed tumor respectively without any changes of mitotic index, demonstrating lineal increase of Ki-67 expression has reached plateau level over the surviving time of 10 years.

Conclusion

MPM demonstrated lineal increase of Ki-67 expression with the highest level of plateau, suggesting that MPM developed proliferation ability by each regrowth to its limited level along with continuing highest drug sensitivity in this tumor, resulting in long-term survival.
CLEAR CELL CARCINOMA OF THE OVARY
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Aims

Clear cell carcinomas of ovary are extremely rare tumors accounting for less than 5% of cases and have a very poor prognosis in terms of survival and response to chemotherapy. Case Reports: We document 3 cases of clear cell carcinoma treated by debulking surgery of ovarian mass and chemotherapy.

Method

A retrospective study was carried out in the Salah Azaiez Tunis Institute over a period of 15 years. The diagnosis of clear ovarian carcinoma was retained in 10 patients and confirmed histologically.

Results

The diagnosis of clear ovarian carcinoma was retained in 10 patients and confirmed histologically. The median age of patients was 61 years. 6 patients were menopausal. The most frequent symptoms for consultation was the increase in the size of the abdomen followed by pelvic or abdominal pain. Tumors were unilateral in 8 patients and bilateral in 2 patients. The median size of the tumor was 10 cm. All the patients were The CT scan was performed in all patients, the most characteristic image was a cystic-cystic image. All the patients underwent a debulking surgery of ovarian mass.

Conclusion

The management of ovarian cancers is difficult and requires great expertise and experience due to complications encountered while operating. Presence of an oncology department at our center helps us to a great deal in the chemotherapy management of such cases.
Aims

Malignant non-Hodgkin’s lymphoma (LMNH) of the ovary is a very rare tumor. It accounts for 1.5% of ovarian cancers and 0.5% of NHLs. Bilateral forms are frequent (41-71% of cases). Only a few cases of primary ovarian LMNH have been described in the literature.

The aim of this case is to study the treatment and prognosis of primary ovarian lymphoma.

Method

We retrospectively reviewed the clinical records of patients with primary ovarian lymphoma treated at Salah Azaiez institute, Tunis, Tunisia.

Results

A 28-year-old patient with no antecedent history of an ovarian cyst torsion. She underwent an emergency surgery. In peroperative operation, a bilateral ovarian solid mass was found without vegetation, it size was 10 cm on the right and 12 cm on the left. She had a left adnexectomy and a conservative treatment on the right. Histological examination was in favor of a CD20-positive and CD3-negative large cell LMNH B. The LMNH was ranked IE (Ann Arbor) with IPI at 0. The decision was to do 6 cycles of chemotherapy type CHOP21 (according to the Tunisian national protocol GELT 2013). The patient was in full response at the end of treatment. Overall survival was 2 years. She maintained primary infertility despite conservative treatment.

Conclusion

Primary non hodkin lymphoma of the ovary is a rare entity and it must be differentiated from other ovarian malignancies as its management and prognosis differs significantly from them. Early diagnosis with high index of suspicion is essential to avoid radical surgery. Treatment is mainly based on chemotherapy.
OVARIAN CANCER

ESGO7-0920

PRIMARY LYMPHOMAS OF THE FEMALE GENITAL TRACT

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Aims

The aim of this study is to establish the symptoms, treatment and prognosis of lymphoma of the female genital.

Method

We retrospectively reviewed the clinical records of three patients with primary lymphoma in female genital treated at Salah Azaiez institute, Tunis.

Results

Lymphoma of the cervix: A 32-year-old woman presented with menometrorrhagia. A computed tomography revealed the presence of diffuse, heterogeneous uterine cervical mass with no lymphatic node. A biopsy was conducted and the histopathological examination revealed large cell lymphoma. The patient received chemotherapy according to the CHOP protocol followed by a pelvic external radiotherapy.

Lymphoma of the vulva: A 32-year-old woman presented with a nontender mass in the upper part of the right labium maior. The gynecological examination revealed a solid mass of 4 cm, with irregular margins, in the right labium maior. An abdominal CT scan with contrast revealed a solid mass, without specific acquisition of contrast, within the right vulvar region with no lymphatic nodes. A biopsy of the mass and the histological examination showed a diffuse population of medium- to large-sized malignant lymphoid cells. The patient received chemotherapy.

Lymphoma of the vagina: A 64-year-old woman presented with a metrorrhagia, gynecological examination revealed a tumor involving most of the vaginal wall. A biopsy of this lesion confirmed NHL. Abdominal MRI detected a vaginal tumor. The patient underwent chemotherapy and radiotherapy.

Conclusion

Despite the absence of specific imaging patterns, there are radiologic appearances that must alert the radiologist about the possibility of primary lymphomas of the female genital tract.
NEUROENDOCRINE CARCINOMA OF THE OVARY
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Aims

Neuroendocrine is rare entity that is frequently associated with ovarian surface epithelial tumors, its a heterogened. Which have a common characteristic, expression of endocrine differentiation potential. The aim of this study is to established the characteristic, treatments and the prognosis of this disease.

Method

We retrospectively reviewed the clinical records of two patients with neuroendocrine ovarian treated at Salah Azaiez institute, Tunis, Tunisia.

Results

Case 1:

A 58-year old woman was referred because of pelvic pain and abdominal distension, clinical examination showed a left fixed supra-clavicular lymph masse. CT scan revealed a 5-cm multisepated mixed solid and cystic mass in the left ovary, and a retroperitoneal and iliac lymph node flow. The patiente underwent a biopsy of the supraclavicular lymph node that showed a metastasis from an neuroendocrine carcinoma of the ovary. She underwent total abdominal hysterectomy, bilateral salpingo-oophorectomy. The pathologic diagnosis of the mass was neuroendocrine carcinoma. She was treated with a combination chemotherapy.

Case 2:

A 40 year old woman was referred after being diagnosed with neuroendocrine carcinoma of the ovary at a private clinic. She had complained of pelvic pain and was found to have an ovarian mass. She underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy at the private clinic. She was treated with 6 sessions of a combination chemotherapy. But then the patient was lot to view.

Conclusion

Neuroendocrine carcinoma of the ovary is rare, shows aggressive behaviors and poor responses to treatment. The survival rates are relatively low due to biological aggressiveness despite extensive surgery and chemotherapy.
OVARIAN CANCER

ESGO7-1124

OVARIAN TUMOR WITH BONE METASTASES

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Aims

To study the clinical characteristics of bone metastasis from ovarian cancer, and facilitate physicians to develop treatment strategies

Method

This retrospective study was carried out in the institut of Salah Azaiez, Tunisie 3 cases of bone metastasis from ovarian cancer treated between were reviewed.

Results

Three cases of bone metastasis were confirmed by biopsy. 1 in the acetabulum and the 2 others were in cervical vertebra. Lung metastasis occurred concomitantly in one case and lymphatic metastasis in 2 cases. 2 cases of bone metastasis were detected in stage III-IV, and in one case in stage II. Two patients had cytoreductive surgery the other patient, The other patient are treated only by chemotherapy.

Conclusion

Bone metastasis from ovarian cancer is rare, however, the increasing pathological stage of ovarian cancer may add to the risk of bone metastasis, especially in the cases with lung or lymphatic metastasis. The pelvis and vertebral bone are the most common location of bone metastasis, and comprehensive treatment may improve the survival time of patient
OVARIAN CANCER

ESGO7-0869

CLINICAL, SURGICAL AND PATHOLOGICAL WORKUP OF RARE CANCER: A CASE OF ADULT GRANULOSA CELL TUMOUR

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Aims

Granulosa cell tumour (GCT), rare in humans but common in dogs and cats, represents 2–5% of ovarian cancers. It is a malignant tumour with a long natural history and tends to recur late. Women with adult GCT (aGCT) diagnosed at FIGO stage I are expected to have a favorable outcome. Stage of disease, tumour size, tumour rupture, age at diagnosis, nuclear atypia, mitotic index, surgical method and residual disease after initial surgery are important prognostic factors.

Method

We report on a case of aGCT in a 44-years-old woman treated only by surgery.

Results

A 44-year-old woman was evaluated for menometrorrhagia and abdominal pain. Examinations revealed a large left adnexial mass. The patient underwent surgery and after an intraoperative diagnosis of adult granulosa cell tumour an abdominal hysterectomy, bilateral salpingo-oophorectomy and lymphadenectomy was performed. Grossly the mass was 14 cm in maximum diameter, yellowish, solid and cystic. Microscopically, it was composed of small, bland, cuboidal to polygonal cells with typical coffee bean nuclei, trabecular and solid pattern, with 7/10HPF mitoses. Immunohistochemistry positivity for alpha-inhibin, vimentin and calretinin, supported the diagnosis of aGCT, Stage IA. Uterus showed atypical endometrial hyperplasia: right adnexus, peritoneal fluid and lymph nodes were negative. A second opinion in a referral centre was advised.

Conclusion

Diagnosis and surgical management were confirmed and the patient received appropriate follow-up. In consideration of unpredictability, rarity and natural history, a long follow-up even in early-stage GCT is recommended. After 1 year the patient is in good health condition.
Aims

Primary fallopian tube cancer accounts for 0.3 to 1.0% of all gynaecologic cancers. It is difficult for any one centre to accrue a large number of cases for meaningful analysis.

The aim of this study is to investigate the clinico-pathological features and the treatments of this rare entity.

Method

We report two cases of primary fallopian tube carcinoma (PFTC).

Results

Case 1

A 57-year-old patient, presented to our clinic with a right inguinal adenopathy. A biopsy was performed. The specimen was interpreted as an adenocarcinoma with suspected gynaecologic origin. The CA-125 level was elevated (950 Unit/ml). She underwent a laparotomy. She had total hysterectomy, bilateral salpingo-oophorectomy, appendectomy, and omentectomy. The pathological diagnosis was primary serous carcinoma of the left fallopian tube. All other organs were free of tumour.

The patient received three consecutive courses of chemotherapy. Then she had inguinal, pelvic and para-aortic lymph node dissection followed by three more sessions of chemotherapy.

She has been disease-free for 18 months since surgery.

Case 2

A 60-year-old patient was sent to our institute with the histopathological diagnosis of primary serous carcinoma of the left fallopian tube. Indeed, the patient consulted a regional hospital for persisting metrorrhagia. An MRI was performed and showed a 4.5 cm left ovarian mass. The CA-125 was elevated (714 Unit/ml). She underwent a laparotomy and had bilateral salpingo-oophorectomy. Currently, the patient is scheduled for ovarian staging.

Conclusion

PFTC is often found either during or after the surgery. The optimal treatment is the excision of the reproductive organs with lymphadenectomy.
IDENTIFICATION OF HIGHLY DIFFERENTIALLY EXPRESSED GENES IN PRIMARY OVARIAN CANCER AND RELATED DISTANT METASTASIS USING RNA SEQUENCING

Aims

High grade serous ovarian cancer is the most common subtype of epithelial ovarian cancers (EOC) with poor prognosis. In most cases EOC is widely disseminated at the time of diagnosis. Our aim was to determine whether gene expression in distant metastasis of high grade serous EOC differ from that of primary tumors to gain better understanding of disease process.

Method

We analyzed the gene expression profile of ten primary high grade serous EOC tumors and related omental metastasis using RNA sequencing. The functions of differentially regulated genes were studied using Ingenuity Pathway Analysis and by comparing our results to TCGA data.

Results

We identified 100 differentially regulated genes between primary tumors and metastasis, majority of which were downregulated in the omental samples. Gene ontology analysis revealed that cellular functions related to embryonic development were increased within the metastasis. Many of the embryonic developmental genes were also highly expressed in TCGA ovarian cancer samples compared to any other cancer type. Interestingly, 17 of our 100 most differentially regulated genes were also found significantly altered in TCGA primary tumors that had led to metastasis formation. For survival analysis TCGA data was divided to poor and high survival according to our 100 differentially regulated genes. Our analysis identified 12 candidate genes that were significantly associated with poor survival that will be subject of future studies.

Conclusion

The gene expression of primary tumors and metastasis of high grade serous EOC exhibited significant differences. Many of the identified genes have functions in embryonic development.
RISK FACTORS FOR APPENDICEAL INVOLVEMENT IN WOMEN WITH EPITHELIAL OVARIAN CANCER

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Aims

In this study we aimed to evaluate the risk factors for appendiceal involvement in women with epithelial ovarian cancer (EOC) who underwent appendectomy at the time of initial surgery.

Method

Patients with a final diagnosis of EOC who underwent appendectomy at the time of initial surgery were evaluated retrospectively. Risk factors related to the presence of appendiceal involvement were analyzed.

Results

A total of 210 patients underwent appendectomy during staging surgery. Appendiceal involvement was detected in 61 patients. No women with apparent clinical early-stage tumors had evidence of isolated metastatic disease to the appendix; therefore, no upstaging is detected due to solitary appendiceal involvement in this group of patients. For all patients univariate analysis of the appendiceal involvement revealed age, stage, grade, extragenital organ involvement (omentum, bowel, periton), positive cytology, and lymph node metastasis as significant factors (p<0.05). In multivariate analysis appendiceal involvement was significantly affected by age and omental involvement. Older age (>50 years) (odds ratio [OR] 2.8, 95% confidence interval [CI] 1.24-6.37; p=0.014) and presence of omental involvement (OR:3.2, 95% CI 1.22-8.59; p=0.018) seemed to be independent risk factors for appendiceal involvement in women with EOC.

Conclusion

Our findings indicate that routine appendectomy at the time of surgery for apparent early-stage EOC is not warranted. Nevertheless, the surgeon can take initiative whether to perform appendectomy as the morbidity rates due to this procedure is negligible. Older age (>50 years) and presence of omental involvement seem to increase the risk of appendiceal involvement by 2.8 and 3.2 times, respectively.
**OVARIAN CANCER**

**ESGO7-0150**

**ASSESSMENT OF THE RISK OF RELAPSE OF NEOPLASM OVARI (ARRNO): A NEW APPLICATION FOR CLINICAL PRACTICE**

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**Aims**

The aim of the present study was to develop an algorithm of the assessment of the individual risk of ovarian cancer relapse after accomplishment of the first line therapy.

**Method**

A retrospective analysis of the data of 1103 patients (01.01.2010-01.01.2015) with ovarian cancer, who received primary cytoreductive surgery with combination of platinum-based chemotherapy in their first line of treatment was performed. The prognostic role of the following 12 parameters was studied: age, stage, tumour status (T), grade, hystotype, results of ultrasound and CT after first line chemotherapy, CA 125ₚᵢᵣₑ (before start of combined therapy) and CA 125ₚₒᵣₑ (after accomplishment of first line chemotherapy), HE 4ₚᵢᵣₑ (before start of combined therapy) and HE 4ₚₒᵣₑ (after accomplishment of the first line therapy), the level of cytoreduction (optimal, suboptimal and radical).

**Results**

After binary regression analysis we defined best data set: stage, hystotype, grade, pelvic ultrasound examination, CA 125ₚᵢᵣₑ and HE 4ₚₒᵣₑ. Based on the developed algorithm we designed an ARRNO score with AUC (area under the curve) was 0.761 (95%CI: 0.733-0.789). After ROC-analysis we defined as well 3 intervals, corresponding to the low (0-0.39), moderate (0.40-0.85) and high (0.86-1.0) risk of relapse. At the final step the ARRNO score was integrated into application for personal computers, which, in case of integration into internal network of hospitals, provides the possibility to assess the risk of relapse at the moment of accomplishment of the first line therapy.

**Conclusion**

ARRNO score provides oncologists with a new tool for the more sophisticated follow-up of patients with ovarian cancer.
LOW GRADE SEROUS OVARIAN CARCINOMA: AN EVALUATION OF PRACTICE PATTERNS
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Aims

Low Grade Serous Carcinoma (LGSC) is a rare subtype of ovarian cancer with a typically indolent and chemoresistant course. Optimal treatment strategies are unknown. Our objective was to identify differences in practice patterns amongst physicians who treat LGSC.

Method

A de novo survey was distributed to members of the Society of Gynecologic Oncology. Questions about demographics, management of primary and recurrent disease, and use of consolidation were included. Statistical analyses was performed using Chi-square and logistic regression.

Results

There were 235 respondents. 48% had completed fellowship within the last 10 years, 83% recommended somatic testing during treatment, and 67% always send patients for genetic counseling. Treatment preferences for primary disease varied by debulking status. 47% of practitioners use hormone antagonism as consolidation after primary treatment. Physician experience with LGSC did not influence the decision to use consolidation (OR 1.09 [0.60-1.97], p=0.78). In contrast to patients with platinum resistant disease, secondary cytoreduction was preferred for patients with long disease-free intervals following primary treatment (p<0.001). Hormone antagonism was the preferred treatment for platinum resistant disease (52.3%), with 18% of physician utilizing targeted agents in the recurrent setting.

Conclusion

There is significant variation in the management of LGSC among practitioners. Further efforts to improve knowledge and disseminate information about the optimal management of this disease should be encouraged.
COMPARISON OF OVERALL SURVIVAL AND PROGNOSTIC FACTORS IN HIGH AND LOW GRADE OVARIAN SEROUS ADENOCARCINOMAS

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Aims

Low grade serous tumors are characterized by young age at diagnosis a slow growth pattern and despite a high level of chemoresistance a better prognosis as compared to high grade serous adenocarcinoma. We aim to examine overall survival in early and advanced stage low and high grade ovarian serous adenocarcinomas.

Method

Methods: Population based prospectively collected data on ovarian low grade serous adenocarcinomas (n=327) and high grade serous adenocarcinomas (n=2488) was obtained from the Danish Gynecological Cancer Database. Univariate Kaplan Meier and multivariate Cox regression were used. Statistical test were 2-sided. P-values of <0.05 were considered statistically significant.

Results

Results: The overall survival was higher among low grade than in high grade ovarian adenocarcinomas in univariate (log rank < 0.0001) and multivariate cox analysis (HR 1.4 95% CI: 1.1-1.7). This association was strengthened in sub-analysis limited to stage Ib-Illa with no residual tumor (HR 2.2, 95% CI: 1.5-3.7), whereas no significant difference was observed in stage Ib-Illa with residual tumor or stage IIC-IV (HR 0.8 95% CI: 0.5-1.6 and HR 1.2 95% CI 0.9-1.6, respectively). The cox analyses were adjusted for age at diagnosis, residual tumor (yes vs. no), stage and performance status, which were significant prognostic factors in all analyses.

Conclusion

Low grade ovarian serous adenocarcinoma have a better overall survival when diagnosed in early stages with no residual tumor, whereas no survival benefit was observed in cases with residual tumor or advanced stage disease as compared to high grade serous adenocarcinomas in analyses adjusted for age, residual tumor, stage and performance score.
OVARIAN CANCER

ESGO7-0488

CYTOREDUCTIVE SURGERY AND HYPERTERM INTRAPERITONEAL CHEMOTHERAPY (HIPEC) USED IN TREATMENT OF OVARIAN, TUBAL AND PRIMARY PERITONEAL CANCER: A PILOT STUDY

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Aims

Hypertherm intraperitoneal chemotherapy (HIPEC) consists of intra-operative perfusion of the abdominal cavity with a heated solution with a cytotoxic agent to prevent disease recurrence. Study aims were to evaluate feasibility, morbidity and mortality of cytoreductive surgery (CRS) combined with HIPEC in patients with ovarian, tubal and primary peritoneal cancer (OC).

Method

In a pilot study 15 patients were treated with CRS and HIPEC with carboplatin 800 mg/m² in 90 minutes. Inclusion criteria: Patients with primary OC FIGO stage III-IV subjected to up-front or interval CRS, age 18-75 years, ASA score I-II, and complete cytoreduction was achieved. In stage IV, only patients with resectable disease, and patients with complete remission of extra-abdominal metastasis after neoadjuvant chemotherapy were included. Study endpoints: 30-day mortality and adverse events 30 days postoperatively assessed using Common Terminology Criteria for Adverse Events (CTCAE). Severe and life-threatening (grade III/IV) complications are reported.

Results

Median age was 58 years (39-73 years). Eleven patients had up-front CRS and four patients had interval CRS. Median PCI was 11 (5-32).
No deaths were observed within 30 days. Reoperation (stoma revision) was necessary in one patient (6.7%) 27 days after surgery. Eight patients experienced at least one grade III complication within 30 days (53.3%), and the most frequent was fever/infection with unknown origin (20.0 %), transient neutropenia/thrombocytopenia (20.0%) and intraabdominal infection (13.3%). There were no grade IV complications.

Conclusion

CRS and HIPEC with carboplatin in selected patients with advanced stages of OC is feasible and with an acceptable rate of severe complications and no life-threatening complications in present small-scale study.
OVARIAN CANCER

ESGO7-1064

CLINICOPATHOLOGICAL IMPACT OF INTRINSIC CHEMORESISTANCE/CHEMOSENSITIVITY AND BIOMARKER PROFILES IN OVARIAN CANCER PATIENTS

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Aims

To find out the impact of in vitro intrinsic chemoresistance and biomarker profiles (Pgp, MRP1, estrogen and progesterone receptors) in epithelial ovarian cancer.

Method

Malignant ovarian tissues of 104 chemonaïve ovarian cancer patients were examined by the MTT – (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) assay for in vitro chemoresistance/chemosensitivity. Immunohistochemistry were employed to determine resistance proteins (Pgp, Multidrug Resistance-Associated Protein) and hormonal receptors expression.

Results

The incidence of in vitro chemoresistance were: cisplatin 9.6%, topotecan 11.6%, paclitaxel 41.4%, carboplatin 56.3%, gemcitabine 86.9%, etoposide 86.8%. Mucinous ovarian cancer was chemoresistant to carboplatin and paclitaxel in 50% and chemosensitive to topotecan in 100%. The highest incidence of Pgp (Med 100%; P=0.151) and MRP1 (Med 95.0%; P=0.013) expression and the lowest incidence of estrogen and progesterone receptors expression (P=0,001) was observed in mucinous tumors. Endometrioid ovarian cancer was chemoresistant to carboplatin in 50% and chemoresistant to cisplatin in 0%. The lowest incidence of Pgp (Med 62%; P=0.151) and MRP1 expression (Med 63.0%; P=0.013) and the highest incidence of estrogen and progesterone receptors expression (P=0.001) was observed in endometrioid tumors. We found 56% chemoresistance to carboplatin and 38% to paclitaxel in serous ovarian carcinoma and middle expression of resistance proteins and estrogen receptors in these tumors. Strong Pgp and MRP1 expression correlated with shorter progression free survival (P=0.051, P=0.046) and poor patient survival (P=0.018). Higher expression of steroid receptors correlated with longer overall survival.

Conclusion

Every histologic subtype can profit from different type of primary systemic treatment. These methods could contribute to individualization of primary treatment in ovarian cancer patients.
OVARIAN CANCER

ESGO7-0898

DEVELOPMENT OF A TOOL FOR PREDICTION OF OVARIAN CANCER IN PATIENTS WITH ADNEXAL MASSES: VALUE OF PLASMA FIBRINOGEN

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Aims

To develop a tool for individualized risk estimation of presence of cancer in women with adnexal masses, and to assess the added value of plasma fibrinogen.

Method

We performed a retrospective analysis of a prospectively maintained database of 906 patients with adnexal masses who underwent cystectomy or oophorectomy. Uni- and multivariate logistic regression analyses including pre-operative plasma fibrinogen levels and established predictors were performed. A nomogram was generated to predict the probability of ovarian cancer. Internal validation with split-sample analysis was performed. Decision curve analysis (DCA) was then used to evaluate the clinical net benefit of the prediction model.

Results

Ovarian cancer including borderline tumours was found in 241 (26.6%) patients. In multivariate analysis, elevated plasma fibrinogen, elevated CA-125, suspicion for malignancy on ultrasound, and postmenopausal status were associated with ovarian cancer and formed the basis for the nomogram. The overall predictive accuracy of the model, as measured by AUC, was 0.91 (95% CI 0.87 – 0.94). DCA revealed a net benefit for using this model for predicting ovarian cancer presence compared to a strategy of treat all or treat none.

Conclusion

We confirmed the value of plasma fibrinogen as a strong predictor for ovarian cancer in a large cohort of patients with adnexal masses. We developed a highly accurate multivariable model to help in the clinical decision-making regarding the presence of ovarian cancer. This model provided net benefit for a wide range of threshold probabilities. External validation is needed before a recommendation for its use in routine practice can be given.
Aims

The role of secondary cytoreductive surgery in platinum-sensitive recurrent ovarian cancer (PSROC) has not been defined by level-1 evidence.

Method

Pts with PSROC and 1st relapse if they presented with a positive AGO-score which selects approximately 50% of all PSROC pts. They were randomized to 2nd-line chemotherapy vs cytoreductive surgery followed by chemo. We report results of the predetermined interim analysis.

Results

409 pts were randomized 2010-2014. Platinum-free interval exceeded 12 mos in 75% and 76% pts in both arms. Complete resection was achieved in 72.5% of operated pts; 87% and 88% received a platinum-containing 2nd-line therapy. 60/180-d mortality rates were 0 and 0.5% in the surgery and 0.5 and 2.5% in the no-surgery arm. Re-laparatomies were performed in 7pts (3.5%). With the exception of myelosuppression no further significant differences were observed with respect to grade 3+ adverse events.

Median PFS was 14 mos without and 19.6 mos with surgery (HR: 0.66, 95%CI 0.52-0.83, p=0.001). Median time to start of first subsequent therapy (TFST) was 21 vs 13.9 mos in favor of the surgery arm (HR 0.61, 95%CI 0.48-0.77, p<0.001). Analysis of primary endpoint OS is hampered by unexpected good OS and therefore kept blinded due to immaturity.

Conclusion

Surgery in PSROC pts selected by a positive AGO-Score resulted in increase of PFS and TFST with very acceptable treatment burden. Until final OS data will definitively define the role of secondary cytoreductive surgery it should at least be considered as valuable option in pts with a positive AGO-Score.
OVARIAN CANCER

ESGO7-1340

THE MANAGEMENT OF PERITONEAL SURFACE MALIGNANCES AT THE AMERICAN UNIVERSITY OF BEIRUT MEDICAL CENTER: (AUBMC) INITIAL EXPERIENCE

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Aims

Peritoneal carcinomatosis (PC) has been traditionally considered a terminal disease with median survivals reported in literature of 6-12 months. Cytoreductive surgery (CRS) & Hyperthermic intra-peritoneal chemo-therapy (HIPEC) have gradually gained acceptance as standard of care to manage selected PC cases.

Method

A program for multidisciplinary treatment of peritoneal surface malignancies of gastrointestinal or gynecological origin was initiated in January 2010 at AUBMC. We will present retrospective review of prospective collected database for Patients who were treated using multimodality therapy with combinations of systemic therapy, cytoreductive surgery (CRS), and HIPEC.

Results

Over the last 10 years, 36 patients were treated with CRS and HIPEC. There were 19 male and 17 female patients. Most common indication are Pseudomyxoma peritonei (42%) colorectal origin (25%), ovarian malignancies (14%), gastric cancer (6%) and Mesothelioma (6%). The Mean duration of surgery was 598 minutes. Mean Peritoneal Cancer Index was 25. Thirty-three (91%) patients had a complete cytoreduction. Perioperative major morbidity and mortality rates were 31% and 2.8% respectively whereas 14.2% where lost for follow-up. Mean hospital stay was 16 days. The median overall survival is at 40 months and progression free disease revealed a median of 18 months.

Conclusion

We report successful establishment of an active peritoneal surface malignancy multidisciplinary treatment program with excellent early results that are comparable to those published by reputable centers in literature. Careful patient selection, a multidisciplinary approach and proper surgical training and technique are essential for this successful program.
OVARIAN CANCER

ESGO-1218

ADULT GRANULOSA CELL TUMOUR OF THE OVARY. A CLINICAL AND PATHOLOGICAL ANALYSIS OF 137 CASES.

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Aims

The purpose of the present study was to identify the clinical and histopathologic prognostic factors and to determine the most appropriate mode of treatment for adult granulosa cell tumors of the ovary.

Method

We reviewed the hospital records retrospectively including surgical notes and clinico-pathologic results. The Histological slides were re-evaluated by JMN in order to confirm the diagnosis and histological features. We also examined the clinical factors such as stage, age, tumor size, menopausal status. In addition to that the pathologic factors such as microscopic patterns, mitotic activity, Call-Exner bodies presence, nuclear atypia were also examined again. Univariate and multivariate analysis were used to identify the prognostic factors. Survival rates were calculated using the Kaplan-Meier method.

Results

The patients’ median age was 55 years (range: 26 to 87). 80\% of the patients were postmenopausal. 89.5 \% cases represented Stage I tumors. Tumor size was reported median 8 cm (range: 1-50 cm.). Cyst rupture occurred in 8/21 cases (38\%) in the relapsed group and 20/116 cases (17.2\%) in the non-relapsed group. Totally 20\% cyst rupture was found in this series. 52\% of cases were treated with surgery alone while 48\% of cases received additional treatment. 12 cases received chemotherapy (9\%) and 54 cases received Radiotherapy (39\%).

Conclusion

Of the various clinical and pathologic features that were evaluated for prognostic significance, patients with early stage I and mitotic rate less then 3/10 HPF had an very good prognosis. Stage, Cyst Rupture and Atypia are main prognostic factors regarding to recurrence situation.
OVARIAN CANCER

ESGO7-0036

PROGNOSTIC IMPACT OF THE TIME INTERVAL FROM SURGERY TO CHEMOTHERAPY IN PATIENTS WITH ADVANCED OVARIAN CANCER

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² Department of Obstetrics and Gynecology - University of Ulsan College of Medicine - Asan Medical Center - Seoul - Korea

Aims

To evaluate the effect of the "time to chemotherapy" (TTC) interval after debulking surgery on survival in patients with advanced ovarian cancer.

Method

We retrospectively studied data from 276 patients with International Federation of Gynecology and Obstetrics stage III or IV ovarian cancer who were consecutively treated between January 2006 and 2013. TTC was analysed and correlated with outcome.

Results

Median age at diagnosis was 54 years (range, 20–80 years), and 258 patients received postoperative platinum-based chemotherapy. The 25%, 50%, and 75% quartiles of intervals from surgery to start of chemotherapy were 18, 22, and 28 days, respectively. TTC [≤28 days versus >28 days; hazard ratio (HR) 1.578 (95% CI 1.057–2.355), P = 0.026], complete debulking with no gross residual disease [HR 0.419 (95% CI 0.274–0.640), P <0.05], and preoperative albumin level [HR 0.549 (95% CI 0.382–0.791, P=0.001] were significant prognostic factors for progression-free survival in multivariate analysis. While delayed TTC (>28 days) did not possess prognostic significance in patients without postoperative residual disease (n = 94), it significantly correlated with progression-free survival in patients with postoperative residual disease [n = 164, HR 1.893 (95% confidence interval 1.209–2.962), P = 0.005].

Conclusion

Our findings suggest that delayed initiation of chemotherapy might compromise progression-free survival in patients with advanced serous ovarian cancer, especially in case of gross residual disease. A prospective study randomizing patients to different time intervals could clarify the definitive relevance of the time between surgery and chemotherapy.
OVARIAN CANCER

ESGO7-0658

RETROSPECTIVE STUDY OF COMBINATION CHEMOTHERAPY WITH ETOPOSIDE AND IFOSFAMIDE IN PATIENTS WITH HEAVILY PRETREATED RECURRENT OR PERSISTENT EPITHELIAL OVARIAN CANCER

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Aims

This retrospective study is to evaluate the efficacy and toxicity of combination chemotherapy with etoposide and ifosfamide (ETI) in the management of pretreated recurrent or persistent epithelial ovarian cancer (EOC).

Method

Patients with recurrent or persistent EOC who had measurable disease and at least one chemotherapy regimen were to receive etoposide at a dose of 100 mg/m²/day intravenously (IV) on days 1 to 3 in combination with ifosfamide 1 g/m²/day IV on days 1 to 5, every 21 days.

Results

From Aug 2008 to Aug 2016, sixty-six patients were treated with ETI regimen. Most patients were heavily pretreated prior to ETI: Fifty-three (80.3%) patients had received 3 or more chemotherapy regimens. The response rate of ETI chemotherapy was 18.2% and median duration of response was 6.8 months (range, 0-30). Median survival of all patients was 5 months at a median follow up of 7.2 months. Platinum free interval more than 6 months prior to ETI has statistically significant correlation with overall survival (9.2 versus 5.6 months, P=0.0292) and RR (34.5% versus 5.4%, P<0.01).

<table>
<thead>
<tr>
<th>TFI before ET-I</th>
<th>No. of Patients</th>
<th>RR, No(%)</th>
<th>P-value</th>
<th>OS, months mean</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TFI&lt;6</td>
<td>59</td>
<td>9(15.2)</td>
<td>0.07</td>
<td>7.2</td>
<td>0.95</td>
</tr>
<tr>
<td>TFI≥6</td>
<td>7</td>
<td>3(42.8)</td>
<td></td>
<td>7.6</td>
<td></td>
</tr>
<tr>
<td>Optimality of surgery</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>optimal</td>
<td>41</td>
<td>7(17.1)</td>
<td>0.76</td>
<td>7.8</td>
<td>0.47</td>
</tr>
<tr>
<td>Suboptimal</td>
<td>25</td>
<td>5(20.0)</td>
<td></td>
<td>6.5</td>
<td></td>
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<tr>
<td>Platinum free interval</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;6</td>
<td>37</td>
<td>2(5.4)</td>
<td>&lt;0.01</td>
<td>5.6</td>
<td>0.03</td>
</tr>
<tr>
<td>≥6</td>
<td>29</td>
<td>10(34.5)</td>
<td></td>
<td>9.2</td>
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</tbody>
</table>

Conclusion

The ETI combination regimen shows comparatively low toxicity and modest activity in heavily pretreated recurrent or persistent EOC patients with more than 6 months of platinum free interval after last platinum treatment.
NON-CONVULSIVE SEIZURE RELATED TO A CREMOPHOR EL™-FREE, POLYMERIC MICELLE FORMULATION OF PACLITAXEL: A CASE REPORT

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Aims

Paclitaxel is an effective drug to treat ovarian, breast, lung and other cancers. Peripheral neurotoxicity is one of its common side effects while central nervous system toxicity are rarely reported. We report a case of a non-convulsive seizure developed in a 72-year-old woman with ovarian carcinoma after administration of cremophor-free, polymeric micelle formulation of paclitaxel (Genexol-PM).

Method

A 72-year-old women presented our Department of Gynecology in December, 2015 due to pelvic mass. Abdominal CT revealed a 9.2cm sized huge heterogenous mass at superoposterior aspect of uterus. She underwent pelviscopic left salpingo-oophorectomy, with the histology confirming left carcinosarcoma (Malignant mullerian mixed tumor). Adjuvant chemotherapy was started 1 month after surgery with pacilitaxel and carboplatin, which were administered every 3 weeks. Conventional dose of Genexol-PM (a novel Cremophor EL (CrEL)-free polymeric micelle formulation of paclitaxel) of 260mg/m2 was given.

Results

One week after her fourth round of chemotherapy, she presented a transient episode of aphasia for 45 minutes. Electroencephalographic recording demonstrated epileptiform discharges. Antiepileptic drug was administered and no further abnormal activities were detected during her hospitalization with normalized EEG performed after 4 days. Additional systemic chemotherapy was discontinued, and the patient did not experience overt seizures during 3 months observation.

Conclusion

To our knowledge, this is the first reported case of seizure related to a CrEL-free formulation of paclitaxel. Although rare, patients and clinicians should be aware of the possibility of the patient having a non-convulsive seizure after infusion with this paclitaxel formulation.
OVARIAN CANCER

ESGO7-1137

PFKFB3 AND PLA2G3 KNOCKDOWN LEADS TO THE GENERATION OF LIPID LADEN GRANULAR OSMIOPHILIC DEPOSITS AND MULTILAMELLAR BODIES IN OVARIAN CANCER

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Aims

The aims of the study is to determine the effect of glycolysis inhibitor PFK-158 in ovarian cancer (OC). Among different regulators of this pathway, 6-PhosphoFructo-2-Kinase/Fructose-2,6-Bisphosphatases 3 (PFKFB3) a glycolytic enzyme that generates fructose-2,6-bisphosphate (F2,6BP) is recognized as an important control point in glycolysis.

Method

Using molecular techniques, we show that the active form of PFKFB3 (p-PFKFB3Ser461) is overexpressed in chemo-resistant OC cell lines and resistant patient derived xenograft (PDX) models compared to chemo-sensitive cell lines. Treatment with PFK158 (PFKI), a specific inhibitor of PFKFB3 activity reduced glucose uptake, ATP and lactate production in addition to inhibiting colony forming ability in both carboplatin (Carb-Pt) and paclitaxel (PTX) resistant OC cell lines in vitro and significantly reduced tumor weight, ascites and metastasis compared to single drug treatments alone in vivo in the highly resistant HEYA8MDR xenografts

Results

We show for the first time that PFKI promotes cell death by targeting the crosstalk between glycolysis and lipogenesis-two pathways active in OC by inducing autophagy resulting in the depletion of lipid droplets (LDs) in chemoresistant cells. PFKI downregulated the expression of both p-PFKFB3 and PLA2G3, involved in the biogenesis of LDs in several OC cell lines. TEM analysis revealed that genetic downregulation of PFKFB3 and or PLA2G3 resulted in the generation of granular osmiophilic deposits (GROD) and cholesterol rich multilamellar bodies (MLBs) respectively in the lysosomes, recapitulating lysosomal storage disorder phenotypes.

Conclusion

The functional consequence of this phenotype and the clinical implication of these results in the treatment of OC are currently under investigation.
OVARIAN CANCER

ESGO7-1295

MYASTHENIA GRAVIS IN AN OVARIAN CANCER PATIENT: A POSSIBLE PARANEOPLASTIC MANIFESTATION CASE
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²Biogen, Research, Boston, USA

Aims

Gynecologic cancer rarely courses with neurological paraneoplastic symptoms. We describe one case of myasthenia gravis as a possible paraneoplastic manifestation of ovarian cancer preceding the neoplasm symptoms.

Method

Case Report

Results

A 61 years old patient with no comorbidities presented bilateral ptosis. Electromyography was suggestive of neuromuscular junction blockade. Dosage of anti-acetylcholine receptor antibody was greater than 20 nmol/L and other anti-neuronal antibodies were negative. She had no thymic image alterations and the use of pyridostigmine resulted in no clinical benefit response. After 30 days, the patient is hospitalized due to abdominal distension, dysphagia and progressive dyspnea. Abdominal tomography showed massive ascites and peritoneal thickening with greater pelvic component; CA-125 was 9561.8 U/mL and biopsy diagnosed an ovarian serous papillary adenocarcinoma. She had respiratory worsening and orotracheal intubation mas necessary for 23 days. Plasmapheresis sessions and pulse therapy with methylprednisolone were implemented without clinical improvement. After the introduction of immunoglobulin and cyclophosphamide, ventilator parameters finally improved and CA-125 dropped to 899U/ml. According to tumor board decision, chemotherapy regimen was changed to carboplatin and paclitaxel. In the third cycle patient had no more myasthenic symptoms as well no medications were necessary for myasthenia. Cytoreduction surgery with R0 resection was performed and then 3 more cycles of chemotherapy. In the 6th month of follow-up she had complete resolution of the myasthenic condition, CA125 <35U/mL and normal abdomen images.

Conclusion

Until we know, this is probably the first reported case of possible causality between new diagnosis of ovarian neoplasm and myasthenia gravis as a paraneoplastic syndrome.
OVARIAN CANCER

ESGO7-0245

SEROUS BORDERLINE EPITHELIAL OVARIAN TUMOR IN ADOLESCENCE PERIOD AND LAPAROSCOPIC MANAGEMENT

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Aims

In adolescence period ovarian germ cell tumor is the most frequent tumors of the ovary. Epithelial ovarian tumors consisting benign, borderline and malignant form are uncommon in adolescent period. Borderline epithelial ovarian tumors in adolescence age have been reported rarely and laparoscopic management in the period also is uncommon. In the case report, serous microinvasive borderline epithelial ovarian tumor managed by laparoscopy in adolescent patient is reported.

Method

Case report

Results

A 16 year-old girl was referred serous borderline ovarian tumor after laparoscopic cyst excision. After discussing intraperitoneal staging with the patient and family, they preferred to follow up. Before the laparoscopic excision she had right ovarian 75X60X60 mm cystic mass contained mural nodule. Ca 125 level was 56.8 IU(normal level up to 35). Four mounts later, 3 cm cystic mass was diagnosed with mural nodule and laparoscopic right salpingooopherectomy, intraperitoneal staging were performed. The pathology was reported as microinvasive serous carcinoma ovary and noninvasive peritoneal implants. The case was discussed with medical oncology for chemotherapy. It was decided to follow up without chemotherapy. Six months later, she had left ovarian cystic mas in 3cm diameter with solid nodule. Laparoscopic cystic mass excision was performed by laparoscopy. Cytology was normal and no intraperitoneal disease. Pathology was revealed serous borderline ovarian tumor. She is in her 3 years follow up period with no recurrence and normal Ca 125 level.

Conclusion

Although serous borderline ovarian tumor is uncommon in adolescence period, it can be managed by laparoscopy.
OVARIAN CANCER

ESGO7-0554

CONSERVATIVE MANAGEMENT OF OVARIAN YOULK SAC TUMOR
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2Akdeniz University, Obstetrics and gynecology- Gynecologic cancer surgery, Antalya, Turkey
3Akdeniz University, Pathology, Antalya, Turkey

Aims

Malignant ovarian germ cell tumors arise primarily in young women between age of 10 and 30. Yolk sac tumors (YSTs) of the ovary, also known as endodermal sinus tumors, are highly malignant and consist of 1% of ovarian malignancy. Fertility sparing approach is crucial and the principal objective of surgical management in this ages. We report here fertility preserving management of the young patient with YST presented with ascites and serum high level of alpha-feto-protein (AFP).

Method

Case report.

Results

A 20 year-old girl, consulted for abdominal pain and distention. Pelvic MRI showed a abdominopelvic mass arising the right ovary with 25x20 cm in diameter associated with ascites. Preoperative tumor marker assays showed CA-125 antigen level of 497 IU/mL and AFP level of 7610 IU/mL. A midline incision was performed. The abdominal exploration confirmed large tumor of the right ovary associated with ascites. The contralateral ovary was normal. The conservative surgery including removal of the right adnexa with mass, surgical staging with peritoneal cytology, multiple peritoneal and omental biopsies, ipsilateral pelvic and para-aortic lymphadenectomy was performed. The final pathology showed YST of the ovary. Peritoneal cytology was positive for malignancy and all other samples were normal. The case had BEP chemotherapy protocol and follow up with no disease recurrence.

Conclusion

YST is a rare disease with high malignant potential but also highly sensitive to chemotherapy. It can be managed by conservative fertility sparing surgery and chemotherapy.
OVARIAN CANCER

ESGO7-0144

THE PROGNOSTIC IMPACT OF NANOG EXPRESSION IN OVARIAN SEROUS CARCINOMA

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Aims

The ongoing research about cancer stem cells opened a new perspective on pathogenesis, diagnosis and treatment of ovarian cancer. The objective of this study was to assess the expression of cancer stem cell related marker NANOG (NANOG) in ovarian serous carcinoma and to evaluate its prognostic significance.

Method

The expression of NANOG was evaluated in ovarian tissues from 109 patients with ovarian serous carcinomas. NANOG expression was measured immunohistochemically in a tissue microarray. According to a sum of signal intensity and proportion we divided samples into four NANOG groups: negative, slightly positive, moderate positive and strongly positive. We analyzed the correlation between the clinical data and results from immunohistochemistry.

Results

The positive reaction of the NANOG was shown as yellow-brown particles located in the cytoplasm and sometimes in nucleus. In ovarian serous carcinoma 69.7% cases were NANOG positive. There was no difference in clinical manifestation, response to therapy or survival between the four NANOG groups. At several places especially in the vicinity of small putative stem cells we also observed changes on epithelial cells similar to epithelial-mesenchymal transition.

Conclusion

NANOG was significantly expression in ovarian serous carcinoma. In our study there was no correlation between the intensity of NANOG expression and prognosis of ovarian serous carcinoma. Presence of NANOG predominantly in cytoplasm might be explained by translocation of NANOG protein from nucleus to cytoplasm as cancer progresses. The epithelial-mesenchymal transition, a mechanism that might play an important role in the manifestation of ovarian cancer, should be further investigated.
OVARIAN CANCER

ESGO7-0939

MESOTHELIN AS A POSSIBLE BIOMARKER FOR ENDOMETRIOSIS.
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¹Medical University, Department of Endocrinology and Gynecological Endocrinology, Lublin, Poland
²Medical University, 1st Chair and Department of Gynecological Oncology and Gynecology, Lublin, Poland

Aims

Endometriosis is a common gynecological disease. Endometriosis is a benign disease, but the risk of cancerous endometriosis transformation to ovarian carcinoma is 0.7 – 1.5%. The most frequent types of cancer developing from endometriosis are clear-cell and endometrioid carcinoma, less common are serous and mucinous cancers. Mesothelin is widely recognized as ovarian cancer marker. The aim of the study was to assess the concentration of mesothelin in peritoneal fluid in women with endometriosis.

Method

69 fluid samples were collected from peritoneal cavity of patients undergoing laparoscopy, with endometriosis respectively. Endometriosis was diagnosed histologically and surgically, and then described with the use of the revised ASRM stages. 26 fluid samples were collected from patients with endometrioid cancer. All cancer patients were diagnosed with advanced disease (FIGO, stage I-IV). Concentration of mesothelin in peritoneal fluid was measured with the use of ELISA.

Results

The mesothelin concentration was statistically significantly higher (p=0.002) in the group with endometriosis than in the group with the endometrioid cancer. There were no statistically significant differences in the mesothelin concentration in particular stages of endometriosis.

Conclusion

High concentration of mesothelin in peritoneal fluid among women with endometriosis may suggest that this factor plays a crucial role in detecting and differentiating endometriosis and ovarian cancer. It seems that mesothelin is a stronger biomarker for endometriosis than for endometrioid cancer in the peritoneal fluid. The role of mesothelin in the development of endometriosis is poorly understood. This might be a promising target for future therapies in endometriosis.
OVARIAN CANCER

ESGO7-0729

MOLECULAR PROFILING OF ENDOMETRIOSIS AND ENDOMETRIOSIS-ASSOCIATED OVARIAN CANCER (EAOC)

G.S. Sohn¹, Y.M. Park¹, H.J. Kwon¹, H.Y. Shin¹, E.J. Lee¹, W.K. Yang¹, H.B. Cho¹, D.B. Chay¹, J.H. Kim¹, J.K. Gong¹
¹Gangnam Severance Hospital- Yonsei University College of Medicine, Obstetrics & Gynecology, Seoul, Republic of Korea

Aims

Endometriosis appears to be associated with some specific histologic subtypes of epithelial ovarian cancer, especially clear cell and endometrioid adenocarcinoma. However the pathogenesis of ovarian cancer development from endometriosis is not well understood. The purpose of this study is to investigate the molecular association of endometriosis and endometriosis associated ovarian cancer (EAOC).

Method

RNA was extracted from 36 paraffin tissue blocks comprising of endometriosis (n=8), atypical endometriosis (n=6) and endometriosis associated ovarian cancer (n=22). Lesion of endometriosis or cancer from whole paraffin-embedded tissue sections were obtained by Laser capture microdissection and differentially expressed genes were analyzed using RNA sequencing technology.

Results

Comparison of gene expression among endometriosis, atypical endometriosis and EAOC revealed different expression patterns by heatmap. 2,923 genes in EAOC and 125 genes in atypical endometriosis were differently expressed compared to endometriosis. 364 genes were up regulated and 296 genes were down regulated in EOAC compared to atypical endometriosis. Comparison merge revealed 6 percent of differently expressed genes were commonly upregulated in all three categories. Pathway analysis revealed that nine genes involving cell proliferation were positively regulated.

Conclusion

This study revealed gene alteration involving endometriosis and endometriosis associated ovarian cancer. These findings may be an important resource for studying the pathogenesis of ovarian cancer developing from endometriosis.

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ESTABLISHMENT AND CHARACTERIZATION OF IMMORTALIZED HUMAN OVARIAN SURFACE EPITHELIAL CELLS USING LENTIVIRAL SYSTEM.

G.S. Sohn¹, Y.M. Park¹, H.J. Kwon¹, H.Y. Shin¹, E.J. Lee¹, W.K. Yang¹, H.B. Cho¹, D.B. Chay¹, J.H. Kim¹, J.K. Gong¹
¹Gangnam Severance Hospital- Yonsei University College of Medicine, Obstetrics & Gynecology, Seoul, Republic of Korea

Aims

Immortalization is a key difference that distinguishes cancer cell from normal cell. In cell line studies, normal cells like human ovarian surface epithelial cells (HOSE) are difficult to culture and limited due to the senescence nature of normal cell. The aim of this study is to establish normal ovary epithelial cell lines for the counterpart to research ovarian cancer.

Method

Immortalized human ovarian surface epithelial cells (IHOSE) were established by transfecting HPV E6/E7 and SV40 T antigen to short cultured HOSE using the lentiviral system. Cells were grown in Dulbecco’s Modified Eagle Medium in the presence of 10% fetal bovine serum and were cultured in 5% CO2 balanced air at 37°C. Thereafter, IHOSE were extracted genomic DNA and total RNA for DNA fingerprinting and RNA sequencing.

Results

Five IHOSEs that were arrived ten passages were established using the lentiviral system. Five IHOSEs were confirmed newly establishment using STR profiling. RNA sequencing was performed to identify IHOSEs characteristics, and gene expression changes were compared with HOSEs and ovarian cancer cell lines. IHOSEs have confirmed that the genes related to the cell cycle and DNA repair signal has changed more than HOSEs.

Conclusion

Newly established IHOSEs can be important research resources for the counterpart against molecular alternation of ovarian cancer.
OVARIAN CANCER

ESGO7-0147

THE ROLE OF APPENDECTOMY IN MUCINOUS BORDERLINE OVARIAN TUMORS
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Aims

To determine the frequency of appendiceal involvement in patients undergoing surgery for mucinous borderline ovarian tumors (mBOTs), and to evaluate the associated morbidity, and the recurrence risk and survival after appendectomy.

Method

The hospital databases were searched for women who underwent adnexal surgery at the Department of Obstetrics and Gynecology of four Korean academic hospitals, and whose final or frozen diagnosis was mBOTs. A literature search was performed, using electronic database (MEDLINE and EMBASE), to assess the available evidence on performing an appendectomy in patients with mBOTs.

Results

Of the 473 included patients with mBOTs, 201 (42.5%) underwent appendectomy, 247 (52.2%) did not undergo appendectomy at the time of initial surgery, and 25 (5.3%) had previously undergone appendectomy. Among the 201 patients who underwent appendectomy, primary and metastatic appendiceal mucinous neoplasms were occurred in 1 patient each (0.5%), who showed a macroscopically abnormal appendix. Appendectomy itself was not associated with operative complications ($P = 0.082$), recurrence risk ($P = 0.964$), or survival ($P = 0.219$). Consistent with our findings, a comprehensive search of the literature revealed that the frequency of appendiceal involvement in mBOTs was less than 1% in either primary or metastatic appendiceal neoplasms.

Conclusion

If the appendix is grossly normal, an appendectomy seems unnecessary in patients with mBOTs.
THE CLINICAL SIGNIFICANCE OF ELEVATED PREOPERATIVE CA125 OR CA19-9 IN BORDERLINE OVARIAN TUMORS

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Aims

To investigate whether elevated CA125 (≥35 U/mL) and CA19-9 (≥37 U/mL) suggest advanced-stage disease (defined as stage II or higher) or poor prognosis in patients with borderline ovarian tumors (BOTs).

Method

We retrospectively identified 591 patients with BOTs. Multivariate logistic regressions and Cox proportional hazard regressions were used to determine the clinicopathologic factors associated with the presence of advanced-stage disease and the prognostic factors associated with recurrence free-survival.

Results

CA125 was elevated more often in serous than in mucinous tumors (50.6% vs. 35.5%; P=0.003), whereas CA19-9 was elevated more often in mucinous than serous tumors (33.6% vs. 15.3%; P=0.001). An elevated CA125 level was independently associated with the presence of advanced-stage disease in serous (P=0.005) and in mucinous BOTs (P=0.015). However, preoperative elevation of CA19-9, unlike CA-125, was not associated with advanced-stage disease. Elevated preoperative CA125 level (P=0.037) was an independent prognostic factor for recurrence-free survival in patients with serous BOTs. However, neither CA125 nor CA19-9 had prognostic significance in mucinous BOTs.

Conclusion

Elevated preoperative CA125, unlike CA19-9, is a diagnostic and prognostic biomarker associated with the presence of advanced-stage disease and risk of relapse in patients with serous BOTs.
OVARIAN CANCER

ESGO7-0568

EXPRESSION PROFILE OF VEGF, VEGF-C AND VEGF-D AND RELATED RECEPTORS IN EPITHELIAL OVARIAN TUMORS AND DISTANT METASTASIS

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Aims

The aim of the study was to explore the expression of VEGF, VEGF-C and VEGF-D as well as VEGF receptors 1, 2 and 3 in patients epithelial ovarian neoplasms and to compare expression also to related distant omental metastasis. In addition, we studied how expression of those angiogenic factors predict survival of patients with epithelial ovarian cancer.

Method

We enrolled 165 patients with ovarian epithelial tumor divided into benign (n=36), borderline (n=18), malignant (n=95) tumors and distant metastasis (n=16). The expressions of angiogenesis factors were measured with immunohistochemistry (n=165) and qRT-PCR (n=57).

Results

When expression of angiogenic factors in primary serous ovarian cancer was compared to related omental metastasis VEGF expression was higher in omental metastasis than in primary tumors (p= 0.022). Low expression of VEGF in primary serous tumors was associated with poor prognosis in univariate survival analysis (p=0.007). In qRT-PCR analyses the relative expression of VEGFR-2 and VEGFR-3 mRNA was significantly lower in primary ovarian cancer than in benign tumors (p=0.001, p=0.013, respectively). Other angiogenic factors were not constantly changed between samples in qRT-PCR.

Conclusion

There were significant differences in expression of VEGF receptors and their ligands between benign and malignant ovarian tumors and distant metastasis. It seems that VEGF protein expression is higher in distant metastasis than in primary lesions in ovarian cancer.
OVARian CARCINOMA

ESGO7-1383

LYMPH NODE METASTASIS IN CLINICALLY STAGE I EPITHELIAL OVARIAN CARCINOMA

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Aims

Systemic pelvic and paraaortic lymphadenectomy in apparent stage I epithelial ovarian carcinoma (EOC) remains controversial. The study sought to determine the lymph node involvement in patients with ovarian cancer apparently confined to the ovaries.

Method

An analytical retrospective study was conducted with 21 patients with clinically stage I EOC, based on image exams and/or pathologic results of previous non oncologic surgery. These patients underwent to complete surgery staging with systematic pelvic and paraaortic lymphadenectomy at a Brazil Cancer Hospital from 2011 to 2016. Data were analyzed by applying frequencies of lymph node involvement. Student’s t-test or Wilcoxon-Mann-Whitney test were used to quantitative variables.

Results

The analyzed histological types were endometrioid, papillary serous, mucinous and clear-cells. Lymph node metastasis was found in four patients (19%). None of the four cases with mucinous histology had nodal dissemination. Two women presenting papillary serous tumors (28.6%), one present endometrioid (12.5%) and another clear cell carcinoma (50%). There was no difference in the number of resected pelvic and paraaortic lymph nodes among patients with and without nodal involvement [(14 ±7 vs. 19.3 ±9.8, p= 0.3245) and (10.2±6.4 vs. 14.7 ±10, p=0.41), respectively]. The lymph nodes metastatic sites were limited to pelvic. Serum CA125 levels showed no significant difference between patients with positive and negative lymph nodes (p=0.96).

Conclusion

The study implies that nodal involvement in stage I EOC may not be identified either by imaging studies or CA125 levels. Systematic pelvic and paraaortic lymphadenectomy might be required for accurate staging to endometrioid, serous and clear-cells ovarian cancer.
OVARIAN CANCER

ESGO7-0268

THE PROGNOSTIC ROLE OF PREOPERATIVE HYponatremia IN PATIENTS WITH ADVANCED EPITHELIAL OVARIAN CANCER (EOC)

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Aims

To determine the impact of preoperative hyponatremia with regard to pre-, intra- and postoperative characteristics in patients with advanced primary epithelial ovarian cancer (EOC).

Method

All consecutive patients with EOC (FIGO stage III-IV) between 01/2011 and 12/2015 were prospectively included in the analysis. All data were collected in a prospectively maintained database. Hyponatremia was defined as serum sodium (Na) <135 mmol/l. Statistical analysis were mean and standard deviation or median (range) compared by the student’s t-test.

Results

In total, 390 patients (normal Na: n=363 (93.1%) and hyponatremia: n=27 (6.9%)) were analyzed. Patients with hyponatremia had significantly lower serum albumin (39 g/l vs. 42 g/l), higher age-adjusted charlson comorbidity score >2 (58.1% vs. 92.6%), and more often ascites >500ml (38.6% vs. 70.4%), respectively. Furthermore, complete resection rate was significantly lower in patients with hyponatremia (65.0% vs. 29.6%, p=0.001). We found no differences in postoperative characteristics like length of stay on intensive care unit, hospital stay, or the complications according to the Clavien-Dindo classification and 30-days mortality. But there was a significant difference in 60- (4.4% vs. 14.8%) and 90-days mortality (5% vs. 14.8%), p=0.018 and p=0.032 respectively.

Conclusion

Preoperative hyponatremia is associated with more ascites, lower rates of complete resection and higher 60- and 90-day mortality. The serum sodium might be useful for risk stratification in patients with advanced EOC.
THE PROGNOSTIC ROLE OF AB0 BLOODGROUP AND RHEUS FACTOR IN PATIENTS WITH ADVANCED EPITHELIAL OVARIAN CANCER (EOC)

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Objectives
Recently published data on patients with gastric cancer or with ovarian cancer showed an impact of the AB0 blood groups (BG) on the outcome. The aim of this study was to evaluate the prognostic value of AB0 BG and Rhesus factor (Rf) in patients with advanced primary epithelial ovarian cancer (EOC).

Methods
All consecutive patients with EOC (FIGO stage III-IV) treated between 01/2011 and 02/2017 were included in the analysis. All data were collected in a prospectively maintained database. Each BG was compared to each other, as well as a combined analysis with Rf.

Results
In total, 557 patients (BG A: n=267; BG 0: n=192; BG B: n=66; BG AB: n=32) were analyzed. The distribution of Rf positive patients in all groups showed no significant difference. There were no differences between patients’ characteristics nor between intra- or postoperative parameters, like FIGO-stage, residual disease or need of blood transfusion, between all BGs. Patients with BG AB had significantly less high-grade serous histology compared to non-BG AB (68.8% vs. 85.9%). Overall survival (OS) was not different between distinct AB0 BG. Progression free survival (PFS) in BG AB was significantly better compared to BG B (32 months vs. 20 months; p=0.026), compared to BG A it did not reach significance (32 months vs. 21 months; p=0.056). Analysis of Rf negative patients (n=77 (13.8%)) and Rf positive patients (n=480 (86.2%)) showed a significant difference in PFS (33 months vs. 22 months) but not in OS (58 months vs. 54 months), p=0.016 and p=0.577 respectively.

Conclusions
With regard to PFS, BG AB had a prognostic impact in patients with EOC compared to BG B. Rf positive patients had an impaired PFS compared to patients with Rf negative.
A SYSTEMATIC REVIEW ON COST-EFFECTIVENESS OF EARLY DETECTION AND PREVENTION STRATEGIES FOR OVARIAN CANCER

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Aims

We conducted a systematic review on cost-effectiveness studies evaluating early detection and prevention strategies for ovarian cancer in various populations.

Method

We systematically searched relevant databases (Medline/Embase/Cochrane Library/CRD/EconLit) for decision-analytic modelling studies assessing the cost-effectiveness of early detection and/or prevention strategies for ovarian cancer. We summarized study characteristics and results including quality-adjusted life-years (QALY), life-years gained (LYG), and incremental cost-effectiveness ratios (ICER; in cost/QALY or LYG) in standardized evidence tables. Economic results were converted to 2015 Euros using GDP-PPP and CPI.

Results

Twenty studies varying in terms of target population, discount rate, perspective and evaluated strategies were included. Ovarian cancer screening in women age 45+ yielded ICERS from 12,000 Euro/LYG in population with 5% prevalence of high-risk women to 68,000 Euro/LYG in average-risk women. A recent study reported 10,000 Euro/QALY for multimodal screening with a risk-adapted algorithm. Risk-reducing surgery in mutation carriers yielded ICERS from cost-saving to 4,000 Euro/LYG (2,000-16,000 Euro/QALY). In premenopausal women, risk-reducing interventions yielded ICERS ranging from 700 Euro/LYG in women with 10% lifetime cancer risk to 47,500 Euro/LYG in women with 2% lifetime risk (2,000-757,000 Euro/QALY). In postmenopausal women, respective ICERS were 2,000-47,000 Euro/LYG (2,000-757,000 Euro/QALY). Genetic testing in women at increased risk followed by risk-reducing interventions in mutation carriers yielded ICERS of 10,000-32,000 Euro/LYG (8,000-9,000 Euro/QALY).

Conclusion

Based on our findings, both screening and preventive surgery in women at increased or high risk for ovarian cancer can be considered effective and cost effective. Results were sensitive with regard to test accuracy, test costs, and the screening frequency.
OVARIAN CANCER

ESGO7-0966

THE PREDICTIVE AND PROGNOSTIC VALUE OF THE PERITONEAL CANCER INDEX (PCI) IN PATIENTS WITH ADULT GRANULOSA CELL TUMORS OF THE OVARY

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Aims

Granulosa cell tumors are rare sex cord-stromal tumors of the ovary with malignant potential. Surgery is the cornerstone in their treatment. We evaluated the role of the in gastrointestinal cancers established Peritoneal Cancer Index, analysing surgical outcome and impact on progression survival. We compared PCI to our in our center validated documentation instrument (intraoperative mapping of ovarian cancer (IMO)), correlating it also to clinical features.

Method

The definition of PCI score was performed retrospectively, based on surgery report and histopathology. We compared the PFS (Kaplan Meier survival curves) between primary diagnosis and recurrence using the Log rank test. We tested the effect of PCI on clinical variables. To prove effect of PCI on PFS a Cox regression analysis was performed. A log rank testing was made in order to try out eventual cut offs that could have predictive significance on PFS. With Kaplan-Meier survival analysis we were able to detect which PCI areas were associated with prognosis.

Results

We examined 80 cases of adult granulosa tumors of the ovary, 26 primary and 54 recurrent tumors. Prognosis at primary diagnosis is significantly better than by recurrence. With a resectability of tumor by 95% in our cohort, we could not test PCI as a predictor for complete resection; PCI has not been shown predictive of PFS in our actual study. The median PCI differs significantly in cases with versus without tumor residual. PCI fields 1, 3 lead to poorer prognosis.

Conclusion

Eventually prognostic PCI cut off in cases with residual tumor remains to be examined.
OVARIAN CANCER

ESGO7-0509

HYPERTHERMIA AND CISPLATIN INCREASE HEAT SHOCK PROTEIN HEME OXYGENASE-1 EXPRESSION IN OVCAR-3 CELLS

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Aims

To evaluate the impact of different temperature and cisplatin combinations to the expression of heat shock protein heme-oxygenase-1 (HO-1) and the cells viability in OVCAR-3 cells.

Method

Imitating the typical clinical conditions of HIPEC, OVCAR-3 cells were exposed to different hyperthermia and cisplatin concentrations for one hour. Afterward the MTT viability test, flow cytometer analysis, isobologram analysis and quantitative reverse transcription polymerase chain reaction was performed and analysed.

Results

The rising temperature from 37°C to 42°C alone and in combination with half of the maximal inhibitory concentration of cisplatin (IC50) had insignificant effect on OVCAR-3 cells viability and apoptosis. The combination of hyperthermia up to 42°C and IC50 dose of cisplatin significantly increased the expression of heat shock protein HO-1 in OVCAR-3 cells. Cisplatin alone decreased cell viability in a linear pattern. The antagonistic effect of hyperthermia and cisplatin was revealed by the isobologram method.

Conclusion

Hyperthermia usable in clinical practise and cisplatin increase the expression of heat shock protein HO-1 in OVCAR-3 cells. Further research is essential regarding modulation of the HO-1 expression as a new therapeutic option to improve the results of HIPEC.
EVALUATION OF APPENDAGES’ TUMORS IN IOTA SYSTEM IN REFERENCE TO HISTOPATHOLOGICAL RESULTS

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Aims

Ovarian cancer is one of the most common women cancers after menopause. The aim of the study was to evaluate how IOTA (International Ovarian Tumor Analysis) Simple Rules used in ultrasound examination modifies probability of occurrence malignant and benign ovarian tumor in tested population.

Method

The study group consisted of 426 patients with ovarian tumors operated in the years 2014-2015. Changes of appendages were rated according to IOTA Simple Rules. Results of this study were compared with the final histopathology reports. Statistical analysis was performed in STATISTICA 13 PL with Medical Pack.

Results

Malignant tumour patients (n=43) were statistically significantly older (mean age 61.0 ±11.6 vs 43.6±16.2, p<0.001), had higher BMI (mean 27.3±7.0 vs 25.2±5.2, p<0.05), more pregnancies (median 2 vs 1, p=0.001) and higher Ca125 level (median 251.5 vs 18.5, p<0.001) than patients with benign tumour (n=346). Also, they more often suffered from diabetes mellitus and arterial hypertension. For determining malignant tumour IOTA Rule 1 reached sensitivity of 83%, specificity 88%, positive predictive value (PPV) of 51% and negative PV 97%. IOTA Rules were better in prediction malignancy than Ca125 value alone (sensitivity of 71%, specificity 92%, positive predictive value (PV) of 56% and negative PV 96%).

Conclusion

In our study, performance of IOTA in predicting or ruling out malignant tumour was highly satisfying. IOTA Rules and Ca125 may be complementary and used to assess risk of malignant vs benign ovarian neoplasm, yet context of other clinical variables may also be important.
OVARIAN CANCER

ESGO7-0219

THE PROGNOSTIC AND PREDICTIVE VALUE OF SUBCLASSIFYING STAGE IV EPITHELIAL OVARIAN CANCER INTO IVA AND IVB BY THE REVISED 2014 FIGO STAGING SYSTEM

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Aims

The revised version of FIGO staging system (2014) for epithelial ovarian cancer (EOC) includes a number of changes, one of these is the division of stage IV in two subgroups. Data on the prognostic and predictive significance of this classification are scarce.

Method

We used data of the European Organization for Research and Treatment of Cancer (EORTC) 55971 trial in which 670 patients with previous stage IIIC or IV EOC were randomised to primary surgery or neoadjuvant chemotherapy (NACT). Information on previous FIGO staging and presence of pleural effusion with positive cytology were used to classify tumours as either stage IVA or IVB. Kaplan-Meier estimates, log-rank tests and Cox-proportional-hazards models were used for survival analyses.

Results

Among the 160 participants with previous stage IV disease, 103 (64%) were categorized as stage IVA and 57 (36%) as stage IVB tumours. Median overall survival was 24.1 months in FIGO stage IVA and 30.8 months in stage IVB patients (p=0.044). Stage IVB patients treated with NACT had a 9 months longer median overall survival compared to IVB patients undergoing primary surgery (p=0.025). Stage IVA patients had similar overall survival following either primary surgery or NACT (p=0.48). In the multivariable analysis, stage IVA/IVB was significantly associated with overall survival (HR=0.45, p=0.008) and a differential benefit from NACT, though not significantly so (HR interaction=2.08, p=0.066).

Conclusion

The reclassification of FIGO stage IV into stage IVA or IVB adds prognostic information. Compared to stage IVA patients, stage IVB patients have a better overall survival and may benefit more from neoadjuvant chemotherapy.
OVARIAN CANCER

ESGO7-0899

BRCA MUTATIONS IN ARAB ISRAELI MUSLIM POPULATION – A CASE REPORT
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Aims

Muslims are the largest minority and consist of about 20% of the population in Israel. Although there is evidence for a reduction of breast cancer incidence in the Israeli Jewish population, there is an increase in the incidence of breast cancer, as well as lower ages of discovery and a more aggressive disease among Israeli Muslims. There are reports among other Muslim countries, consistent with higher prevalence, lower age of disease diagnosis and more aggressive disease, compared with breast cancer statistics of western countries. Germline mutations in BRCA1 and BRCA2 genes can be detected in high risk Breast/Ovarian Cancer Families.

Other genes associated with increased risks of breast / ovarian cancers include genes connected to syndromes such Fanconi anemia.

Fanconi anemia is connected to higher breast/ovarian cancer through the PALB2 Gene, Known also as FANCN Gene.

Mutations in BRCA2 (also known as FANCD1), and Mutations in BRCA1 (also known as FANCS), can cause Fanconi anemia subtypes.

Method

This is a case report

Results

We describe a case of 3 young Arab Israeli female cousins, in which one of them (33 Y/O) known to be Fanconi anemia Carrier, and has also been found to harbor BRCA1 Mutation. The 2 other cousins (ages 24 and 35), have been found to harbor Ovarian serous Carcinoma and Borderline Serous Carcinoma, Respectively.

Conclusion

Knowledge of these rare but important mutations can reveal some of the unknown reasons for the different, more aggressive statistics of ovarian and breast cancer among Muslim population in Israel and perhaps other Muslim populations worldwide.
OVARIAN CANCER

ESGO7-0196

IN VITRO CHEMOSENSITIVITY IN OVARIAN CARCINOMA – COMPARISON OF THREE LEADING ASSAYS

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Aims

All the patients with ovarian carcinoma may not have equal response to the standard chemotherapeutic regimen although they have the same histologic type of tumor. An alternative approach to current therapy of ovarian carcinoma is individualization of the treatment by determination of sensitivity of tumoral tissue to chemotherapeutic agents before the initiation of chemotherapy. The study is designed to determine the efficacy of invitro chemosensitivity assays in ovarian carcinoma and to measure the correlation of three leading assays with each other.

Method

Fresh tumoral tissue samples of 26 newly diagnosed primary ovarian cancer patients were studied with MTT [3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide], ATP-TCA (Adenosine Triphosphate Tumor Chemosensitivity Assay) and DISC (Differential Staining Cytotoxicity) assays. Chemosensitivity of tumors were studied for paclitaxel, carboplatin, docetaxel, topotecan, gemcitabine and doxorubicin with each of the three assays. Subgroup analysis was done for stage, grade and histologic type.

Results

The invitro chemosensitivity results of MTT, ATP and DISC assays were found to be similar. The subgroups that invitro assays would be more useful are encountered for patients with advanced stage and serous histology ovarian carcinoma.

Conclusion

Invitro chemosensitivity can be determined in ovarian carcinoma with ATP, MTT or DISC assays before initiation of chemotherapy. These three assays correlate well with each other and they are especially useful for serous and advanced cancers. Large prospective studies comparing standard versus assay directed therapy with an end-point of overall survival are needed before routine clinical utilization of these assays.
ONCOLOGIC OUTCOMES AND REPRODUCTIVE SUCCESS AFTER FERTILITY SPARING MANAGEMENT IN WOMEN WITH MALIGNANT OVARIAN GERM CELL TUMORS

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Aims

Malignant ovarian germ cell tumors (MOGCTs) represent a relatively rare malignancy that mostly affects young women with strong desire for fertility-preserving management. The aim of our study is to identify the oncologic and clinicopathologic characteristics of MOGCT, and report the prognostic factors and reproductive outcomes of patients treated with conservative surgery.

Method

Medical records from 42 women diagnosed and treated for MOGCTs between 1997 – 2015 in our hospital were analyzed retrospectively. Fisher's exact tests were used for the comparison of proportions and life table analysis for survival calculations.

Results

Mean age at diagnosis was 23.5 years. Thirty-one cases (74%) were stage I; 7 cases (17%) stage II; and 4 cases (9%) stage III. Immature teratoma represented the most common histological type (n = 18) followed by dysgerminomas, mixed tumors, and endodermal sinus tumors. Thirty-five patients underwent fertility-sparing surgery defined by unilateral oophorectomy, lymphadenectomy, and peritoneal biopsies. Adjuvant chemotherapy was administered in 29 patients with BEP (bleomycin, etoposide, and cisplatin). After a median follow-up period of 9.2 years, 4 patients (11.5%) had disease recurrence and 3 died. The overall survival rate was 94.1% for women in early stage (I/II) and 87.1% for women in advanced stages. During the follow-up period, 31% (11/35) of the women tried for a pregnancy, and 45% (5/11) of them resulted in normal deliveries.

Conclusion

Our data demonstrate that MOGCTs, if detected in early stages, have excellent survival outcomes with fertility-preserving surgery and chemotherapy. Patients maintain future reproductive potential and appear to achieve favorable reproductive outcomes.
OVARIAN CANCER

ESGO7-0632

TOTAL PARENTERAL NUTRITION IN POSTOPERATIVE CARE OF OVARIAN CANCER PATIENTS REQUIRING BOWEL ANASTOMOSIS: AN IRISH GYNAECOLOGICAL ONCOLOGY EXPERIENCE

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Aims

The use of Total Parenteral Nutrition (TPN) in ovarian cancer is controversial. Its application ranges from postoperative nutrition to the management of inoperable bowel obstruction. Enhanced recovery programmes suggest that TPN may be inadvisable postoperatively in cases of bowel anastomosis. However, bowel resection in the setting of ovarian cancer presents a special challenge. The extent of bowel wall and mesenteric metastases can be extreme, and systemic effects of the cancer can be profound. This is a review of our experience with TPN.

Method

Retrospective data collection from the electronic care records of all cases identified from January 2016 to December 2016. In terms of outcome, the duration of TPN, time interval to restoration of bowel function, incidence of anastomotic leaks, central line infections and length of hospital stay were recorded. A Dietician prescribed all parenteral feeding regimens after a full nutritional assessment.

Results

Twenty-four patients with a diagnosis of ovarian cancer required at least one bowel resection during surgery; 18 during first cytoreductive surgery, and 6 for bowel obstruction with progressive or recurrent disease. The average BMI for the group was 27kg/m². Median duration of TPN was 8 days (range 5-20). There were no bowel anastomotic leaks. There was one (4.1%) central line infection.

Conclusion

Postoperative TPN demonstrated potential benefits in association with a low complication rate. Further research is required to determine the optimal postoperative nutritional regimen in ovarian cancer. In the interim we recommend an individualized approach.
A CASE OF MALIGNANT STRUMA OVARI CONFINED TO THE OVARY WITH SYNCHRONOUS PAPILLARY THYROID CARCINOMA DETECTED FOLLOWING THYROIDECTOMY

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Aims

Struma ovarii is a mature teratoma, composed predominantly (over 50%) or entirely of thyroid tissue. Around 5% are malignant and most of papillary type. Although metastases are rare, detection of synchronous papillary thyroid carcinoma is present in around 9% of cases. This presentation of a case report will also review current evidence for treatment of this rare condition.

Method

Following presentation of case report a literature review was performed. Keywords applied to searches with PUBMED and MEDLINE.

Results

Case:
Forty-two year old with incidental finding of adenexal cyst. MRI showed complex 5cm multi-septated left adenexal mass. CA 125 was 17. Patient requested fertility sparing surgery. Laparoscopic procedure with cyst intact. Histology confirmed papillary thyroid carcinoma within struma ovarii. Progressed to total thyroidectomy and radioablation. Histology confirmed 5mm capsulated lesion defined as thyroid papillary carcinoma. Commenced clinical follow up with thyroglobulin.

Review:
In patients not desiring future fertility, surgical staging for ovarian cancer is advocated including total hysterectomy, bilateral salpingo-oophorectomy, lymph node sampling, total thyroidectomy, and radioablation. Debate continues regarding conservative management in cases of malignancy. Following thyroidectomy and radioablation, serum thyroglobulin levels can be followed as a marker for recurrence in cases of fertility-sparing surgery. The recurrence rate in patients who undergo surgery without subsequent radioablation has been cited as high as 50%.

Conclusion

Malignant struma ovarii remains rare. Therefore optimal management has not been clearly defined in the literature. Cases of synchronous thyroid carcinoma are becoming more frequently detected. Pelvic surgery for the ovarian lesion, total thyroidectomy and radioablation are therefore strongly advocated.
OVARIAN CANCER

ESGO7-0471

INTERVAL BETWEEN CYTOREDUCTIVE SURGERY AND ADJUVANT CHEMOTHERAPY IS ASSOCIATED WITH OVERALL SURVIVAL IN PATIENTS WITH ADVANCED OVARIAN CANCER

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Aims

Optimal treatment for advanced epithelial ovarian cancer consists of cytoreductive surgery and (neo)adjuvant platinum based chemotherapy. The aim of this study was to evaluate whether the time to adjuvant chemotherapy (TTC) was associated with overall survival (OS).

Method

We selected all patients diagnosed with epithelial ovarian cancer (FIGO IIb-IV) between 2008 and 2015 from the Netherlands Cancer Registry. Logistic regression was used to identify factors associated with a longer TTC and multivariable Cox regression to evaluate the independent effect of treatment interval on OS. Patients receiving primary debulking surgery (PDS) and patients receiving interval debulking surgery (IDS) were analysed separately.

Results

4,143 patients were included, 1,693 underwent PDS and 2,450 IDS. Median TTC was 29 (interquartile range (IQR) 23-37) days. Perioperative complications (p<0.001), prolonged hospitalisation (p<0.001), and extended surgery (p<0.001) were independently associated with a longer TTC for both PDS and IDS. Patients who exceeded the 75% quartile of the TTC interval experienced worse survival when undergoing PDS (>37 days compared to 23-37 days; hazard rate (HR) 1.20, 95%CI 1.01-1.43) or IDS (HR 1.27(1.10-1.46)).

Conclusion

Our study provides evidence that delayed initiation of adjuvant chemotherapy is an independent prognostic factor for worse overall survival after both PDS and IDS, also when adjusting for residual disease and perioperative complications. Consequently we advice to start adjuvant chemotherapy within five to six weeks after debulking surgery.
OVARIAN CANCER

ESGO7-0806

ASSOCIATIONS BETWEEN MOLECULAR SUBTYPES AND POSTOPERATIVE COMPLICATIONS AFTER PRIMARY CYTOREDUCTIVE SURGERY FOR ADVANCED STAGE HIGH-GRADE SEROUS OVARIAN CANCER

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Aims

Individualized treatment approaches to maximize oncologic outcomes and minimize perioperative morbidity in high-grade serous ovarian cancer (HGSOC) are lacking. Given the relationship between TCGA (The Cancer Genome Atlas) molecular subtypes, survival outcomes, residual disease (RD), and intraperitoneal disease spread, we seek to evaluate the association of molecular subtype with 30-day postoperative complications and 90-day mortality after primary cytoreductive surgery (PCS) in advanced stage HGSOC.

Method

TCGA subtypes were derived from Agilent 4x44k tumor mRNA expression profiles of 279 women with HGSOC undergoing PCS from 1994-2009. RD status was categorized as 0, 0.1-0.5, 0.6-1.0, or > 1cm. Surgical complexity (SC) scores were calculated as high, intermediate, or low. Complications were graded according to the modified Accordion classification 0-4 scale. Fisher’s exact test was used to assess categorical associations.

Results

TCGA molecular subtype distribution is listed in Table 1. MES was more likely to have preoperative albumin levels ≤ 3.5g/dL (33%, P<0.05). Despite higher rates of RD > 1cm (19%, N=14), lower rates of RD0 (12%, N=9) and similar SC scores (P=0.27), grade 3-4 complications were twice as likely in MES (29%, P=0.06) vs. any other subtype. No difference in 90-day mortality was noted (P=0.65).

<table>
<thead>
<tr>
<th>Age at surgery (years), mean (SD)</th>
<th>PRO</th>
<th>DIFF</th>
<th>MES</th>
<th>IMM</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPCG stage, N (%)</td>
<td>67 (19)</td>
<td>61 (32)</td>
<td>64 (23)</td>
<td>81 (19)</td>
<td>0.13</td>
</tr>
<tr>
<td>IF</td>
<td>63 (55)</td>
<td>46 (73)</td>
<td>50 (68)</td>
<td>14 (83)</td>
<td>0.15</td>
</tr>
<tr>
<td>IV</td>
<td>15 (29)</td>
<td>17 (27)</td>
<td>24 (22)</td>
<td>11 (17)</td>
<td>0.64</td>
</tr>
<tr>
<td>Preoperative albumin (g/dL)</td>
<td>4 (0.5)</td>
<td>27 (8.2)</td>
<td>30 (0.7)</td>
<td>31 (0.1)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Residual disease (cm), N (%)</td>
<td>10 (3)</td>
<td>22 (19)</td>
<td>9 (12)</td>
<td>29 (2)</td>
<td>0.27</td>
</tr>
<tr>
<td>SC</td>
<td>15 (19)</td>
<td>32 (19)</td>
<td>21 (15)</td>
<td>16 (15)</td>
<td>0.06</td>
</tr>
</tbody>
</table>

Table 1. TCGA molecular subtypes by demographics and perioperative characteristics.

Conclusion

MES subtype of HGSOC is more likely to have grade 3-4 morbidity after PCS and lower preoperative albumin levels. Given the fine balance between RD and morbidity and mortality after PCS, preoperative molecular subtyping may assist in tailoring individualized treatment of HGSOC.
Aims

Mutations in cancer susceptibility genes BRCA1/2 are considered to be associated with better survival possibly due to a better response to platinum-based chemotherapy and PARP inhibitors. We wondered whether the expression of BRCA1/2 measured at the transcriptome level could also be indicative for platinum response and thus predict clinical outcome in ovarian cancer.

Method

We analyzed BRCA1 and 2 mRNA expression in 201 fresh-frozen ovarian cancer samples and in 12 healthy fallopian tubes using quantitative real-time PCR. BRCA mutations detection was performed by next generation sequencing. Associations between BRCA expression and clinicopathological parameters were evaluated using Mann-Whitney-U and Kruskal-Wallis tests. OS and PFS were estimated using Kaplan-Meier plots and multivariate Cox-Regression. Optimal cut-off points were defined using Youden index.

Results

We found higher BRCA1 and 2 expression in ovarian cancer tissues in comparison with control tissues (p=0.011; p<0.001, respectively). BRCA1 expression was higher in older patients (p=0.036) and in advanced FIGO stages (p=0.036). Higher BRCA2 expression was found in cases with residual tumor after primary debulking (p=0.032) and in high-grade tumors (p<0.001). Univariate survival analysis showed high BRCA2 expression to be associated with poor PFS (p=0.002) and both high BRCA1 and 2 expression levels associated with poor OS (p=0.012, p=0.001; respectively). Multivariable survival analysis confirmed poor PFS in patients with high BRCA2 expression (p=0.028) and poor OS in patients with high BRCA1 expression (p=0.033).

Conclusion

Higher expression of BRCA1 and 2 predicts poor survival in patients with ovarian cancer possibly due to improved homologous DNA damage repair, which may lead to reduced platinum sensitivity.
EFFECT OF LYMPHADENECTOMY ON SURVIVAL IN ADVANCED OVARIAN CANCER DURING PRIMARY DEBULKING SURGERY: A SINGLE CENTER EXPERIENCE

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Aims

Systematic lymphadenectomy is strongly recommended in patients with ovarian cancer. The purpose of this study was to evaluate its diagnostic, prognostic and therapeutic value.

Method

We performed a retrospective analysis in the medical records of 160 patients with advanced ovarian cancer, who underwent primary debulking surgery between January 2004 and December 2016. Cytoreductive outcomes and survival rates were evaluated.

Results

Lymphadenectomy during primary debulking surgery was performed in 65 (40.6%) patients (LN group) and it was omitted in 95 (59.4%) patients (no-LN group). Median number of pelvic and para-aortic lymph nodes dissected was 21 (positive rate: 46.5%) and 16 (positive rate: 67.4%), respectively. Lymphocyst formation was present at 12 (18.5%) patients. Complete debulking rates were statistically significant higher in LN group than in non-LN group (78.5% vs. 35.8%). Median surgery duration and median surgery blood loss were also statistically significant higher in LN group than in no-LN group (240min vs. 230min / 700cc vs. 500cc), but there was no statistical significant difference in post-recovery time. On the other hand, median hospitalization was statistically significant higher in the no-LN group than in the LN group (10 days vs. 9 days). Median disease-free and overall survival were statistical significant higher in LN group than in no-LN group (LN: 38 months, no-LN: 19 months / LN: 70 months, no-LN: 35 months).

Conclusion

Systematic lymphadenectomy during primary debulking surgery in advance ovarian improves the rate of complete debulking, disease-free and overall survival.
OVARIAN CANCER

ESGO7-0362

BOWEL RESECTION IN ADVANCED OVARIAN CANCER: A SINGLE CENTER EXPERIENCE
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Aims

Bowel resection is often required in advanced ovarian cancer patients with high tumor dissemination in order to achieve complete cytoreduction. The purpose of this study was to evaluate the benefit of these patients from radical surgery.

Method

We conducted a retrospective review of medical records of 66 patients with ovarian cancer, who underwent bowel resection between January 2004 and December 2016. Complications, cytoreductive and oncological outcomes were reported.

Results

44 (66.7%) patients underwent bowel resection during primary, 13 (19.7%) during interval and 9 (13.6%) during secondary debulking surgery. Intestinal surgeries included: 41 patients underwent rectosigmoid resection, 7 had colectomy and 5 had colectomy plus rectosigmoid resection. From the rest patients 7 underwent small bowel resections and 6 multiple enterectomies. Complete and optimal (<1cm) debulking was achieved in 34 (51.5%) and 20 (30.3%), respectively. Median hospitalization was 11 days. Median perioperative blood loss was 700cc and postoperative blood transfusion was mandatory in 39 patients. Median resuscitation time was 4 hours and 22 (33.3%) patients required ICU admission after surgery. Postoperative complications such as pelvic abscess formation were observed in two patients and fistula in one of them. Median disease-free and overall survival was 22 and 41 months, respectively. Perioperative mortality was 4.5%.

Conclusion

Bowel resection is the most frequent additional procedure in order to achieve complete or optimal cytoreduction in advanced ovarian cancer. It has acceptable perioperative morbidity, mortality and increased survival rates.
OVARIAN CANCER

ESGO7-0363

DIAPHRAGMATIC SURGERY IN DEBULKING SURGERY FOR ADVANCED OVARIAN CANCER: A SINGLE CENTER 12 YEARS EXPERIENCE

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Aims

The aim of this study is to describe the role of diaphragmatic surgery during primary and interval cytoreduction in advanced ovarian cancer.

Method

We conducted a retrospective review of medical records of 62 patients with advanced ovarian cancer, who underwent diaphragmatic surgery during primary and interval debulking surgery between January 2004 and December 2016. Disease free survival, overall survival, cytoreductive outcome, intra and postoperative complications related to diaphragmatic surgery were analyzed.

Results

5 (8%) patients had FIGO stage IIIB, 39 (63%) stage IIIC and 18 (29%) stage IV. 46 (74%) underwent primary and 16 (26%) interval debulking surgery. In 22 patients the diaphragmatic peritoneum was stripped, in 11 patients was resected with the adjacent infiltrated part of diaphragmatic muscle and the adjacent pleura, in 17 patients was coagulated and in 12 a combination of these techniques was applied. Median disease-free survival and overall survival were 20 and 52 months, respectively. No residual disease or less than 1cm was achieved in 28 (45.2%) and 29 (46.8%) patients, respectively. The most frequent complication related to diaphragmatic surgery was pleural effusions in 38 (61.3%) patients. Chest tube placement was necessary in 13 (21%) and thoracocentesis in 5 (8%) patients. The median time of chest tube stay was 7 days.

Conclusion

Diaphragmatic surgery is an integral part of upper abdominal cytoreductive procedures during primary and interval debulking with an acceptable and manageable morbidity rate.
OVARIAN CANCER
ESGO7-0380

MANAGEMENT AND ONCOLOGICAL OUTCOMES OF OVARIAN CANCER: A SINGLE CENTER 12 YEARS EXPERIENCE
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Aims

Ovarian cancer is always a challenge for the gynecologic oncologist. The aim of this study is to present our experience and in the surgical treatment of patients with ovarian cancer.

Method

We conducted a retrospective review of medical records of 334 patients with ovarian cancer, who underwent 346 debulking surgeries (primary, interval and secondary) between January 2004 and December 2016. Cytoreductive and oncological outcomes were reported.

Results

The median age of the patients was 57 years old. 244 (70.5%) underwent primary, 77 (22.3%) interval and 25 (7.2%) secondary debulking surgery. 91 (26.3%) patients had early ovarian cancer and 255 (73.7%) advanced: 16 (4.6%) had FIGO stage IIIA, 31 (9%) stage IIIB, 155 (44.8%) stage IIIC and 53 (15.3%) stage IV. In patients with advanced ovarian cancer, complete and optimal (<1cm) debulking was achieved in 151 (59.2%) and 54 (21.2%), respectively. Pelvic and para-aortic lymphadenectomy was offered to 120 (34.7%) patients. Ultraradical surgical procedures include: bowel resections in 66 (19.1%) patients, splenectomy in 14 (4%) and diaphragmatic surgery in 66 (19.1%). Median disease-free and overall survival for early ovarian cancer was both >133 months. Median disease-free and overall survival for stage III was 17 and 66 months and for stage IV was 11 and 38 months, respectively. Perioperative mortality was 2.6%.

Conclusion

The use of ultraradical procedures in cytoreductive surgery for ovarian cancer is crucial to achieve optimal cytoreduction and improved survival rates.
OVARIAN CANCER

ESGO7-0383

SPLENECTOMY IN ADVANCED OVARIAN CANCER: A RETROSPECTIVE ANALYSIS IN A TERTIARY GREEK HOSPITAL
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Aims

Splenectomy is occasionally required in advanced ovarian cancer patients with upper abdominal disease in order to achieve complete cytoreduction. We present our experience in splenectomy during ovarian cytoreduction.

Method

We retrospectively reviewed the indications, the complications and the oncological outcomes in ovarian cancer patients who underwent splenectomy during cytoreductive surgery in our unit from January 2004 to December 2016.

Results

14 (5.6%) out of 249 patients with advanced ovarian cancer underwent splenectomy during cytoreduction: 3 patients underwent primary, 9 interval and 2 secondary cytoreductive surgery. Splenectomy was performed due to hilar (4 cases), capsular (8 cases), parenchymal involvement (1 case) and 1 case due to spleen intraoperative trauma. Diaphragmatic stripping or coagulation was necessary in 9 (64%) patients, small and large bowel resection was required in 6 (43%) patients and one peripheral pancreatectomy was performed because of pancreatic tail infiltration. Complete and optimal cytoreduction achieved in 8 (57%) and 5 (36%) patients, respectively. Postoperative complications such as pleural effusions were observed in 9 (64%) cases, pelvic abscess formation in two patients and pancreatic leakage/fistula in one of them, who died 10 months after surgery due to rapid disease progression. No case of postoperative severe pneumonia or thrombosis was recorded. Median disease-free survival was 25 and overall survival was 70 months, respectively.

Conclusion

Splenectomy is sometimes necessary in order to achieve complete cytoreduction in advanced ovarian cancer with acceptable perioperative morbidity and increased survival rates.
OVARIAN CANCER

ESGO7-0959

PREDICTORS OF EXTENDED INTENSIVE CARE UNIT UTILIZATION AFTER SURGERY FOR ADVANCED OVARIAN CANCER

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Aims

The objectives of this study were to identify variables associated with prolonged, over 48-hour admission to the ICU.

Method

A retrospective analysis of patients admitted to the ICU after surgery for advanced ovarian cancer between 01/2004 and 12/2016 was conducted. Patients admitted to ICU were separated into two groups, depending on the length of stay (48 hours or more). Perioperative variables were compared across the two groups by logistic regression analysis.

Results

255 patients with advanced ovarian cancer underwent primary, interval and secondary debulking. Forty of them (15.6%) were admitted to the ICU. One died after 48 hours of stay and two were readmitted to ICU after 2 and 3 days respectively. Twenty-four of them (60%) required less than 48 hours in ICU. Age, operation time, intraoperative iatrogenic complications, bowel resection, ASA score were significant different between two groups, predicting prolonged stay in the ICU.

Conclusion

Certain criteria can predict if a patient with advanced ovarian cancer may require extensive ICU stay. These data facilitate an appropriate preoperative counseling and enable gynecologic oncologist to identify those patients with ovarian cancer that will benefit most from postoperative ICU admission, helping to improve resources management in favor of patients.
OVARIAN CANCER

ESGO7-1195

PSOAS MUSCLE AREA IS NOT REPRESENTATIVE OF TOTAL SKELETAL MUSCLE AREA IN THE ASSESSMENT OF SARCOPEANIA IN OVARIAN CANCER

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²Netherlands cancer institute, Radiology, Amsterdam, The Netherlands
³MUMC+, Surgery, Maastricht, The Netherlands

Aims

Computed tomography measurements of total skeletal muscle area can detect changes and predict overall survival (OS) in patients with advanced ovarian cancer. This study investigates whether assessment of psoas muscle area reflects total muscle area and can be used to assess sarcopenia in ovarian cancer patients.

Method

Ovarian cancer patients (n=150) treated with induction chemotherapy and interval debulking were enrolled retrospectively in this longitudinal study. Muscle was measured cross-sectionally with computed tomography in three ways: (1) software quantification of total skeletal muscle area (SMA), (2) software quantification of psoas muscle area (PA), and (3) manual measurement of length and width of the psoas muscle to derive the psoas surface area (PLW). Pearson correlation between the different methods was studied. Patients were divided into two groups based on the extent of change in muscle area and agreement was measured with kappa coefficients. Cox-regression was used to test predictors for OS.

Results

Correlation between SMA and both psoas muscle area measurements was poor (r=0.52 and 0.39 for PA and PLW, respectively). After categorising patients into muscle loss or gain, kappa agreement was also poor for all comparisons (all κ < 0.40). In regression analysis, SMA loss was predictive of poor OS (hazard ratio 1.698 (95%CI 1.038-2.778), P=0.035). No relationship with OS was seen for PA or PLW loss.

Conclusion

Change in psoas muscle area is not representative of total muscle area change and should not be used to substitute total skeletal muscle to predict survival in patients with ovarian cancer.
DOES PERITONEAL CARCINOMATOSIS DISTRIBUTION IMPACT SURVIVAL IN ADVANCED EPITHELIAL OVARIAN CANCER: RETROSPECTIVE STUDY OF 102 CASES

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Aims

Background: No residual disease is the major prognostic factor for advanced epithelial ovarian cancer (AEOC). Nonetheless, the prognostic impact of initial tumor load is still a matter of debate, suggesting that some peritoneal carcinomatosis localizations could have a bad prognosis on survival.

Objective: To assess the impact of peritoneal carcinomatosis distribution on progression free survival (PFS) in AEOC patients without residual disease after cytoreductive surgery.

Method

Retrospective monocentric cohort study, from October 2001 to July 2014. Inclusion criteria were high-grade AEOC patients without residual disease after primary debulking surgery (PDS) or after interval debulking surgery (IDS) following neoadjuvant chemotherapy (NACT). Peritoneal carcinomatosis was assessed with operative reports according qualitative and quantitative criteria. Primary endpoint was PFS. Secondary endpoints included PFS in the two sub groups “PDS” and “IDS”.

Results

One hundred and two patients were included. Median PFS was 26.6 months and median OS was 39.9 months. Any peritoneal carcinomatosis localization was associated with PFS in the total group or in the “PDS” sub group. In the “IDS” sub group, histological residual disease and peritoneal carcinomatosis located in an area originated from the anterior intestine were associated with decreased PFS.

Conclusion

Initial tumor load has not been found associated with PFS in general population. These results could be due to a lack of power of our study. Larger-scale studies are needed to assess whether initial tumor load has a prognostic impact even if absence of residual disease is achieved during cytoreductive surgery.
OVARIAN CANCER

ESGO7-0914

PREDICTION OF RESIDUAL DISEASE AFTER INTERVAL CYTOREDUCTIVE SURGERY FOR EPITHELIAL OVARIAN CANCER

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Aims

A poor prognostic feature of advanced epithelial ovarian cancer (EOC) is the presence of residual disease after a maximum effort of cytoreductive surgery. Surgery is of limited benefit when the diameter of remaining tumor lesions is >1 cm. Residual disease is difficult to predict before surgery and an accurate prediction model is needed. The Cancer Ovarii Non-invasive Assessment of Treatment Strategy (CONATS) index, based on serum biomarker HE4, age and WHO performance status, has an accuracy of 85% to predict residual disease in patients undergoing primary cytoreductive surgery (PCS). This model has been tested only in patients undergoing PCS, we evaluated this model in patients undergoing interval cytoreductive surgery (ICS).

Method

Serum was available for 146 patients with advanced EOC who underwent ICS between 2010 and 2016. HE4 was measured with electrochemiluminescence in pre-operative samples. CONATS was used to predict residual disease. Areas under the curve (AUC) was calculated for residual disease > 1 cm.

Results

We included 146 patients with EOC (96 with stage IIIC and 50 with stage IV disease). Following surgery, 71 patients (49%) had no residual disease, 75 patients (51%) had residual disease, of whom 20 had >1 cm disease. The AUC of >1 cm residual disease was 0.79 (95%Ci 0.67-0.91).

Conclusion

The CONATS model predicts surgical outcome of ICS and is useful in counseling patients whether or not a beneficial cytoreduction can be performed. This could be especially helpful in counseling elderly patients or patients with extensive comorbidity in whom surgery has a high risk for complications.
EVALUATION OF ULTRASOUND MODELS IN THE DIAGNOSIS OF ADNEXAL MASSES; A COST-EFFECTIVENESS ANALYSIS

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Aims

To determine the cost-effectiveness of recently introduced ultrasound models in the diagnosis of adnexal masses compared to the Risk of Malignancy Index (RMI):

- Subjective assessment (SA);
- Simple rules added by subjective assessment (SR+SA);
- Simple rules with inconclusive results diagnosed as malignant (SR+Mal);
- Logistic regression model 2 (LR2); and
- Assessment of Different NEoplasias in the adneXa model (ADNEX).

Method

Potential cost-effectiveness was explored using an economic model, which was limited to short term costs. The comparative sensitivity, specificity and costs of the diagnostic strategies including surgical management and recovery, were explicitly incorporated in the model. The analysis took a hospital perspective including all costs from detection of the mass up to recovery following surgery. Incremental cost-effectiveness was expressed as the costs per correct diagnosis (i.e. either true positive/negative test results).

Results

Although effectiveness was highest for SA, cost of SR+SA were lowest (figure 1). The outcome of the cost-effectiveness analyses was most influenced by specificity. The probability of being the most cost-effective was the highest for the strategy of SR+SA for a wide range of willingness-to-pay thresholds (≤€39,817). RMI had low cost-effectiveness probabilities (<1%).

Conclusion

Although SA is the best diagnostic strategy in terms of diagnostic accuracy, SR+SA is the preferred method from a cost-effectiveness perspective.
OVARIAN CANCER

ESGO7-0613

POSTOPERATIVE COMPLICATIONS WITH OR WITHOUT THE PREOPERATIVE USE OF BEVACIZUMAB BEFORE INTERVAL DEBULKING FOR STAGE IV OVARIAN CANCER: A CASE-CONTROL STUDY

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Aims

We aimed to examine the effect of Bevacizumab (BEV) on postoperative complications when applied together with iv paclitaxel and carboplatin (TC) prior to interval debulking surgery (IDS) in stage IV epithelial ovarian cancer (EOC) patients.

Method

This is a retrospective monocentric study in stage IV EOC patients undergoing IDS between 2010 and 2016 (45 preoperative BEV, 63 NO BEV). BEV was administered in all preoperative courses and IDS was planned 4-6 weeks following the last TC+BEV. Case-controls were selected on the basis of age and whether intestinal resection was needed, resulting in 45 cases and 45 controls. We used the comprehensive complication index (CCI) to determine the overall morbidity during 30 days after the surgery.

Results

All patients had stage IV EOC and an ASA score of 2 or 3 when IDS. Most patients underwent a complete resection (BEV N=43, NO BEV N=44). The median age at time of the IDS with and without BEV was 68 (range 59-73) and 64 (range 36-78) years, respectively.

The mean CCI for BEV and NO Bev was 24,2 and 19,5, respectively (not significant – NS). In the group undergoing bowel resection the CCI for BEV (N=7) and NO BEV (N=7) was 27,3 and 25,9, respectively (NS). Major complications observed were intestinal perforation (BEV N=2, NO BEV N=1) and wound dehiscence (BEV N=4, NO BEV N=2).

Conclusion

BEV prior to IDS tended to increase the complications rate at IDS. This difference was however not significant, even not in patients undergoing bowel surgery.
OVARIAN CANCER

ESGO7-0093

OPPORTUNISTIC TUBECTOMY IS SAFE IN WOMEN UNDERGOING HYSTERECTOMY FOR BENIGN GYNECOLOGICAL CONDITIONS; RESULTS FROM THE HYSTUB-TRIAL

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Aims

The Fallopian tube is most likely the organ of origin of high grade serous “ovarian” carcinomas. Therefore, opportunistic removal of this organ might lead to a lower incidence. Since this procedure has an opportunistic nature, it should not have adverse effects. To determine whether opportunistic tubectomy in premenopausal women undergoing hysterectomy for benign indications is both hormonally and surgically safe, we conducted this trial. The primary outcome was change in serum Anti-Müllerian Hormone (AMH) concentrations measured preoperative, and 6 months postoperative. Secondary outcomes were surgical parameters such as operative time, blood loss and complication rate.

Method

This multicentre randomised controlled trial was conducted in four hospitals in the Netherlands. A total of 104 premenopausal women, aged 30 to 55 years, were randomly assigned either hysterectomy with opportunistic bilateral tubectomy (N=52) or standard care hysterectomy with preservation of the Fallopian tubes (N=52).

Results

There were no significant differences between the two groups in baseline characteristics and preoperative AMH concentrations (2.21 pmol/L in the intervention group versus 1.24 pmol/L in the control group, P=0.19). Most importantly, postoperative AMH concentrations (2.11 pmol/L in the intervention group versus 1.43 pmol/L in the control group, P=0.35) did not differ significantly. Furthermore, addition of tubectomy to hysterectomy did not lead to poorer surgical outcomes.

Conclusion

Opportunistic bilateral tubectomy in addition to hysterectomy does not lead to a greater decline in ovarian function or poorer surgical outcomes when compared to hysterectomy alone. Therefore, tubectomy is a safe procedure in premenopausal women undergoing hysterectomy for benign indications.
OVARIAN CANCER

ESGO7-1133

ANNUAL ACTIVITY OF CYTOREDUCTIONS FOR ADVANCED OVARIAN CANCER IN FUNDACION JIMENEZ DIAZ HOSPITAL

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Aims

To Know the number of patients operated in the FUNDACIÓN JIMÉNEZ DÍAZ HOSPITAL in the last year

To Know primary cytoreduction rate and interval surgery

To Know complete, optimum and suboptimal cytoreduction rate

To Know number of secondary reductions

To know incidence of complications and mortality rate

To know the mean of extirpated nodes

To verify if our service fulfills criteria of quality of advanced ovary cancer of the ESGO

Method

A retrospective review was conducted from September 2015 to August 2016

There were 33 surgeries for advanced ovarian cancer in our hospital

27 Cytoreductions in Ovarian Cancer of New Diagnosis

6 secondary cytoreductions by relapse

Results

Of the 27 cases of new diagnosis:

- 24 (88%) cases of primary cytoreduction
- 3 (12%) of interval surgeries
- 93% complete cytoreduction
- 7% optimal cytoreduction

- Mean of extirpated (pelvic and para-aortic) nodes: 41
- 66% of the patients a bowel resection was performed
- Mortality 0%
- Surgical complications 6%

Conclusion

Our hospital fulfill the criteria of quality indicators for advanced ovarian cancer proposed by ESGO
Aims

Tumor Treating Fields (TTFields), an non-invasive, regional treatment is approved for recurrent and newly diagnosed glioblastoma by the FDA. TTFields deliver intermediate-frequency alternating electric fields to the tumor by disrupting the mitotic spindle formation. INNOVATE is the first trial testing TTFields (200kHz) in ovarian cancer.

Method

Thirty-one recurrent platinum-resistant ovarian cancer patients were treated with TTFields plus weekly paclitaxel. Patients had unresectable tumors, ECOG performance 0-1, and measurable disease per RECIST. The primary endpoint was incidence and severity of treatment-emergent adverse events. Secondary endpoints included progression free and overall survival and radiological response rate.

Results

The median age was 60 (45-77 years), 77% had serous histology, 52% had ECOG score of 0. All patients were platinum-resistant. Ten (32%) patients had serious adverse events (SAEs) during the study, unrelated to TTFields: 31% related to gastrointestinal disorders (ileus, jaundice and ascites) and 31% to respiratory events (dyspnea, pleural effusion and pulmonary embolism). One tumor-related SAE led to permanent discontinuation of the device. Most patients reported mild-moderate TTFields-related skin irritation; only two patients (6.4%) had severe-grade events. Of evaluable tumors, 25% had partial response and 46.4% had stable disease — a clinical benefit of 71.4%. Six patients (19.4%) had a CA125 response: decrease of 50% or more in serum levels. The median OS was not reached.

Conclusion

Data show that TTFields plus weekly paclitaxel are tolerable and safe in heavily pre-treated platinum-resistant ovarian cancer patients. Further testing of TTFields with chemotherapy in ovarian cancer is warranted.
OVARIAN CANCER

ESGO7-0399

PERIOPERATIVE POSITIONING MANAGEMENT IN GYNECOLOGIC CANCER SURGERY: A NATIONAL NOGGO-AGO INTERGROUP SURVEY


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Aims

Approximately 4% of all medical complications are perioperative positioning injuries. Aims of the survey were the analysis of perioperative positioning management in gynaecologic-oncological surgery, the process- and structure-reliability and the implementation of current guidelines into daily clinical practice.

Method

We sent an anonymous multiple-choice questionnaire to all gynecological departments in Germany. Sixty questions were divided into five different parts: 1) descriptive information about the department, 2) focus on the pre- and postoperative management, 4) on the quality management, and 5) information regarding the positioning management in the operation room based on two fictional case examples in gynecologic oncology procedures.

Results

184 of 633 departments participated in the survey (June-September 2016). 48.8% of all participating departments declared complications related to intraoperative positioning, independent from department size. Knowledge of the current guideline on positioning did not impact the incidence of complications. Positioning of the patient was mentioned in the team-time-out procedure in 66.1% of the participating departments. No difference was found between high-volume and low-volume gynecologic oncologic operative departments with regard to the use of supportive tools such as anti-thrombotic leg pumps. 92.7% included information of positioning injuries into the written informed consent. Knowledge of the guideline or a previous legal dispute did not influence the willingness to inform about possible positioning-related complications.

Conclusion

The awareness of perioperative positioning management in gynecologic cancer surgery is high throughout all departments in Germany. Almost half of all 184 participating departments report positioning-related complications in the previous 12 months, stressing the importance of this often underrated topic.
TUMOR TREATING FIELDS (TTFields) COMBINED WITH PACLITAXEL ENHANCES TREATMENT EFFICACY IN VITRO AND IN A MURINE MODEL OF OVARIAN CANCER


Novocure, Clinical Development, Root, Switzerland
Novocure, Preclinical, Haifa, Israel
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Novocure, Scientific Affairs, Haifa, Israel
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Aims

Long-term survival rates for advanced ovarian cancer have not changed over the past four decades justifying the development of new, effective treatment modalities. Tumor Treating Fields (TTFields), an approved anticancer modality, utilizes low-intensity, intermediate frequency, alternating electric fields to inhibit tumor growth. We evaluated the efficacy of combining TTFields with paclitaxel against ovarian cancer cells in vitro and in vivo.

Method

TTFields were applied for 72 hours to human ovarian cells (A2780, OVCAR-3, Caov-3) using the invitro system (Novocure). In vivo effect of the combined treatment was tested in mice orthotopically implanted with MOSE-LFL cells. TTFields delivery to the human abdomen was examined using finite element mesh simulations (Sim4life software).

Results

TTFields-treated ovarian cancer cell lines showed significant reduction in cell counts versus untreated cells. The effect was frequency and intensity dependent with a maximal effect observed at 200 kHz. Further reduction in the viable cells counts was achieved when TTFields were combined with paclitaxel. Combined treatment showed significant reduction in tumor luminescence and tumor weight versus untreated mice. Electric fields simulations demonstrated that the intensities inside and in the vicinity of the ovaries of a realistic human computational phantom are about 1 and 2 V/cm pk-pk, respectively, which is within the range of intensities required for TTFields effect.

Conclusion

TTFields plus paclitaxel enhances treatment efficacy in vitro and in vivo. TTFields was effectively delivered through a large nonuniform volume encompassing both ovaries and potential metastatic sites. Results support combination of TTFields with paclitaxel in ongoing clinical trial (INNOVATE) in recurrent ovarian-carcinoma.
A COMPUTATIONAL MODEL FOR STUDYING THE DELIVERY OF TUMOR TREATING FIELDS FOR THE TREATMENT OF OVARIAN CANCER

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Aims

Tumor Treating Fields (TTFields) are alternating electric fields in the intermediate frequency (100-300 kHz) known to inhibit the growth of solid tumors. A phase II clinical trial (INNOVATE) tested the feasibility and safety of TTFields for the treatment of advanced ovarian cancer. Optimizing the delivery of TTFields requires an understanding of how TTFields distribute within the body. Since measuring the electric fields in human subjects is technically difficult, numerical simulations are an excellent tool for performing such studies. Here we report on a simulation-based study examining the distribution of TTFields when treating ovarian cancer.

Method

To simulate delivery of TTFields to the abdomen, we used a realistic computerized model of a human female (ELLA 3.0 from ZMT-Zurich). Two pairs of transducer arrays were placed on the skin of the model: one pair of arrays was placed on the lower abdomen and back, while the second pair of arrays was placed laterally. To deliver TTFields, electric currents of 4A peak to peak at frequency of 200 KHz were delivered to the arrays.

Results

The simulations showed that the electric field was confined to the lower abdomen and pelvis, which is the volume located between the transducer arrays. The field was heterogeneous with intensity exceeding 1 V/cm in significant portions of the treated volume.

Conclusion

Our results suggest that TTFields can be delivered effectively to the ovaries and surrounding tissues. This work forms the basis for developing optimal strategies for delivering TTFields when treating ovarian cancer.
OVARIAN CANCER

ESGO7-0874

PATHOLOGIC DISTRIBUTION OF DISEASE DURING INTERVAL DEBULKING VERSUS PRIMARY TUMOR REDUCTION IN PRIMARY PERITONEAL, OVARIAN, OR FALLOPIAN TUBE CARCINOMA

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Aims

The surgical approach for primary tumor reductive surgery (PTRS) for primary peritoneal, ovarian or fallopian tube carcinoma has been used to extrapolate the technique for interval debulking after neoadjuvant chemotherapy (NACT). Few studies have evaluated whether procedures such as hysterectomy contribute to comparable removal of macroscopic disease after NACT. Our study compared pathologic distribution of disease after NACT versus PTRS.

Method

Patients who underwent NACT or PTRS were identified from 1995-2016. Involvement of organs at surgery was categorized as either macroscopic, microscopic, or no tumor. Statistical analyses included Mann-Whitney and chi-squared or Fisher’s exact tests.

Results

Of the 1000 patients identified, 374 (37.7%) received NACT and 618 (62.3%) underwent PTRS. Uterine involvement was significantly different in the NACT group compared to PTRS; the majority of uterine specimens from the NACT group were free of disease (macroscopic 30 % vs 49%, no tumor 52% v. 39 %, \(p <0.001\)). There was no difference in the amount of residual tumor in cervical specimens in the NACT group compared to PTRS (macroscopic 7.2% v. 6.6%, no tumor 90% v. 91.4%). Macroscopic large bowel involvement was 63.6% in NACT versus 84.7% in the PTRS versus (\(p < 0.001\)). There were statistically significant differences in the pathologic characteristics of disease in the ovaries/tubes, omentum, and bowel.

Conclusion

Pathologic disease distribution after NACT is significantly different than at PTRS. NACT appears to reduce macroscopic disease in surgical specimens. Hysterectomy including removal of the cervix may not be mandatory after NACT to achieve no gross residual disease.
OVARIAN CANCER

ESGO7-1260

AUDIT OF PATIENT PROFILE AND SEQUENCING OF THERAPY IN OVARIAN CANCER AT A TERTIARY HOSPITAL IN SOUTH AFRICA (2010-2014)

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Aims

Ovarian cancer has the highest mortality rate of all female genital tract cancers. The first step in addressing the mortality rate of a disease is investigating the current trends in patient profile, disease profile and treatment profile. There is no data available describing these parameters in our setting. The aim of this study therefore was to describe the aforementioned in our setting.

Method

This retrospective clinical audit was conducted at the Steve Biko Academic Hospital in Pretoria, South Africa. The data was collected by reviewing the files of patients presenting with primary ovarian cancer in the time period 1 January 2010 – 31 December 2014. 140 patients were included. The data was electronically captured and all analysis was conducted in SPSS V 23.

Results

The mean age of diagnosis is 59 years. The intended primary treatment for 101 patients was surgery, for 24 patients was chemotherapy and 15 patients were palliated. 60.4% of the patients had a complete debulking surgery. 6 out the 24 patients referred for primary chemotherapy were evaluated for chemotherapy and 3 patients received the treatment. Of the 101 subjects that had an intended primary plan for surgery, 62 had adjuvant chemotherapy scheduled, and 22 patients received chemotherapy.

Conclusion

The findings of this study emphasize the need for a standard treatment protocol and improvement in the referral system between the Gynaecological Oncology Department and Medical Oncology Department in our unit.
SIGNIFICANCE OF PD-1 AND PD-L1 EXPRESSION IN OVARIAN CANCER BIOLOGY


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Aims

Induction of checkpoint molecules such as programmed cell death protein (PD-1) and its ligand PD-L1 is an essential step in tumor immune escape which may be regulated by interferon gamma (IFNγ, encoded by IFNG). Therapeutically, antibodies against PD-1 or PD-L1 restore T-cell immunogenicity and suppress tumor progression. Here, we investigate the role of intratumoral PD-1 and PD-L1 mRNA expression in ovarian cancer (OC) and explore its relation to IFNγ.

Method

We analyzed the mRNA expression of PD-1, PD-L1 and IFNγ determined by quantitative real-time PCR in tissue of 171 patients with low grade serous (LGSOC; n=11), high grade serous (HGSOC; n=107), endometrioid (n=43) and clear cell (n=10) OC and compared it to each 14 normal ovaries and fallopian tubes.

Results

We observed an induction of the PD-1 pathway in OC tissue compared to healthy controls. Further, a significant correlation between PD-1, PD-L1 and IFNγ expression was detected. PD-1 and PD-L1 mRNA expressions increased with tumor grade. However, only high PD-L1 mRNA expression was inversely associated with age. Notably, we further found that TP53 mutated tumors exhibited high PD-L1 levels and BRCA1/2 mutations were associated with both high PD-1 and PD-L1 levels. In the cohort of FIGO stage III/IV HGSOC, which represents the major subgroup, high PD-1 and high PD-L1 was associated with an adverse progression-free and overall survival, respectively.

Conclusion

Our study suggests that the PD-1 pathway is controlled by IFNγ in OC and is especially involved in immune biology of poorly differentiated, BRCA1/2 or TP53 mutated cancers.
OVARIAN CANCER

ESGO7-0140

ERCC1-EXPRESSING CIRCULATING TUMOR CELLS AS A POTENTIAL DIAGNOSTIC TOOL FOR MONITORING PLATINUM-BASED CHEMOTHERAPY AND FOR PREDICTING OUTCOME OF OVARIAN CANCER

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Aims

We recently showed that the presence of ERCC1+CTCs (defined as positive for at least one of the AdnaTest markers and ERCC1-positivity), is an independent predictive biomarker for primary platinum-resistance and poor prognosis of ovarian cancer. The aim of our study was to determine, whether the additional assessment of ERCC1-transcripts increases the overall CTC-detection rate. Moreover, we analyzed clinical relevance of ERCC1+CTCs after adjuvant chemotherapy.

Method

65 paired blood samples of primary ovarian cancer patients at primary diagnosis and after adjuvant chemotherapy were studied for CTCs with the AdnaTest OvarianCancer (QIAGEN, Germany). We analyzed the tumor-associated transcripts EpCAM, Muc-1 and CA-125. ERCC1-transcripts were investigated in a separate approach by singleplex RT-PCR.

Results

Besides Adnatest+CTCs, the additional assessment of ERCC1 allows the detection of CTCs, which are negative for AdnaTest markers and exclusively positive for ERCC1-transcripts (Adnatest+ERCC1+CTCs). This results in an increased overall CTC-detection rate from 23% to 40% before surgery and from 20% to 38% after chemotherapy. However, CTCs with combined positivity for at least one Adnatest marker and ERCC1-positivity (ERCC1+CTCs) showed the most relevant prognostic information and correlated with platinum-resistance (p=0.01) and reduced PFS (p=0.029) and OS (p=0.0008). Moreover, the persistence of ERCC1+CTCs after adjuvant chemotherapy indicated poor prognosis (PFS: p=0.005; OS: p=0.006).

Conclusion

The combined detection of Adnatest+ERCC1+CTCs and Adnatest+ERCC1+CTCs increases the overall detection rate of CTCs in ovarian cancer patients. Specifically, we suggest that ERCC1+CTCs could be used as blood-based biomarker for monitoring platinum-based chemotherapy and for identifying ovarian cancer patients with poor prognosis.
OVARIAN CANCER

ESGO7-0321

PREDICTING EARLY TREATMENT DISCONTINUATION AND EFFECTIVENESS IN BEVACIZUMAB-TREATED PATIENTS WITH PRIMARY ADVANCED OVARIAN CANCER: EXPLORATORY ANALYSES OF THE OTILIA STUDY (ON BEHALF OF NOGGO)
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Aims

Phase III trials demonstrated the efficacy and safety of front-line bevacizumab-containing therapy for ovarian cancer. Previous interim analyses of the single-arm OTILIA study (NCT01697488) evaluating front-line bevacizumab-containing therapy in German clinical practice showed a 21.7-month median progression-free survival (PFS) and similar outcomes irrespective of age. Post hoc analyses explored factors potentially predicting premature treatment discontinuation and PFS.

Method

Patients with newly diagnosed FIGO stage IIIB–IV ovarian cancer received the EU-approved bevacizumab-containing regimen. Co-primary endpoints were safety and PFS. A logistic regression model including age, diabetes mellitus, cardiovascular comorbidities, ascites, ECOG performance status and FIGO stage assessed factors associated with treatment discontinuation for reasons other than disease progression, death or documentation completion. Potential prognostic factors for PFS were explored using Cox regression analysis.

Results

By 31/01/2017, 433 of 808 patients had discontinued therapy. The most common reasons for treatment discontinuation were disease progression (12%), end of documentation (10%), treatment-related toxicity (8%) and non-toxicity-related patient request (6%). Factors suggesting increased risk of treatment discontinuation were age ≥70 versus <70 years (odds ratio 1.67 [95% CI 1.18–2.38]; p=0.004) and diabetes mellitus (odds ratio 1.79 [95% CI 1.06–3.03]; p=0.030). Cox regression analysis suggested worse PFS in patients with post-operative residual tumour ≥1cm or ascites >500mL; age and comorbidities were not associated with PFS.

Conclusion

In post hoc analyses, premature bevacizumab discontinuation seemed more likely in older or diabetic patients. However, neither age nor comorbidities was associated with worse PFS. Patient education and counselling are essential to ensure maximal duration of effective therapy.
AN OBSERVATIONAL, MULTICENTER, PROSPECTIVE STUDY OF TRABECTEDIN PLUS PEGYLATED LIPOSOMAL DOXORUBICIN (PLD) IN PATIENTS WITH PLATINUM-SENSITIVE RECURRENT OVARIAN CANCER (PSROC)

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Aims

The prospective, non-interventional phase IV OVA-YOND study evaluated trabectedin+PLD in real-life clinical practice to assess the toxicity and efficacy of the combination.

Method

Data from patients with PSROC treated with PLD 30 mg/m² followed by trabectedin 1.1 mg/m² 3-h i.v. infusion every three weeks have been collected.

Results

From 02/2013-12/2016, 77 enrolled patients from 31 sites across Germany and treated with ≥1 cycle of trabectedin+PLD were evaluated. All patients had PSROC with a median platinum-free interval of 12 months (range: 6-86 months). Median age of patients was 66 years (range: 40-78) and 80.5% had ECOG performance status 0/1. Median number of trabectedin+PLD cycles received per patient was 6 up to a maximum of 21 cycles. Median treatment duration was 4.24 months, mostly on an outpatient basis (≥66.7). Five patients (6.5%) had a complete response and 19 patients (24.7%) achieved a partial response for an ORR of 31.2% with a median duration of 6.25 months. Additionally, 16 patients (20.8%) had a disease stabilization for a disease control rate of 51.9%. With 64 PFS events recorded, median PFS was 6.3 months (CI95%: 5.1-7.3), whereas median OS was 16.4 months (CI95%: 11.3-19.3). Most common grade 3/4 trabectedin-related adverse events (TRAЕ) were leukopenia (18.2% of patients), neutropenia (15.6%), thrombocytopenia (9.1%), ALT (7.8%)/AST (6.5%) increase, and nausea/vomiting (5.2% each). No grade 5 or unexpected TRAE occurred.

Conclusion

Trabectedin+PLD confer clinically meaningful benefit to patients with PSROC, being either comparable or better to those observed in selected populations from clinical trials or other real-life studies, with a manageable safety profile.
OVARIAN CANCER

ESGO7-0051

ASSESSMENT OF LYMPHOCYTE INKT+/CD3+/CD161+ IN BLOOD AND TUMOR TISSUE IN CASES OF BENIGN OVARIAN TUMORS, BORDERLINE OVARIAN TUMORS AND ADVANCED-STAGE OVARIAN CARCINOMAS

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Aims

Objective

Human invariant natural killer T (iNKT) cells are a newly discovered lymphocyte subpopulation with a restricted T-cell receptor Vα24Jα18. They play a crucial role in immunoregulation and antitumor activities. Our study focused on the assessment of iNKT cells in peripheral blood and tissue of benign and borderline ovarian tumors (BOTs) and in advanced-stage ovarian cancer.

Method

The study group consisted of 25 women with benign ovarian tumors, 11 patients with BOTs, and 24 women with primary advanced-stage (FIGO stages III or IV) ovarian cancers (OC). The control group was composed of 20 patients without ovarian pathology. The percentages of iNKT lymphocytes in peripheral blood and tissue specimens were assessed with a flow cytometry.

Results

A significant difference in the percentage of iNKT+/CD3+ of CD3+ lymphocytes, iNKT+/CD3+/CD161+ among CD3+ and iNKT+/CD3+/CD161+ among CD3+/iNKT+ between control group and patients with ovarian tumors in the peripheral blood and tumor tissue was found (Figure1,2). Significant correlations were noted between the percentage of lymphocytes iNKT+/CD3+/CD161+ of CD3+/iNKT cells in blood and those present in tumor tissue of both benign and malignant tumors. In the OC group, neither percentage of iNKT cells in blood (P=0.07), nor intratumor NKT-cell infiltration (P=0.5) were independent prognostic factors (Figure3).

Conclusion

An increased percentage of iNKT cells was observed in benign ovarian tumors compared to OCs. In ovarian cancer, a higher percentage of iNKT cells was present in tumor tissue that patient’s blood. Finally, the percentage of iNKT cells in blood or tumor tissue infiltration was not a significant prognostic factor for advanced-stage OCs patients.
SURGICAL MANAGEMENT OF OVARIAN CANCER AT THE UNIVERSITY HOSPITAL OF WALES: UTILISATION OF SURGICAL SERVICES IN ADVANCED OVARIAN CANCER

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Aims

This project aimed to review how often colorectal procedures were performed by gynaecological oncologists and identify the frequency and extent other surgical specialties were involved in the management of advanced ovarian cancer (FIGO II-IV).

Method

A retrospective analysis reviewing all operations on stage II-IV ovarian cancers documented at University Hospital of Wales, Cardiff. All stage 1 disease and ovarian metastasis of other primaries were excluded.

Results

A total of 106 cases were identified from September 2014 to September 2016. 33 cases (31%) required assistance from other specialties; colorectal (49%), hepatobiliary (24%), urology (12%), vascular (9%) and general surgeons (6%).

The primary procedures included total abdominal hysterectomy and bilateral salpingo-oopherectomy (73%), unilateral/bilateral salpingo-oopherectomy (17%). While 9% had either explorative laparotomy, adhesiolysis or hernia repair.

16 cases required a colorectal procedure, the most common being Hartmann’s procedures and resection of transverse colon with primary anastomosis. The data showed a 67% primary anastomosis rate. 73% of cases requiring colorectal intervention did not have residual disease.

28 cases had additional non-gynaecological surgical procedures by gynaecological oncologists, for example repair of serosal bowel injuries (22%), appendectomy (9%), Hartmann’s procedure (9%) and ureteric stenting (12%). 57% of these cases did not have residual disease.

Conclusion

Our data demonstrates approximately a third of patients required surgical support from the colorectal team. A system to identify patients preoperatively who are likely to need external support would be useful and help improve patient outcomes in the future.
OVARIAN CANCER

ESGO7-0553

ARID1A MUTATION WITH LOSS OF PROTEIN EXPRESSION OF BAF250A MAY ACT AS AN EARLY EVENT IN THE TRANSFORMATION OF ENDOMETRIOSIS INTO OVARIAN CANCER

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Aims

Ovarian clear cell carcinoma (CCC) and endometrioid adenocarcinoma (EMC), regarded as endometriosis-associated ovarian cancer, are the second most frequent types of epithelial ovarian cancer (EOC) accounting for 35~40% of EOC in Asia. Mutation of ARID1A (the AT-rich interactive domain 1A (SWI-like) gene) resulting in inactivation of its encoding nuclear protein, BAF250a, has been frequently identified in these tumors. The timing of loss of ARID1A protein expression during the development of endometriosis-related ovarian cancer would be investigated in this study.

Method

We retrospectively collected the cases diagnosed as CCC or EMC from 2001 to 2012 and further analyzed the expression of protein BAF250a from tumor blocks containing benign endometriosis, CCC or EMC by immunohistochemical study.

Results

During 2001 and 2012, 94 CCC and 136 EMC were collected and loss of ARID1A expression was found in 47 (50.6%) cases in CCC and 26 (18.9%) cases in EMC, respectively. 22 (23.4%) of CCC and 14 (10.3%) of EMC were disclosed having concurrent endometriosis in tumor side, and 82% (17 of 22) in CCC and 100% (5 of 5) in EMC of atypical endometriosis, adjacent to those ARID1A-deficient carcinoma were also found to be ARID1A deficient, comparing to none of the endometriotic epithelium not adjacent to the tumor (distant endometriosis foci).

Conclusion

In our study, it indicated that loss of expression of ARID1A might already present in a portion of atypical endometriosis, which possibly has undergone genetic alteration, indicating a risk of malignant transformation from benign endometriosis to CCC and EMC.
OVARIAN CANCER

ESGO7-1088

SALIVARY PROTEIN SIGNATURES: POTENTIAL FOR NON-INVASIVE OVARIAN CANCER DETECTION

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Aims

Our objective was to identify a panel of salivary protein signatures which may have potential for detection of ovarian cancer. Further it can contribute to development of self tests since it can be collected easily.

Method

Differentially expressed Salivary proteins between ovarian cancer patients and matched healthy control subjects were identified by Fluorescence-based differential in-gel electrophoresis (DIGE) coupled with mass spectrometry. The expression levels of three differential proteins A, B and C were confirmed and validated by using western blot and ELISA respectively. Then, the selected salivary signatures were shown to be positive by immunohistochemistry in an independent cohort of ovarian tissue. Further these salivary signatures were also confirmed by gene expression profiling of tumors by microarray analysis followed by validation using qRT-PCR.

Results

Forty four differentially expressed proteins having significant differential expression (p < 0.05) were identified. Out of 44 identified proteins between normal healthy controls and ovarian cancer patients, 25 proteins were found to be up-regulated and 19 proteins were down-regulated. A, B and C were significantly increased in saliva of ovarian cancer patients, with the highest levels in invasive disease. Microarray and q-RT-PCR analysis also confirmed that A, B and C expression was significantly upregulated in ovarian cancer tissue.

Conclusion

This study provides the proof of concept of salivary biomarkers for the non-invasive detection of ovarian cancer. This ‘dual-omic’ strategy based identified tumour secreted proteins whose saliva concentrations are increased significantly could serve as a promising biomarker for identifying individuals with poor prognostic potential.
OVARIAN CANCER

ESGO7-0117

THE USEFULNESS OF COPY NUMBER AMPLIFICATION OF FGF3/FGF4 FOR PREDICTING THE EFFICACY OF TARGETED THERAPEUTIC AGENTS FOR OVARIAN CANCER

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Aims

The response rate of targeted therapeutic agents for recurrent ovarian cancer is lower than that of cytotoxic chemotherapy; the development of a companion diagnosis that predicts the response is necessary. The prediction of the effect of targeted therapeutic agents for hepatocellular carcinoma (HCC) using a copy number assay for FGF3 and FGF4 has been reported. Therefore, we aimed to develop the method for predicting the response of targeted molecular treatment in ovarian cancer.

Method

In this study, we analysed 14 ovarian cancer cell lines and 123 patients who were pathologically diagnosed with serous, endometrioid or clear cell adenocarcinoma of the ovary. A copy number assay of FGF3 and FGF4 was performed using DNA extracted from the tumour cells or the cancerous lesions scratched from paraffin-embedded sections. A cytotoxicity assay for ovarian cancer cell lines was performed to investigate the IC50 of the targeted therapeutic agents.

Results

The copy number amplification (>4) of FGF3 or FGF4 was found in 14% of serous carcinoma, 6% clear cell carcinoma, and 24% endometrioid carcinoma cases; however, no patients exhibited an extremely high copy number as observed with HCC. There were no significant differences in the clinicopathological factors and prognosis between the cases with amplified and normal copy numbers. The IC50 was extremely low in one cell line in which the FGF3/FGF4 copy number was substantially increased.

Conclusion

The copy number amplification of FGF3/FGF4 may be a useful predictive marker of sorafenib sensitivity in ovarian cancer.
THERAPEUTIC SIGNIFICANCE OF FULL LYMHPHADENECTOMY IN EARLY-STAGE OVARIAN CLEAR CELL CARCINOMA

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Aims

The aim of this study was to evaluate a therapeutic significance of full lymphadenectomy in early-stage ovarian clear cell carcinoma (OCCC).

Method

We retrospectively reviewed records of 127 consecutive OCCC patients with pT1/pT2 and M0 disease between January 1995 and December 2015. Survival outcome was compared with or without para-aortic lymph node dissection (PAND). Statistical analysis for selec were analyzed with Cox proportional hazard models.

Results

Of the 127 patients, 36 (28%) patients did not undergo lymphadenectomy and 12 (10%) patients underwent pelvic lymph node dissection (PLND) alone. Seventy-nine (62%) patients underwent PLND and PAND. Of the 91 patients with lymphadenectomy, ten (11%) had lymph node metastasis. There was no significant difference in age and distribution of positive peritoneal cytology, pT status, capsule rupture, peritoneal involvement, and combined chemotherapy between the PAND- group and the PAND+ group. Cox regression multivariate analysis confirmed that older age (HR, 2.5; 95% CI, 1.2–5.3), lymph node metastasis (HR, 5.4; 95% CI, 1.7–17.2), and positive peritoneal cytology (HR, 5.1; 95% CI, 2.0–13.2) were significantly and independently related to poor overall survival (OS), but implementation of both PLND and PAND (HR, 0.4; 95% CI, 0.2–0.9) were significantly and independently related to improved OS.

Conclusion

Although few in number, there are some patients with early-stage OCCC who can benefit from full lymphadenectomy. Its therapeutic role should be continuously investigated in OCCC patients at potential risk of lymph node metastasis.
ESTABLISHMENT AND CHARACTERIZATION OF A HUMAN OVARIAN CLEAR CELL CARCINOMA CELL LINE (FDOV1) DERIVED FROM A CHINESE PATIENT

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Aims

Ovarian clear cell carcinoma (OCCC) is a distinct histologic subtype with grave survival. The underlying molecular mechanism is not fully elucidated. Cell lines are useful experimental tools for research. We describe the establishment and characterization of a new OCCC cell line from a Chinese patient.

Method

FDOV1 was derived from an ovarian tumor from a 67-year-old woman. The morphology, growth pattern and karyotype were analyzed. Xenografts were established and characterized by histology and immunohistochemistry. Subsequently, whole-exome sequencing (WES) on both FDOV1 and patient’s formalin-fixed paraffin-embedded tissue block was performed to investigate the molecular profile.

Results

FDOV1 has been subcultured for more than 50 generations. Monolayer cultured cells are polygonal in shape, showing a transparent cytoplasm full of vacuoles (Fig 1.A). The number of chromosomes ranges from 45 to 90 (Fig 1.B). FDOV1 cells produces CA-125, but not CA-199. The cells could be transplanted (Fig 1.C) and produced tumors mimicking the donor tumor morphologically and immunohistochemically (Fig 1.D). WES showed both FDOV1 and tissue block harbored PIK3CA H1047R
mutation and ARID1A frameshift mutations (p.L2106fs, p.N201fs).

Conclusion

Only 13 patient-derived OCCC cell lines have been reported in the literature. FDOV1 is the very first one from a Mainland Chinese patient and has co-existing PIK3CA and ARID1A mutations, which would probably be a good model for exploring the molecular mechanism of OCCC.
OVARIAN CANCER

ESGO7-0515

ALTERATION OF THE TUMOR MICROENVIRONMENT BY NOTCH SIGNALING ENHANCES THE MUTUAL ASSOCIATION WITH EPITHELIAL OVARIAN CANCER AND MESOTHELIAL CALLS

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Aims

Peritoneal mesothelial cells (PMCs) are the primary components of the tumor microenvironment for epithelial ovarian cancer (EOC) cells. The Notch signaling-mediated alteration of the tumor microenvironment can play a crucial role in tumor progression; however, the exact role of Notch signaling between EOC and PMCs remains uncertain. The aim of this study was to assess changes of PMCs in the association with EOC, focusing on Notch pathways.

Method

We examined the effects of TGF-β1 treated PMCs on EOC progression via Notch signaling inhibition and analyzing how PMCs promote EOC cells attachment and proliferation, and induced chemoresistance.

Results

Level of TGF-β1 is higher in malignant ovarian tumor compared with benign ones. With TGF-β1 stimulation, expression of Notch 3 and Jagged 2 were increased in PMCs in immune-blotting analysis. We also confirmed elevation of HES1, a target gene of Notch signaling in TGF-β1 stimulated PMCs. We investigated the effects of TGF-β1 treated PMCs on EOC, using FACS systems, and revealed that EOC cells co-cultured with TGF-β1 stimulated PMCs showed higher chemoresistance than with control PMCs. In the EOC cells with TGF-β1 stimulated PMCs, Jagged 1, Notch3, and HES1 were elevated compared with control.

Conclusion

PMCs stimulated with TGF-β1 induced heterogeneity of EOC cells via Notch signals. Our results suggested that alteration of the tumor microenvironment by Notch signaling were effectively enhanced in the mutual association with chemoresistant EOC and PMCs.
OVARIAN CANCER

ESGO7-0016

NFKB SIGNALING PATHWAY AS A THERAPEUTIC TARGET IN CHEMORESISTANT OVARIAN CANCER

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Aims

Despite advances in surgical debulking and chemotherapy regimens, epithelial ovarian cancer (EOC) has exhibited marginal improvement in survival. Although the majority of patients with EOC achieve a clinical remission after induction therapy, over 80% relapse due to resistance to chemotherapies. In this regard, it is of paramount importance to devise novel therapeutics aimed at quelling the signaling pathways responsible for chemotherapeutic resistance in EOC. NFKB signaling pathway plays important roles in different hallmarks of cancer including chemoresistance, tumor growth and dissemination in human malignancies. In the EOC cells, enhanced phosphorylation and activation of NFKB correlates with tumor cell survival, proliferative and invasive capacities of these cells. Altogether, these seminal studies suggest that NFKB is an attractive preventive and therapeutic target in EOC.

Method

This study aimed to evaluate the effects of NFKB inhibitor Bay11-7082 on proliferative and invasive characteristics of EOC chemoresistance cell lines OVCAR3, SKOV3 and A2780CP through suppression of NFKB signaling. To achieve this, the effects of treatment of Bay11-7082 on proliferation, gene expression, clonogenicity and apoptosis were explored in vitro.

Results

NFKB inhibitor suppressed proliferation, migration and clonogenicity abilities of OVCAR3, A2780CP and SKOV3 cells via inhibition of activation of NFKB. NFKB inhibition resulted in a significant induction of apoptosis. Furthermore, Bay11-7082 treatment reduced invasive potentials of the EOC cells through quelling the NFKB pathway and suppression of anoikis resistance.

Conclusion

Altogether, these results suggest that NFKB inhibitors are potential anti-cancer drugs to overcome chemoresistance and inhibit proliferative and invasive characteristics of the EOC cells that exhibit platinum based chemoresistance.
IS IT REQUIRED TO PERFORM PARA-AORTIC LYMPH NODE DISSECTION IN EARLY STAGE OF OVARIAN CANCER

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Aims

To evaluate the effect of Para aortic Lymph node dissection in early stage of patients with ovarian cancer

Method

This descriptive cross-sectional cohort study was performed in Ghaem Hospital, 2012-2014. All patients with clinical early stage of ovarian cancer candidate to surgical treatment were selected. They underwent surgical staging surgery with concurrent systematic pelvic and para-aortic lymphadenectomy. After identification of left and right iliac artery, all lymph nodes have been properly exposed and dissected as a part of a staging laparotomy. The dissection was continued up to the nodal tissues surrounding the aorta, and inferior vena cava, until inferior mesenteric artery lymphadenectomy level.

Results

Among a total of 57 ovarian cancer patients, 27 of them apparent stage I disease cases were selected. Surgical staging surgery with concurrent systematic pelvic and para-aortic lymphadenectomy was carried for all of them. Positive para-aortic lymph node was found only in one case. The average number removed para-aortic lymph nodes in the pelvis was 9 and in para-aortic was 7, respectively. 20 minutes increase in total length of operation time was observed due to para-aortic lymphadenectomy. The increase in intra abdominal hemorrhage rate was estimated 60 cc.

Conclusion

Lymph node dissection will produce a significant benefit in accurate and complete surgical staging. Staging surgery in addition to systematic pelvic and para aortic lymphadenectomy in early stage ovarian cancer is preferred in gynecologic oncology centers.
OVARIAN CANCER

ESGO7-1146

BRCA1 AND BRCA2 MUTATIONS IN OVARIAN CANCER PATIENTS FROM CHINA: ETHNIC-SPECIFIC MUTATIONS IN BRCA1 ASSOCIATED WITH AN INCREASED RISK OF OVARIAN CANCER

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Aims

BRCA1/2 are cancer predisposition genes involved in hereditary breast and ovarian cancer (HBOC). Mutation carriers display an increased sensitivity to inhibitors of poly (ADP-ribose) polymerase (PARP). Despite a number of small-size hospital-based studies being previously reported, there is not yet precise data of BRCA1/2 mutations among Chinese epithelial ovarian cancer (EOC) pts.

Method

We performed a multicenter cohort study including 916 unselected consecutive EOC pts from eastern China, to screen for BRCA1/2 mutations using the next-generation sequencing approach.

Results

153 EOC pts were found to carry pathogenic germline mutations in BRCA1/2, accounting for an overall mutation incidence of 16.7% with the predominance in BRCA1 (13.1%) compared with BRCA2 (3.9%). We identified 32 novel pathogenic mutations, among which the c.283_286delCTTG and the c.4573C>T of BRCA1 were both found in two unrelated patients. More importantly, the most common mutation, c.5470_5477del8 was most likely to be Chinese population-related without an apparent founder origin. This hot-spot mutation was presumably associated with an increased risk of EOC. Taken together, germline BRCA1/2 mutations were common in Chinese EOC pts with distinct mutational spectrum compared to Western populations.

Conclusion

Our study contributes to the current understanding of BRCA1/2 mutation prevalence worldwide. We recommend BRCA1/2 genetic testing to all Chinese women diagnosed with EOC in order to identify HBOC families, to provide genetic counselling and clinical management for at-risk relatives. Mutation carriers may also benefit from PARP-targeted therapies.
Aims

High-grade serous ovarian cancer (HGSOC) has a high mortality rate because patients are generally detected in an advanced stage and show resistant relapses. Primary cell lines of relapsed patients were established and tested for a possible synergy of the HSP90 inhibitor ganetespib with paclitaxel and platinum drugs. HSP90 stabilizes mutated oncogenes and inhibits their proteasome degradation.

Method

Primary ovarian cell lines were established from ascitic fluid or pleural effusions (GANNET53: Ganetespib in Metastatic, p53-mutant, Platinum-resistant Ovarian Cancer) and chemosensitivity tested in MTT assays. Soluble carbonic anhydrase IX (sCAIX) was measured by ELISA.

Results

Primary ovarian cells grow adherent or as spheroids with prolonged doubling times and showed low sensitivity to ganetespib alone. Combination of ganetespib with paclitaxel proved to be antagonistic employing primary and established ovarian cancer cell lines whereas the combination of this HSP90 inhibitor with platinum drugs (cisplatin, carboplatin, oxoplatin) yielded synergistic effects. Furthermore, the primary cell lines of resistant patients revealed sensitivity to platinum drugs in vitro. Ascitic fluid is partially hypoxic and showed high levels of sCAIX which is associated with tumor aggressiveness and a poor prognosis. Expression of sCAIX was found to be sensitive to inhibition with ganetespib.

Conclusion

Cell lines established from recurrences of resistant ovarian cancer patients were resistant to paclitaxel but sensitive to platinum drugs. The cytotoxicity of platinum drugs could be enhanced in combination with ganetespib. Drug resistance seems to be associated with low proliferation, formation of spheroids and hypoxic conditions with expression of sCAIX and increased tumor aggressiveness.
OVARIAN CANCER

ESGO7-0011

PROGNOSTIC VALUE OF PROGRAMMED DEATH LIGAND 1 EXPRESSION IN OVARIAN CLEAR CELL CARCINOMA

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Aims

This study aimed to evaluate the expression of programmed death ligand-1 and its correlation with clinicopathologic features in ovarian clear cell carcinoma (OCCC).

Method

The PD-L1 expression was measured by tissue-microarray-based immuno-histochemistry from 123 patients diagnosed with OCCC. The associations of clinicopathologic features with PFS and OS were analyzed by Kaplan-Meier method and multivariate analysis was further performed by Cox regression model.

Results

Overall, high PD-L1 expression was observed in 44.7% (55/123) of OCCC patients, and was strongly associated with advanced stages (p = 0.026), positive ascitic fluid (p = 0.016), platinum-resistant disease (p = 0.045) and recurrence (p = 0.038). Moreover, patients with high PD-L1 expression were associated with poorer OS (Hazard ratio [HR], 2.877; p = 0.001) and PFS (HR, 1.843; p = 0.021) than those with low PD-L1 expression. In subgroup analysis, PD-L1high patients experienced a poorer PFS (HR, 1.926; p = 0.044) and OS (HR, 2.492; p = 0.021) than PD-L1low cases among advanced stages (III-IV), but this difference was not observed in stage I-II patients. Meanwhile, PD-L1high was associated with poorer prognosis than PD-L1low in platinum-resistant patients (OS, HR: 2.253, p = 0.037; PFS, HR: 1.448, p = 0.233). Multivariate analysis revealed that PD-L1high and advanced stages (III-IV) were adverse independent prognosticators for both PFS (HR_{PD-L1}, 2.0, p_{PD-L1} = 0.038; HR_{stage}, 10.2, p_{stage} < 0.001) and OS (HR_{PD-L1}, 3.0, p_{PD-L1} = 0.011; HR_{stage}, 14.3, p_{stage} < 0.001).

Conclusion

High PD-L1 expression might be a risk factor for PFS and OS in patients with OCCC. Immunotherapy targeting PD-L1 pathway could be used in OCCC.
VEGFR RECEPTORS, AS MOLECULAR MARKERS OF ANGIOGENESIS AND LYMPHANGIOGENESIS IN OVARIAN CANCER.
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Aims

Vascular endothelial growth factor VEGF is one of the cytokines responsible for multi-step process angiogenesis in tumors. Aim: To evaluate the expression of VEGF receptor immunohistochemistry in ovarian cancer in relation to the histological tumor grade, disease stage FIGO, the level of CA125 in the blood serum of patients, the female sex hormone concentration and histopathological.

Method

The study was performed on a group of 61 patients with ovarian carcinoma. Immunohistochemistry expression of VEGF receptors correlate with the histological tumor grade, disease stage FIGO, the level of CA125 in the blood serum of patients, the female sex hormone concentration and histopathological.

Results

63.93% of patients detected the expression of VEGFR3, especially in tumors with an average degree of histological differentiation. VEGF1 expression was more common in endometrial cancer, ovarian cancer, compared to serum. Statistical significance was proved expression of VEGF2 in patients with ovarian and CA125 values within normal limits.

Conclusion

The receptors VEGFR can be found in the future, used in the diagnosis and treatment of patients with ovarian cancer, can be considered as molecular markers of lymphocytes and angiogenesis. Their increased expression does not affect the clinical stage of the disease FIGO, and increased expression correlates with more frequent VEGF3 lymphatic metastases.
OVARIAN CANCER

ESGO7-1198

GENE EXPRESSION OF SERINE/THREONINE PROTEIN KINASES AS A PROGNOSTIC FACTOR FOR PATIENTS DIAGNOSED WITH OVARIAN CANCER.

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Aims

Due to increase in ovarian cancer incidence observed over the last decades this disease have been intensively investigated on molecular levels to explore its origins and identify proteins which could serve as its markers. A serine/threonine protein kinase is a group of enzymes, that phosphorylate the OH group of serine or threonine. Aim of the study was to asses the correlation of serine/threonine kinase 25, serine/threonine protein kinase and serine/threonine kinase 4 genes expression with the survival rates of patients treated for ovarian cancer.

Method

48 women treated for ovarian cancer were included in the study. Genes expression was estimated using BD Atlas™ Human Cancer 1.2 Array-PT3547-3E (BD Biosciences Clontech, USA). Genes expression were assessed by comparing the normal tissue and tumor tissue, then there were estimated in relations to histopathological type and grade of the tumor, to stage of the disease and response to primary chemotherapy. Patients underwent a 36 month observation period.

Results

23 patients (47.9%) died in the observation period despite treatment due to ovarian cancer spread. ROC curves for serine/threonine kinase 25 (cut off 0.034), serine/threonine protein kinase (cut off 0.044) and serine/threonine kinase 4 (cut off 0.078) genes expression showed significant positive correlation with the survival presented a significant positive correlation between this genes expression and patient survival.

Conclusion

Evaluation of the expression of investigated/examined serine/threonine kinases genes can be a valuable factor for treatment and survival of women with ovarian cancer.
PALLIATIVE CARE

ESGO7-0045

PALLIATIVE PELVIC EXENTERATION – A SINGLE INSTITUTION EXPERIENCE AND OUTCOMES IN CERVICAL AND VAGINAL CANCER

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Aims

Pelvic exenteration (PE) can be performed both with curative or palliative intent in locally advanced, recurrent or persistent cervical and vaginal cancer. We aimed to report our experience in palliative pelvic exenteration (pPE) regarding to its surgical technique, complications, early surgical and oncological outcomes.

Method

Between July 2013 and June 2016, seven pPE cases (6 for cervical and 1 for vaginal cancer) selected from a series of 36 PEs performed for gynecological malignancies were reviewed.

Results

All of these exenterations were total pPEs. Four suprarelevator and 3 infrarelevator PEs (1 of these cases performed with an additional modified vulvectomy) were performed. The principal indication for these pPEs were impaired quality of life due to rectovaginal or vesicovaginal fistulae, bleeding and fetid odour originating from infected necrotic tumour. None of these patients had intraoperative major complications or mortality. Urinary infection and subileus were the main complications. We had one postoperative mortality associated with pulmonary aspiration. Four patients with cervical cancer died of disease at postoperative follow-up. The mean postoperative survival was 7 months. All of the patients expressed relief of their tumour-related symptoms postoperatively.
Conclusion

Locally advanced incurable cervical and vaginal cancers have very poor quality of life due to neighboring organ fistulae. pPE provides these patients a good quality of life by treating physical discomfort, emotional distress with reasonable morbidity, despite a lack of survival benefit.
PALLIATIVE CARE

ESGO7-0472

IS THERE TIMELY INTERVENTION OF PALLIATIVE CARE IN GYNAECOLOGICAL CANCER PATIENTS AT THE END OF LIFE?

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Aims

Palliative care is a crucial element of care plans for gynaecological cancer patients. It maximises comfort and quality of life and addresses patient wishes to ensure a dignified death. This retrospective study aims to examine aspects of end of life care of gynaecological cancer patients who died during 2015 within the Brighton and Sussex University Hospitals Trust.

Method

31 women were suitable for inclusion in the study. Variables under study included last hospital admission and last active treatment before death, MDT discussions, palliative care input, DNAR form completion and discussions regarding preferred place of death.

Results

Within the last week of life, 23% (7/31) of women had their final admission and 8% (2/31) had active treatment. 32% (10/31) were last discussed at an MDT meeting more than 4 months before death. 81% (25/31) of the women had palliative care input with 39% (9/31) having an initial assessment during the week approaching death. 74% (23/31) had a signed DNAR form and 68% (21/31) had their preferred location of death documented, however only 29% (6/31) achieved this.

Conclusion

A number of components of end of life care need addressing to improve care for gynaecological cancer patients within the trust, specifically provision of palliative care, DNAR form completion and discussions regarding location of death. Implementation of advanced care plans for all women would ensure that these areas are adequately addressed in order to allow patients the most dignified death possible.
THE RELATIONSHIP BETWEEN SYMPTOM BURDEN, BODY IMAGE AND QUALITY OF LIFE IN ASIAN GYNAECOLOGICAL CANCER PATIENTS

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Aims

This study examines symptom burden and body image disturbance in patients with gynaecological cancers, and the extent they are related to quality of life.

Method

A cross-sectional study in which patients diagnosed with gynaecological malignancies were recruited from a tertiary hospital in Singapore (n = 104). They were assessed using self-report assessments of symptom burden, quality of life (using the Functional Assessment of Cancer Therapy-General form), and body image dissatisfaction (using the Body Image Scale). Clinical factors were abstracted from patient medical records.

Results

Approximately 1 out of 4 patients reported feeling less physically attractive and dissatisfied with their body. Symptom burden alone predicted physical well-being, \( p < .001 \) and functional well-being, \( p < .001 \).

Body image dissatisfaction significantly predicted emotional well-being, \( p = .01 \) and symptom burden no longer predicted emotional well-being once body image dissatisfaction was entered into the model.

Patients with cervical cancer reported significantly higher body image dissatisfaction, \( p = .01 \), and younger age was found to be a significant risk factor for clinically-relevant score of body image distress, \( p = .02 \).

Conclusion

Symptom burden and body image dissatisfaction were associated to patient’s quality of life. Body image dissatisfaction explained the relationship between symptom burden and emotional well-being, and may be a potential target for intervention. Particular attention should be paid to patients who are younger and diagnosed with cervical cancer as they are more susceptible to body image disturbance.
PREVENTION OF GYNAECOLOGIC CANCER

ESGO7-0533

CARDIOVASCULAR RISK AFTER RISK-REDUCING SALPINGO-OOPHORECTOMY IN BRCA1/2 MUTATION CARRIERS: CARSOBRA STUDY

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Aims

Early menopause leads to an increased cardiovascular risk. Cardiovascular risk assessment based on traditional risk factors often underestimates the actual risk in middle-aged women. Measures of atherosclerosis such as carotid intima-media thickness (CIMT) and pulse wave velocity (PWV) could help to predict future cardiovascular events in this group. BRCA1/2 mutation carriers are generally exposed to an earlier menopause due to an risk-reducing salpingo-oophorectomy (RRSO) around the age of 40 to reduce their elevated ovarian cancer risk. Until now, cardiovascular risk in BRCA1/2 mutation carriers after RRSO is not yet studied. The aim was to investigate if time since RRSO in BRCA1/2 mutation carriers is related to advanced signs of subclinical atherosclerosis measured by CIMT and PWV.

Method

We performed a cohort study in 165 BRCA1/2 mutation carriers (aged 40 to 63 years) who underwent RRSO at age ≤ 45 years and at least five years previously. Main study endpoints were CIMT and PWV, and traditional cardiovascular risk factors were collected by questionnaires and single cardiovascular screening visit.

Results

The mean CIMT was 0.69 mm (SD 0.087), and the PWV was 6.40 m/s (SD 1.42). After adjustment for systolic blood pressure, insulin resistance, total cholesterol and body mass index, no association was found between age-adjusted CIMT and time since RRSO. Age-adjusted PWV and time since RRSO were also not associated, after adjusting for systolic blood pressure, total cholesterol and waist hip ratio.

Conclusion

Time since RRSO is not related to CIMT and PWV in BRCA1/2 mutation carriers. However, a longer follow-up period is needed.
PREVENTION OF GYNAECOLOGIC CANCER

ESGO7-0134

REVIEW THE RESULTS OF HUMAN PAPILOMAVIRUS DNA TEST, CYTOLOGY SCREENING AND COLPOSCOPY EXAMINATION IN YOUNG WOMEN

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Aims

The aim of this study is detect the value of human papillomavirus (HPV) testing, cytological results and colposcopy findings in young women.

Method

Totally 650 women aged 19 to 45 underwent to primary screening with cytology and HPV DNA test in 2015. In 219 women HPV DNA test was positive. The rates of HPV-positive and abnormal cytology were compared and colposcopy examination was performed in those who has a positive results. During next years, all women with positive HPV results were followed up (n =219).

Results

In 24/219 (11%) women with HPV positive testing no cytological or colposcopy abnormality were found. In 127 (58%) cases CIN1 and in 43 (19%) cases CIN2/3 was found in cytological examination of women with HPV positive test. In 19 women with only negative cytology examination CIN 1 was confirmed and in 6 women CIN 2/3 was confirmed in punch biopsy material that was taken during colposcopy examination. From 219 HPV positive women 170 (78%)were in age 19-30 years old and 49 (22%) women older than 30 years old. HPV-positive rates were significantly higher in young women from 19- 30 years old (n= 170) compared with women older then 30 years old (95% CI). The rate of CIN2/3 (n=49) progression was also higher in young women from 19 to 30 years old (n=39), than in women over 30 years old (n=10).

Conclusion

According to results cytological screening is appropriate and recommended. HPV testing is a useful for predicting of CIN, however, can also have a false-positive results.
ASSESSING THE RISK OCCULT CANCERS AND 30-DAY MORBIDITY IN BRCANESS WOMEN UNDERGOING RISK-REDUCING SURGERY: A PREDICTIVE MODEL AND NOMOGRAM


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Aims

To investigate the incidence and predictive factors of 30-day surgery-related morbidity and occult precancerous and cancerous conditions in patients undergoing risk-reducing surgery

Method

This is a prospective cohort study evaluating BRCAness (BRCA 1 and 2 mutation carriers and BRCAx) women undergoing minimally invasive risk-reduction surgery. A nomogram has been created in order to assess the risk of diagnosis of occult precancerous and cancerous malignancies at the time of surgery

Results

Overall, 85 BRCAness women had risk-reducing surgery: 30 (35%) and 55 (75%) women had hysterectomy plus bilateral salpingo-oophorectomy (BSO) and BSO alone, respectively. Overall, 6 (7%) patients were diagnosed with undiagnosed cancers: three early stage ovarian / fallopian tube cancer, two advanced stage ovarian cancer (stage IIIA and IIIB) and one serous endometrial carcinoma. Additionally, 3 (3.6%) patients had incidental diagnosis of serous tubal intraepithelial carcinoma (STIC). A nomogram of predicting factors for the risk of having occult malignancies was built (Figure). Regarding 30-day morbidity, we observed 4 postoperative complications that were managed conservatively, including fever (n=3) and postoperative ileus (n=1). No severe (grade 3 or more) complication occurred among patients having risk-reduction surgery. Only presence of occult cancer correlated with an increased risk of developing postoperative complications (p=0.02); basically, due to the adjunctive staging procedures needed.

Conclusion

Minimally invasive risk-reducing surgery is a safe and effective strategy to manage BRCA mutation carriers. Patients should have to be counseled about the high prevalence of undiagnosed cancers observed at the time of surgery.
PREVENTION OF GYNAECOLOGIC CANCER

ESGO7-0057

POTENTIAL CLINICAL IMPACT OF THE INTRODUCTION OF THE NONAVALENT HUMAN PAPILLOMAVIRUS VACCINATION: AN ANALYSIS OF 13,665 PATIENTS OVER A 18-YEAR STUDY PERIOD

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Aims

To test the theoretical utility of the incorporation of quadrivalent and nonavalent vaccination against HPV into a clinical setting.

Method

Data of consecutive patients undergoing sampling for HPV DNA testing from 1998 to 2015 were retrospectively searched in order to identify changes in HPV prevalence during three study periods (T1, 1998-2003; T2, 2004-2009; and T3, 2010-2015).

Results

We enrolled 13,665 patients: 1361, 5130, 7174 patients, in T1, T2 and T3, respectively. Potentially, the quadrivalent vaccine protected against HPV infection in 71.5%, 46.5% and 26.5% of patients tested in T1, T2 and T3, respectively (p-for-trend<.001). While, the nonavalent vaccine protected against HPV infection in 92.5%, 72.3% and 58.1% of patients tested in T1, T2 and T3, respectively (p-for-trend<.001). The proportion of patients with genital dysplasia grade 2+, not related to HPV types covered by quadrivalent vaccine (13% in T1, 21% in T2 and 34% in T3) and nonavalent vaccine (3% in T1, 12% in T2 and 19% in T3) increased over the time (p-for-trend<.001). For all study period the nonavalent vaccine was superior that quadrivalent vaccine in protect against HPV infection (p<.001). The figure displays the prevalence of dysplasia related to HPV 16-18 and to high-risk HPV infection other than 16-18.
Conclusion

Nonavalent vaccine would improve protection against HPV infections and HPV-related genital dysplasia. Moreover, we can speculate that cross protection of nonavalent vaccine will be related to a highest coverage against other HPV types.
Aims

The tubal origin of high-grade serous ovarian cancer (HGSC) represents an opportunity to reduce the risk of ovarian cancer. The Royal College of Obstetrics and Gynaecology advises that ‘women who have completed their families should be carefully considered for prophylactic removal of the fallopian tubes …at the time of gynaecological or other intra-peritoneal surgery’. We aimed to evaluate current knowledge and attitudes of relevant healthcare professionals to the concept of the tubal origin of HGSC, and opportunistic salpingectomy.

Method

We carried out surveys of professionals who may be involved in women undergoing gynaecological or abdominal surgery, including primary health care providers, obstetricians, gynaecologists and general surgeons who carried out pelvic surgery.

Results

19 of 21 primary care practitioners, and 12 of 15 surgeons were totally unaware of the tubal origin of HGSC. Obstetricians & Gynaecologists were better informed (17 of 26 were well informed). There was a lack of confidence in discussing or offering opportunistic salpingectomy across all specialties for a variety of reasons. The majority of professionals surveyed volunteered that written information for healthcare professionals and patients would be helpful, along with teaching sessions or direct surgical training from a specialist.

Conclusion

There is limited knowledge around the tubal origin of HGSC amongst healthcare professionals who may be in a position to counsel or offer opportunistic surgery. Strategies to educate and alter attitudes of healthcare professionals may be required before we see a paradigm shift in offering the choice of this potentially life-saving opportunity to women.
THE HPV VACCINE CRISIS!

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Aims

A National Vaccination Program was commenced in Ireland in 2011, offering Gardasil® to 12-13 year old girls. Claims have emerged suggesting an associated between the vaccine and chronic fatigue syndrome receiving extensive mainstream and social media coverage resulting in a significant decrease in vaccination rates. We sought to assess the opinions of midwifery, nursing and allied health professionals towards the HPV vaccine and how recent media coverage has impacted this.

Method

A 12-question paper survey was compiled, assessing basic demographic information, vaccination status and the perceived impact of the media coverage on their opinion of the HPV vaccine.

Results

Of 204 participants, 95.6% support routine childhood vaccination. Only 28.4% of participants with eligible children consented to HPV vaccine, compared to 63.4% of those without children. 85% of participants were aware of the HPV vaccine media coverage, which made 22% more likely consent for the HPV vaccine 33% less likely and 41% stated it would make no difference. Media coverage influenced participants recommending HPV vaccination, 23% were more likely, 26% less likely and 45% stated it made no difference.

Conclusion

Social and mainstream media coverage is affecting opinions and decisions to vaccinate, even within the midwifery, nursing and allied health professions. Participants stated they felt media coverage was the only source of information about the vaccine and adverse effects, highlighting a need for better education of health care professionals, if we are to tackle the negative and inappropriate media coverage and improve HPV vaccine uptake rates.
HUMAN PAPILLOMAVIRUS VACCINE UPTAKE IN SOUTH KOREA

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Aims

This study aimed to assess the human papillomavirus (HPV) vaccine uptake rate in South Korean women and to identify factors affecting vaccination rate before initiation of the national HPV vaccination program.

Method

A nationwide online survey of 2,000 9–59-year-old women collected information on their HPV vaccination status and associated correlates such as age, residential region, education, and socioeconomic status. The regional and age distribution of subjects was based on the South Korean census data.

Results

The overall HPV vaccine uptake rate was 23.1%, and the highest rate of vaccination was observed in women aged 20–29 years (38.6%), followed by those aged 30–39 years (36.9%), 9–19 years (16.9%), 40–49 years (14.2%), and 50–59 years (12.5%). Women from the metropolitan cities showed a higher vaccination rate than those from rural areas (26.2% vs 20.5%, P=0.003). A multivariate regression analysis showed that HPV vaccine uptake was independently associated with age, residential region, educational level, regular influenza vaccination, clinic visit within the last 6 months, and a high family income. The main barriers to HPV vaccination were the cost of vaccination (24.3%), and concerns regarding vaccine safety (23.1%).

Conclusion

HPV vaccine uptake was low among the South Korean women, especially among women aged 9–19 years and women living in rural areas. The national HPV vaccination program will improve vaccine uptake rate by overcoming barriers to vaccination.
PREVENTION OF GYNAECOLOGIC CANCER

ESGO7-1337

URINARY HIGH-RISK HUMAN PAPILLOMAVIRUS DETECTION OFFERS AN ALTERNATIVE STRATEGY FOR CERVICAL SCREENING

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Aims

HPV testing in cervical screening offers the potential for self-sampling, to improve uptake amongst non-attenders. High-risk (HR) HPV detection in urine shows promise, but few studies have examined its sensitivity for CIN2+ detection compared with standard cervical samples. This pilot study was designed a) to optimise conditions for HPV testing from urine, b) to determine the concordance of HPV testing in matched urine/vaginal/cervical samples, c) to compare the sensitivity of HR-HPV testing from urine in the detection of underlying CIN2+, and d) to gauge women’s acceptability of urine self-sampling.

Method

Triplets of self-collected urine and vaginal plus practitioner-obtained cervical samples were collected from women attending the colposcopy clinic in St Mary’s Hospital in Manchester. Colposcopist impression was recorded and cervical biopsies taken if clinically indicated. HR-HPV was tested for by the Abbott RealTime (ART) and Roche Cobas (RC) 4800 assays. Neat and preservative-fixed urine were compared. The acceptability of self-testing was evaluated by questionnaire.

Results

Triple matched samples were suitable for analysis in 79 and 66 women using the ART and RC assays respectively. a) Preservative-fixed, but not neat urine, b) showed strong analytical concordance: 61/66(94%) and 65/79(82%) for RC and ART respectively. c) Sensitivity for urine samples relative to cervical samples in the detection of underlying CIN2+ was 15/15(100%) and 15/16(94%) for RC and ART respectively. d) Women considered urine based testing broadly acceptable.

Conclusion

Urinary HR-HPV detection offers an alternative strategy for cervical screening. Larger studies to determine its clinical utility are warranted.
Low, Medium and High – Risk HPV Type Distribution in Cervical Carcinoma in Situ

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Aims

To detect low, medium and high-risk human papilloma virus (HPV) types in histological samples of cervical cone biopsies for carcinoma in situ (CIS) in order to evaluate different HPV types and other risk factors influence on development of cervical CIS.

Method

100 formalin fixed and paraffin – embed histological samples of cervical CIS after cone biopsy were investigated for low, medium and high-risk HPV types, using specific set for HPV-DNA extraction from tissue and amplification using polymerase chain reaction (PCR). We evaluated 15 high-risk (16, 18, 31, 33, 35, 39, 45,51, 52, 56, 58, 59, 68, 73, 82), 3 possibly-carcinogenic (26, 53, 66) and 6 low-risk (6, 11, 42, 43, 44) HPV types. The influence of other factors on developing CIS was evaluated using an original questionnaire.

Results

Nine different HPV types were detected in 77% of samples. In 85.7% of samples – only one HPV type was detected, in 14.3% - two HPV types. HPV 16 was detected statistically more frequently in all samples (p=0.002) and this trend was seen in all age groups. The biggest HPV types variety was seen in 30 – 49 years old patients group. No significant differences between different HPV types combinations were found. The non-smokers were statistically older at the time of the cervical cone biopsy (p<0.05).

Conclusion

From all the HPV types detected in our study the HPV 16 had strongest influence on development of cervical carcinoma in situ.
PREVENTION OF GYNAECOLOGIC CANCER

ESGO7-0820

LONG-TERM EFFICACY AND IMMUNOGENICITY OF THE 9-VALENT HUMAN PAPILLOMAVIRUS VACCINE: FINAL ANALYSES OF A DOUBLE-BLIND, RANDOMIZED CLINICAL STUDY

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Aims

The 9-valent human papillomavirus (9vHPV) vaccine targets the four HPV types (HPV6/11/16/18) covered by the quadrivalent HPV (qHPV) vaccine, with the addition of the five oncogenic types most commonly associated with cervical cancer after HPV16/18 (HPV31/33/45/52/58). Analyses of 9vHPV vaccine efficacy and immunogenicity were conducted in a clinical trial (V503-001; NCT00543543) in young women aged 16-26 years.

Method

Participants (N=14,215) were randomized to receive a three-dose series of 9vHPV or qHPV (control) vaccine. Cervical and external genital swabs for HPV-DNA testing and cervical cytological samples for Papanicolaou staining were collected regularly. Tissue samples from biopsy or cervical definitive therapy (loop electrosurgical excision procedure, conization) were tested for HPV DNA. Serum antibody responses to the nine vaccine HPV types were assessed.

Results

Prophylactic efficacy against HPV31/33/45/52/58-related outcomes was 100% (95% CI: 39.4, 100) for cervical intraepithelial neoplasia Grade 3 (CIN 3); 97.7% (93.3, 99.4) for cervical, vulvar, and vaginal disease; 96.0% (94.6, 97.1) for 6-month persistent infection; 92.9% (90.2, 95.1) for Pap test abnormalities; and 90.2% (75.0, 96.8) for cervical definitive therapy. Efficacy was high against each HPV type and in subgroups defined by age, race, and geographic region. Incidences of HPV6/11/16/18-related infection, cytological abnormalities, disease, and definitive therapy were similar in both vaccine groups. Antibodies to vaccine HPV types persisted through 5 years following vaccination.

Conclusion

The 9vHPV vaccine prevents HPV31/33/45/52/58-related infection and disease and provides similar protection against HPV6/11/16/18 as the qHPV vaccine. Vaccine efficacy was sustained for up to 6 years.
PREVENTION OF GYNAECOLOGIC CANCER

ESGO7-1178

DEATH AFTER HPV VACCINATION: ANALYSIS OF VAERS DATA

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Aims

The aim of this study is to analyse the death cases after HPV vaccination.

Method

Vaccine Adverse Events Reporting System (VAERS) Database was assessed from 2006 to 2016 for all death cases following any kind of HPV vaccination. The possible causes of deaths were discussed.

Results

Between 2006-2016 records, we reached to 175 death cases. Table 1 and 2 shows the details. Median age was 17.3 years (11-42 years). More than one fifth of deaths occurred after first dose, 17.6% after second dose, 15.4% after third dose. Time interval between vaccination and death were widely different. Nine of them occurred in the first 24 hours after vaccination, 5 of them were died more than one year after vaccination. Possible causes of death such as sudden collapse, seizure and anaphylaxis were reported in 8.5% (15) of patients and only one of them occurred just after second dose of HPV vaccine. Most of the records were submitted by non-physicians.
Conclusion

Safety of VAERS data about HPV vaccination is a controversial issue. Only one of 175 death cases seems to be associated with vaccination. Encouragement of girls and boys and their families about HPV vaccination should be recommended.
PREVENTION OF GYNAECOLOGIC CANCER

ESGO7-0446

PRELIMINARY REPORT OF HEREDITARY ENDOMETRIAL CANCER IN KOREA

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Aims

To investigate practice patterns for patients with hereditary endometrial cancer (HEC) as parts of Lynch syndrome among Korean clinicians.

Method

Members of the Korean Society of Gynecologic Oncology conducted with a self-administered questionnaire about knowledge and clinical management of HEC

Results

Of the 54 participants, about half physicians (22, 47.1%) responded to draw a pedigree in woman with endometrial cancer. Immunohistochemistry and microsatellite instability tests as a screening test of HEC are done about 37%(17/54) and 7%(4/54) in woman with endometrial cancer. Physicians preferring universal gene test are only 7%(6/54). Most physicians (38/54) do not have experience in any gene test for women with endometrial cancer. Among physicians preferring selective screening Amsterdam criteria is major (22/54, 43%) and the combination of other screening tools including Amsterdam, immunohistochemistry and microsatellite instability are second most common (11/54, 21.6%). Over half affected patients are always recommended for cascade testing (29/54, 56.9%) and risk screening education (28/54, 55.0%) for sequential Lynch related other cancer

Conclusion

Genetic risk assessment and patient counseling about HEC has not been settled in clinical practice. Continuous education for physician and development of the guideline for HEC are needed
USING MICRODATELLITE INSTABILITY TEST TO ASSESS LYNCH SYNDROME RISK AMONG OVARY CANCER PATIENT IN KOREA

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Aims

BRCA mutation is the most common hereditary cancer syndrome about ovary. But mismatch repair genes related Lynch syndrome is also associated with it. There is not much study about risk evaluation about this among Korean population. We investigate this.

Method

Retrospective study was done to select ovary cancer patients who was counseled and tested about Lynch syndrome in Department of Obstetrics and gynecology, Samsung Changwon Hospital by single surgeon. Clinical information was extracted from the medical record including age, family and personal history of cancer, immunohistochemistry (IHC) of MLH1/MSH2, microsatellite instability test (MSI).

Results

Twenty six patients was found, mean age was 54(16~75) and fifty percent was serous type (13/26). There were 2 patients with Lynch syndrome related cancer family history (stomach and ovary) among their 1st degree relatives. Only one patient has abnormal MLH1 IHC. There were three unstable MSI patients (BAT26, D2S123, D5S5346, and NR21).

Conclusion

We found three abnormal MSI patients among this population. Cost effective algorithm using multiple genetic testing to find Lynch syndrome associated ovary cancer patients should be developed through large population study.
SENSITIVITY AND SPECIFICITY OF THE FROZEN SECTION IN RELATION TO THE FINAL HISTOLOGICAL IN OVARIAN TUMORS

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Aims

The aim of the present retrospective study is to evaluate the diagnostic accuracy of frozen section in relation to the final histological results of women with suspicious ovarian tumors.

Method

Patients with ovarian tumors, who were operated at the oncology unit of the 1st Department of Obstetrics and Gynecology. The sensitivity and specificity of the frozen section were determined in relation to the final histological result, for the classification of the ovarian tumors as benign, borderline and malignant. Moreover, the final histological results of the tumors are presented, the rate of incidence of ovarian malignancy in relation to the patient’s age as well as the frequency of relapse.

Results

In a total of 130 patients who underwent surgical treatment due to suspicious ovarian tumors, 104 presented a histological diagnosis of ovarian Cancer, 9 characterized as borderline and 14 were negative for malignancy. The sensitivity and specificity of frozen section for patients with benign tumors amounted to 77.8% and 95.8 % respectively, while ovarian malignancy the percentage reaches 96.8% and 95.8%. Regarding borderline tumors the sensitivity and specificity of the frozen section reached 57.1% and 89.1% respectively.

Conclusion

The use of frozen section offers very good diagnostic accuracy in distinguishing women with malignant and benign ovarian tumors, in contrast to borderline tumors frozen section results in more diagnostic discrepancies, in relation to the final histological diagnosis is a more sensitive examination regarding benign and malignant damage, in contrast to the borderline tumors where, based on the sensitivity percentage, it constitutes a particularly precarious exam.
LLETZ CONE BIOPSY FOR CERVICAL INTRAEPITHELIAL NEOPLASIA. ANALYSIS OF SENSITIVITY AND SPECIFICITY OF COLPOSCOPY AND CYTOLOGY

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Aims

The aim of this retrospective study is to evaluate the results of cytology and colposcopy in relation to the final histological diagnosis of women undergoing Large Loop Excision of the Transformation Zone cone biopsy.

Method

Patients with abnormal cytology results, at least ASCUS (Atypical Squamous Cells of Undetermined Significance), who were examined at the Oncology Unit of the First Department of Obstetrics and Gynaecology were included in the study. The sensitivity and specificity of the cytology results and colposcopy were determined for the diagnosis of low grade (LGSIL) and high grade (HGSIL) intraepithelial neoplasia of the cervix in relation to the final histological results.

Results

From the total of 129 patients who underwent colposcopy due to abnormal cytology test results, 63 underwent LLETZ cone biopsy. In 12 (19%) of the 63 patients LGSIL was diagnosed, in 41 (65%) patients HGSIL, in 2 (3%) cases invasive cancer, and in 3 (5%) cases chronic cervicitis, while in 5 (8%) cases no residual disease was found in the cone. The sensitivity and specificity of the cytology for LGSIL lesions were 40% and 75%, and of the colposcopy 90% and 77%, respectively. Regarding HGSIL lesions, the sensitivity and specificity of the cytology results were 41% and 80%, and colposcopy 78% and 80% respectively. The sensitivity of colposcopy was significantly better (p = 0.0002).

Conclusion

Colposcopy is more sensitive than cytology to accurate diagnose cervical dysplasia. LLETZ cervical cone biopsy is a successful treatment method of cervical intraepithelial neoplasia.
APPLICATION OF LEARNING SKILL “TEACHING ON THE RUN” TO POST-GRADUATE FIRST-YEAR RESIDENTS FOR IMPROVEMENT IN THE QUALITY OF PAPANICOLAOU SMEAR

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Aims

Papanicolaou smear (Pap smear) with cervical cytology could reduce incidence and mortality rate of cervical cancer. However, poor quality of Pap smear decreases screening efficacy. The aim of our study was to evaluate whether “Teaching On The Run (TOTR)” training program could help junior residents to improve skill and quality of Pap smear.

Method

Since May through December 2015, a total of 40 post-graduate first-year (PGY1) residents were randomly divided into two groups. The with-TOTR group (n=22) received the protocol-driven TOTR training program composed of plan learning, learn, appraise/assess, feedback and outcome evaluation. The without-TOTR group (n=18) received traditional big-class teaching instead. The rate of unidentifiable Pap smear and causes of unsatisfactory Pap smear were analyzed between the two groups.

Results

The results showed that TOTR training program significantly reduced the rate of unsatisfactory Pap smear quality from 34.1% to 24.1% (p<0.0001). In addition, the rate of unidentifiable Pap smear was significantly lower in the with-TOTR than without-TOTR group (2.16% vs. 5.81%, p=0.018), and was similar to that performed by gynecologists (2.16% vs. 2.34%, p=0.425). Furthermore, we identified the most two significantly improved items through TOTR training were less scarce cells (12.8% to 8.2%) and overlapping cells or contained blood (5.8% to 3.6%) (both p-values <0.005).

Conclusion

TOTR training program effectively helps PGY1 residents to improve their skills on accuracy and quality of Pap smear within a short-term training period.
INCREASED RISK OF CANCERS AMONG BRCA1 CARRIERS WITH LOW BLOOD SELENIUM LEVELS

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Aims

Prospective evaluation of relationship between selenium and cancer among women with BRCA1 constitutional mutations.

Method

We performed a nested case-control study of baseline blood selenium levels and cancer risk using data and biological samples from 4276 BRCA1 carriers that were participants in a biobanking initiative between 2010 and 2017. Cases included women with any incident breast/ovarian cancer (n=48) and controls (n=92) were women with no cancer at baseline or follow up. Blood from cases was collected at least 6 months before cancer diagnosis. Cases and controls were matched for year of birth, adnexectomy status and smoking. Blood selenium was quantified using mass spectroscopy.

Results

Women with blood selenium level <110 µg/l had a higher than 3-fold increased risk of cancer (logistic regression OR 3.12; CI – 1.17-9.89; p – 0.033).

Conclusion

The optimum level of blood selenium in BRCA1 carriers living in Poland can not be lower than 110 µg/l.

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PREVENTION OF GYNAECOLOGIC CANCER

ESGO7-0462

WOMEN’S ATTITUDES TO AUSTRALIAN CERVICAL SCREENING PROGRAM CHANGES AS EXPRESSED IN AN ONLINE PETITION

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Aims

The Australian Cervical Cancer Screening Program, which has halved the incidence and mortality of cervical cancers in Australia since 1991, will change in 2017 from currently two-yearly Pap smears from age 18 to 69 to five-yearly HPV DNA testing from ages 25 to 74. An opposing petition on the website “Change.org” received 70,000 signatures and 20,000 comments. This study aimed to identify reasons for opposition to the revised cervical cancer screening program, expressed in the open-ended comments.

Method

Of 19,633 comments posted between 16th February and 19th March 2017, a random 2000 comments were analysed by two researchers.

Results

33% of statements highlighted that commenters placed high value on women’s health. 17% were concerned about the five-yearly screening interval. Women with a personal experience of cervical cancer or pre-cancerous lesions expressed opposition to the changes (15%). Support for disease prevention/early detection (14%), belief that the changes were a cost-cutting measure (14%), and a belief that men should not make decisions about women’s health (8%) were other central themes. Concern about increased age of first invitation was voiced in 9% of comments, and concern about HPV testing itself was expressed in only 3% of comments.

Conclusion

Many women expressed concerns that the screening program changes may adversely impact women’s health, indicating a need for health education in this area. The primary concern of commenters specific to the program was potentially missing cases of cervical cancer due to later age of first invitation and increased screening interval, with a perception this was a cost-cutting measure.
PREVENTION OF GYNAECOLOGIC CANCER

ESGO7-1154

VULVAR HIGH-GRADE SQUAMOUS INTRAEPITHELIAL LESION INVOLVING THE CLITORIS

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Aims

Despite a marked incidence increase, vulvar high-grade squamous intraepithelial lesion (VHSIL) involving the clitoris remains a rare and ill-defined condition. This study was aimed at evaluating the patient characteristics associated with clitoral vs. non-clitoral VHSIL and the clinical correlates of the disease.

Method

The study population included 216 consecutive eligible patients seen at an Italian tertiary-level centre for gynecologic oncology between 1981-2014. Patients’ records were reviewed by trained personnel. Statistical analysis was based on the \(\chi^2\) test, the Mann-Whitney test, and backward stepwise multiple logistic regression.

Results

Clitoral VHSIL was detected in 41 (19%) patients (median age, 50 years; range, 19-88). In univariate analysis, HIV infection, associated cervical intraepithelial neoplasia and vaginal intraepithelial neoplasia, and multifocality were significantly (p<0.05) associated with clitoral VHSIL. In multivariate analysis, multifocality retained a strong effect (OR, 17.5; 95% CI, 6.9-44.7; p=0.000). In turn, clitoral VHSIL was a weak risk factor for patient loss to follow-up in univariate (24.4% vs. 13.1%; p=0.072) and multivariate analysis (OR, 2.13; 95% CI, 0.92-4.92). In multivariate analysis, the risk of invasive carcinoma detection in excisional histological specimens was greater for patients in the highest tertile of age (p=0.008), for patients with a lesion \(\geq 20\) mm in size (p=0.013) and with clitoral involvement (p<0.001).

Conclusion

This study is a contribution to bridge the gap of knowledge on the determinants and clinical correlates of clitoral involvement in VHSIL. There is initial evidence that this condition is more likely among multifocal lesions and conveys an increased risk of unrecognized invasive carcinoma detection and loss to follow-up.
PREVENTION OF GYNAECOLOGIC CANCER

ESGO7-0929

RISK FACTORS ASSOCIATED WITH ENDOMETRIAL CANCER: AN UMBRELLA REVIEW
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Aims

Endometrial cancer is the most common gynaecological cancer among European women. Many modifiable risk factors have been associated with endometrial cancer, although the associations may be affected by inherent bias. We evaluated the strength and validity of the available evidence on modifiable risk factors for endometrial cancer (EC).

Method

We conducted an umbrella review of meta-analyses investigating modifiable risk factors for endometrial cancer. The primary analysis focused on cohort studies, with evidence graded as strong, highly suggestive, suggestive or weak based on random effects summary estimate, largest study per meta-analysis, number of cases, between-study heterogeneity, 95% prediction intervals, small study effects, excess significance bias and sensitivity analysis with credibility ceilings.

Results

We identified 144 meta-analyses investigating associations between 9 categories of risk factors for endometrial cancer (93 cohort studies). Only three (7%) risk factors demonstrated strong evidence without hint of bias for association with EC: rise in body mass index in premenopausal women and increase in waist-to-hip ratio (increased risk), and multiparous women (reduced risk of EC).

Conclusion

Of the many identified risk factors for endometrial cancer, only three were found to have strong association without hint of bias. Other claimed associations may also be valid, but further evidence is required. Our findings re-emphasise the importance of targeting the increasing number of obese and overweight women at high risk of endometrial cancer with weight-loss strategies. Future research efforts should explore the effect of obesity on metabolic dysregulation and metabolic pathways which, when altered, may promote endometrial cancer.
THE DIAGNOSTIC DILEMMA OF A PATIENT WITH OVARIAN MASS LESION: IS IT PRIMARY TUMOR OR METASTASIS FROM GASTRIC CANCER?

Aims

Ovaries are the most common site of metastasis of extragenital cancers although their metastasis to the female genital tractus are very rare. Breast, colon-rectum and gastric cancers are known to be the most important primary cancers having metastasis to the ovaries. It is crucial to define the appropriate surgery timing of ovarian masses which have co-existence with extragenital cancers to avoid disproportionate anxiety of patients.

Method

We presented a case with operated gastric cancer and newly detected papillary ovarian mass.

Results

A 55 year-old, gravida 2 parity 2, woman with no other medical history except operation for gastric adenocarcinoma and underwent chemoradiotherapy was admitted to our gynecology clinic for routine control. In gynecologic examination, left lower quadrant abdominal pain was present and ultrasonography revealed 31x27 mm, multi-loculated papillary mass in left ovary. Tumor markers were completely negative and there was no pathological finding in other laboratory parameters. Magnetic resonance imaging reported total of 43x22 mm multicystic mass. Laparotomy was performed and consulted for frozen section. The intraoperative consultation result was benign. Histopathological result was serous papillary cystadenoma for left ovary with no other pathological finding in hysterectomy and salpingo-oophorectomy specimens. Postoperative period was uneventful. Patient was discharged at postoperative 3rd day.

Conclusion

The differential diagnosis between benign/malign primary and metastatic tumor may be difficult with clinical presentation, serum biomarkers and imaging findings. Therefore, diagnosis process may create disproportionate anxiety for both gynecologist and patient. We suggest that it is very important to shorten the time between diagnosis and surgery to avoid such a great anxiety.
Aims

To bring down health burden of gynec cancers in India, through massive awareness, early detection/screening hunt.

Method

World’s first, “Learned Bodies Endorsed” National Day of Gynec Cancer on 11th March in International Women’s week. 10,000+ oncological personnel communicated.

Last 10 years recommendations:

1. Targeted Radio, TV media blitz on women, youth, health and science magazines.
3. Role of moral education and celibacy, dissuading Indian youth from free ethical and non-ethical sexual relations.
5. Spouse awareness of breast lump, post coital bleeding.
7. Opportunistic screening in medical colleges.
8. Infrastructure for gynec cancer detection.
9. Popularisation of HPV vaccination.
10. Declaration of cancer a notifiable disease.

Results

National Day of Gynec Cancer observance by oncology community helped increase in media programs and opportunistic screening in medical institutions for a breast and gynec cancer. Govt schemes for school sanitary pad program. Popularisation of HPV vaccine limited due to cost factor. Failure on declaring cancer as a notifiable disease and inclusion of health education in school syllabus.

Conclusion

Long way to go in activating the oncological and gynec community to participate in creative awareness and opportunistic screening, population based screening at its best.
PREVENTION OF GYNAECOLOGIC CANCER

ESGO7-0246

COST-EFFECTIVENESS OF ENDOMETRIAL CANCER EARLY DETECTION AND/OR PREVENTION - A SYSTEMATIC REVIEW

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Aims

To systematically review current evidence on long-term effectiveness and cost-effectiveness of endometrial cancer early detection and prevention strategies in asymptomatic women.

Method

We performed a systematic literature search for decision-analytic modeling studies assessing early detection and/or prevention strategies for endometrial cancer. We included studies evaluating the cost-effectiveness, reporting incremental cost-effectiveness ratios (ICER) in cost per life-years gained (LYG) or per quality-adjusted life years (QALY). We summarized relevant information and results in standardized evidence tables. Economic results were converted to 2015 Euros using GDP-PPP and CPI.

Results

Five studies evaluating early detection and prevention strategies in asymptomatic women with different cancer risk profiles were included. Annual serum screening with a biomarker panel including prolactin in women at increased risk (obese, Tamoxifen usage) dominated annual transvaginal ultrasound and biopsy with ICERs of 19,000-39,000 Euro/LYG. The ICER for screening increased to 58,000 Euro/LYG in the female general population. Another study in obese women revealed ICERs above 82,000 Euro/LYG for prevention with contraceptives or annual screening with biopsy. In women with a family history of endometrial cancer, genetic testing for Lynch syndrome followed by prevention strategies yielded ICERs below 40,000 Euro/QALY for women age 25-40 years with risks of carrying mutations above 5%. In asymptomatic women with Lynch syndrome, prophylactic surgery at age 40 years achieved ICERs below 11,000 Euro/QALY.

Conclusion

Based on the results, in asymptomatic women at increased risk for cancer, annual biomarker screening, genetic testing with preventive strategies for mutation carrier as well as preventive surgery in mutation carrier can be considered cost effective.
PREVENTION OF Gynaecologic Cancer

ESGO7-0835

Histological Findings After Prophylactic Risk-Reducing Salpingo-oophorectomy in BRCA Patients. Experience in Our Center

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Aims

The objective of this study is the retrospective evaluation of the findings in the histological examination of the surgical pieces obtained after risk-reducing bilateral salpingo-oophorectomy (rrBSO) in patients affected by mutations in the BRCA genes carried out by the Gynecology Service of the Hospital Universitari Germans Trias i Pujol (Barcelona) between 2010 and 2017.

Method

We included 55 patients affected by BRCA1 or 2 mutation in which a rrBSO by laparoscopy was performed. Epidemiological data, age of the intervention, family history of cancer, prior personal history of breast neoplasia, prophylactic mastectomy as well as the findings in the histological study of the surgical specimen were collected.

Results

55 patients, 27 affected by BRCA1, 27 by BRCA2 and 1 by both. The mean age at rrBSO was 49.77 ± 9.30. 27 patients (49.1%) had a personal history of breast cancer. The mean age of rrBSO in those with a prior history of breast cancer was 50.50 ± 11.60 whereas in those diagnosed from opportunistic genetic studies were 46.50 ± 6.96. As for the histological findings, 74.5% did not show histological alterations, 1.81% showed müllerian inclusions, 9% tubaric hiperplasia, 3.6% serous intraepithelial tubal carcinoma (STIC) and 10.9% endometriosis.

Conclusion

BRCA1- and BRCA2-associated hereditary breast and ovarian cancer syndrome (HBOC) is characterized by an increased risk for breast and ovarian cancer. The finding of STICs, among other potential precursor lesions, supports its relation with the pathogenesis of high grade pelvic serous carcinomas justifying the role of rrBSO in the prevention of ovarian cancer in these patients.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0316

SELF-COMPASSION AND CLIMACTERIC SYMPTOMS IN OOPHORECTOMIZED BRCA1/2 MUTATION CARRIERS

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Aims

To reduce ovarian cancer risk, BRCA1/2 mutation carriers are advised to undergo risk-reducing salpingo-oophorectomy (RRSO) around the age of 40, which may induce severe climacteric symptoms. Dealing with these symptoms may be difficult and success is related to several coping strategies. Successful coping depends in part on self-compassion. This describes a positive and caring way of relating toward the self when facing difficult experiences; it is a skill that can be taught. The aim of this study was to explore the association between climacteric symptoms and self-compassion in late postmenopausal BRCA1/2 mutation carriers.

Method

This cross-sectional study using questionnaire data examined climacteric symptoms, self-compassion, physical fitness in 165 BRCA1/2 mutation carriers who underwent an RRSO ≤ 45 years, at least 5 years ago.

Results

Late postmenopausal BRCA1/2 mutation carriers reported low levels of climacteric symptoms and being highly self-compassionate. Higher self-compassion was associated with less climacteric symptoms. Furthermore, anti-depressant use was associated with more climacteric symptoms, whereas physical fitness with less symptoms.

Conclusion

Being self-compassionate and physically fit, and not using anti-depressants was associated with less climacteric symptoms in oophorectomized BRCA1/2 mutation carriers. Future research is needed to investigate the effect of self-compassion training on climacteric symptoms after RRSO in BRCA1/2 mutation carriers.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-1166

PELVIC LYMPHOCELE INCREASE AFTER LYMPH DRAINAGE FOR LYMPHEDEMA TREATMENT: CASE REPORT AND LITERATURE REVIEW

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Aims

Pelvic lymphocele prevalence varies from 0% to 58.5% and symptomatic lymphoceles are reported from 5% to 6% of the cases. Lymphedema is treated by the Complex Decongestive Therapy or Complex Decongestive Physiotherapy, which consists of manual lymph drainage, pneumatic pressotherapy, skin care, exercises and use of compression bandages and garments. We report a case of lymphocele increase after lymphedema treatment.

Method

Report the outcome of 59 years old female, diagnosed with endometrial high grade adenocarcinoma (Stage IIIA – FIGO), submitted to complete surgical treatment on December 19th, 2015, which included the resection of 64 pelvic and retroperitoneal lymph nodes, followed by adjuvant chemotherapy. Previously she already has undergone a melanoma resection at her left thigh with inguinal lymphadenectomy.

Results

She presented with stage II lymphedema at the left lower limb and supra pubic. Lymphocintilography observed dermic reflux at her left foot and preserved lymph drainage at right lower limb. Lymphedema was treated with manual lymph drainage, pneumatic pressotherapy and use of compression garment (20/30mmHg). On January 22\textsuperscript{nd}, 2016 she had a computed CT that revealed the existence of a lymphocele with 300 milliliters, asymptomatic. The patient kept her lymphedema treatment, twice a week. In April, 2016 she had a new CT that evidenced the growth of the lymphocele to 500 milliliters, still asymptomatic. In June 22\textsuperscript{nd}, 2016, we noted a sudden decrease of the lymphocele to 17 milliliters, suggesting spontaneous drainage to the abdominal cavity.

Conclusion

Complex decongestive physiotherapy for the lymphedema treatment can be related to the increase of pelvic lymphocele.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-1023

A RETROSPECTIVE ANALYSIS OF COMPLICATIONS OF SURGICAL MANAGEMENT OF ENDOMETRIAL CANCER

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Aims

to evaluate the surgical morbidity and mortality of lymphadectomy in the surgical management of endometrial cancer.

Method

A total of 249 patients with proven histologically endometrial cancer were treated in the Tunisian departement of surgical oncology of salah Azaiez between 2000 and 2015 were retrospectively reviewed.

Results

of the total of 249 patients who underwent surgery, 136 (54.6%) had hysterectomy with bilateral oophorectomie, and 73 patients (29.3%) had Piver II procedure with pelvic lymphadenectomy, simple hysterectomy with pelvic lymph node prelevement was performed in 37 patients (14.8%) and only tow patients underwent pelvic exenteration. Complete pelvic lymphadenectomy was performed in 165 (66.2%) and 56 patients (22.4%) underwent only pelvic lymph node prelevemnet. From all, 11 patients (4.4%) had complete Para-aortic lymphadenectomy and 15 patients underwent only resection of pathologic para-aortic lymph node. The mean operation time of hystectomy with open surgery was 138.2 mn and increase to 182.2 mn in case of additionnal lymphadenectomy procedure. Per operative blood transfusion was necessary in 25 cases (10%). The rate of vascular complication was 2.4% (6cases), tow patients had urinary woods (0.8%). Early specific post operative complications occurred in 9 patients (3.6%) with 3 cases of hemorrhage (1.21%) and 4 cases of peritonitis (1.6%). The rate of post operative mortality was 2% (5 patients). Late post operative complication was dominated by pelvic lymphocyst (4%) and acute bowl obstruction (2%).

Conclusion

The morbidity of the surgical management of endometrial cancer is increased by the lymphadenectomy and the radiotherapy.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0146

PREDICTION MODEL FOR 30-DAY MORBIDITY AFTER GYNECOLOGICAL MALIGNANCY SURGERY

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Aims

The potential risk of postoperative morbidity is important for gynecologic cancer patients because it leads to delays in adjunctive therapy and additional costs. We aimed to develop a preoperative nomogram to predict 30-day morbidity after gynecological cancer surgery.

Method

Between 2005 and 2015, 533 consecutive patients with elective gynecological cancer surgery in our center were reviewed. Of those patients, 373 and 160 patients were assigned to the model development or validation cohort, respectively. To investigate independent predictors of 30-day morbidity, a multivariate Cox regression model with backward stepwise elimination was utilized. A nomogram based on this Cox model was developed and externally validated. Its performance was assessed using the concordance index and a calibration curve.

Results

Ninety-seven (18.2%) patients had at least one postoperative complication within 30 days after surgery. After bootstrap resampling, the final model indicated age, operating time, and serum albumin level as statistically significant predictors of postoperative morbidity. The bootstrap-corrected concordance index of the nomogram incorporating these three predictors was 0.656 (95% CI, 0.608–0.723). In the validation cohort, the nomogram showed fair discrimination [concordance index: 0.674 (95% CI = 0.619–0.732)] and good calibration (P = 0.614; Hosmer-Lemeshow test).

Conclusion

The 30-day morbidity after gynecologic cancer surgery could be predicted according to age, operation time, and serum albumin level. After further validation using an independent dataset, the constructed nomogram could be valuable for predicting operative risk in individual patients.
QUALITY OF LIFE AFTER TREATMENT OF GYNAEOCOLOGIC CANCER

ESGO7-0910

LONG-TERM OUTCOMES AFTER CONSERVATIVE AND RADICAL TREATMENT OF BORDERLINE OVARIAN TUMOURS

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Aims

1. To evaluate the remote outcomes of patients with borderline ovarian tumours (BOTs) after radical (RS) and conservative (CS) surgery: survival and recurrence rates and their dependence on surgery type, patients’ age, FIGO stage, histological tumour type, preoperative CA 125 levels.
2. To assess the pregnancy rate after conservative surgery.
3. To evaluate the Quality of life (QOL) after CS and RS.

Method

Retrospective data analysis of 56 patients treated for BOT in Oncogynaecology Department of LUHS Hospital. According to the surgery type, patients were divided into CS and RS groups. For QOL evaluation, the validated EORTC–QLQ30–OV28 questionnaire was used. The results were compared between CS and RS groups.

Results

The 5-year survival rate was 97.6% and recurrence rate – 17.9% (10 patients). BOTs significantly more often recurred after CS (80% vs. 20% respectively), and among younger patients (36.9 vs. 46.4 years). 21 patients had CS, 6 (28.57%) of them tried to get pregnant. The pregnancy rate was 66.7% (4 patients). QOL evaluation showed that patients after CS had less symptoms (30.3 vs. 26.0 points), however, the difference is not significant. Nevertheless, sexual function was evaluated significantly better in the RS group (73.0 vs. 53.3, p<0.05).

Conclusion

The 5-year survival rate was 97.6%. Recurrence rate was 17.9%, more often after fertility sparing surgery and among younger patients. Pregnancy rate was 66.7% among patients who tried to conceive after CS. Despite the fact that overall QOL was similar between two groups, sexual function was evaluated better among RS patients.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0528

RISK PREDICTION OF SEVERE POSTOPERATIVE COMPLICATIONS IN PATIENTS UNDERGOING GYNECOLOGIC CANCER SURGERY: RESULTS OF A PROSPECTIVE STUDY IN 237 PATIENTS

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Aims

Physicians need to risk-stratify their patients preoperatively to adjust the radicality of surgery. Aim of this study is to evaluate predictive clinical characteristics such as polypharmacy and Charlson-Comorbidity Index (CCI) for postoperative complications in patients undergoing gynecologic cancer surgery.

Method

This is a prospective cohort study with patients undergoing gynecologic cancer surgery at a tertiary hospital from October 2015 through January 2017. Surgical complications were graded using Clavien-Dindo. Using logistic regression, we identified predictive clinical characteristics for complications.

Results

Out of the 237 enrolled patients 41(17.3%) experienced a grade≥3b complication and 9 (3.8%) patients died. Charlson Comorbidity index (CCI)>2 (p<0.015, OR 2.33, 95% CI 1.18–4.61), polypharmacy (p<0.001, OR 3.40, 95% CI 1.63–7.10), ASA (p<0.001, OR 2.96, 95% CI 1.65–5.38), BMI>25kg/m² (p<0.001, OR 4.25, 95% CI 1.86–9.69), albumin<3.5 g/dl (p<0.009, OR 3.22, 95% CI 1.33–7.79) and potassium < 3.6 mmol/L (p=0.007, OR 5.11, 95% CI 1.55–16.81) were predictive for complications grade≥3b. A multivariable model included duration of surgery (p=0.012, OR 1.26, 95% CI 1.05–1.52), ASA (p=0.01, OR 2.60, 95% CI 1.20–5.38), albumin<3.5 g/dl (p=0.028, OR 3.37, 95% CI 1.14–10.00), BMI >25kg/m² (p=0.009, OR 3.81, 95% CI 1.40–10.35) and potassium < 3.6 mmol/L (p=0.02, OR 3.69, 95% CI 1.20–11.38) was predictive for complications. Age (p=0.49, OR 0.89, 95% CI 0.95–1.02), CCI >2 (p=0.88, OR 1.06, 95% CI 0.42–2.69) and polypharmacy (p=0.65, OR 1.26, 95% CI 0.41–3.98) showed no association for complications.

Conclusion

ASA, BMI, albumin and potassium are associated with severe postoperative complications. Subsequent studies should confirm this results to identify better frail cancer patients.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

DEVELOPMENT AND PRE-TESTING OF THE EORTC QUALITY OF LIFE QUESTIONNAIRE FOR VULVA CANCER PATIENTS – THE SIGNIFICANCE OF PATIENT INVOLVEMENT

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Aims

Objective: Patients with vulva cancer (VC) and health care professionals representing Northern, Central, and Southern Europe participated in the development of an EORTC Quality of Life (QoL) Group VC specific questionnaire. The objective of phase 3 is to pre-test the provisional questionnaire to identify and solve potential conceptual and operational problems to ensure broad cross-cultural adaptation.

Method

Methods: The provisional questionnaire underwent rigorous forward-backward translation and was then administered to VC patients representative across age, stage, treatment modality, and country. A structured interview was conducted after questionnaire completion to assess the patient’s perspective on clarity and acceptability. Response questionnaire- and debriefing interview data were collected and audited by a multinational collaborative module team. Standardized decision rules for deletion, addition, and changing of the wording were applied.

Results

Results: A well-balanced sample of 77 patients from nine European countries was included. Most items, 32/36 (89%) satisfied decision rules and showed a high compliance, >95% for 31/36 (86%) items. Three items displayed serious patient concern. Weighting the patients’ comments, final pre-testing resulted in the deletion of five items, re-phrasing of three items while five items on sexuality, 4 on urological problems and 2 on proctitis were made conditional. Preliminary explorative psychometric analyses suggested a structure of 9 multi-items scales and one single item

Conclusion

Conclusion: The EORTC QoL group has developed and pre-tested a VC specific questionnaire. Debriefing interviews supplemented the quantitative test results and appeared to add highly significant information leading to substantial and relevant changes for final field testing in phase 4.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0523

IMPACT OF HORMONE REPLACEMENT THERAPY ON PATIENTS WITH OVARIAN OR CERVICAL CANCER

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Aims

To investigate the influence of HRT on patients with ovarian or cervical cancer.

Method

158 patients with ovarian/cervical cancer were involved and divided into HRT and NHRT groups. 65 patients (31 with ovarian cancer, 34 with cervical cancer) underwent HRT treatment while 93 (44 with ovarian cancer, 49 with cervical cancer) did not undergo HRT after surgery/radiotherapy. PR, ER and its subtypes were detected in cancer tissues by immunohistochemical staining assay. And the serum concentration of calcitonin and TGF were detected by radio-immunity and ELISA. The data were analyzed by Kaplan-Meier survival curve and Cox's proportional hazard model. Quality of life was measured by EORTC-C30 and other scale made by ourselves.

Results

There was no statistical significance between HRT and NHRT groups in survival interval. Cox model showed that HRT is not an independent factor for prognosis. There were no statistical significance between positive expression group of ER, ERα,ERβ, PR and negative expression group of them for survival interval. The serum concentration of TGF had no statistical significance between HRT and NHRT groups whether pre, post surgery, or half to one year after surgery. The serum calcitonin concentration of NHRT group is higher than HRT group. For HRT group, there's no statistical significance for serum calcitonin concentration pre and post surgery. HRT could improve quality of life.

Conclusion

HRT has no detrimental effects on patients. HRT maybe stabilize calcitonin concentration in serum and improve quality of life. TGF concentration and ER, ERα,ERβ, PR expression have no association with prognosis.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

USE OF CARDIO-PULMONARY EXERCISE TESTING IN DECISION MAKING PRIOR TO MAJOR GYNAECOLOGICAL ONCOLOGY SURGERY

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Aims

Cardiopulmonary exercise testing (CPET) provides a patient-specific, non-invasive assessment of combined cardio-pulmonary and circulatory function, quantifying the functional ability to respond to the increased metabolic demands of surgery. An anaerobic threshold (AT) ≥11mg/ml/min determined by CPET has been proposed to indicate cardio-respiratory fitness for major surgery.

In our centre, CPET is used in high risk patients and those being considered for ultra-radical surgery. The aim of our study was to look at the role of CPET and its influence on decision for surgery.

Method

We conducted a retrospective case notes review of patients referred to CPET prior to gynae-oncology surgery from 01/01/2015-31/12/2016.

Results

24 women were referred for CPET during the review period (age range 36-84 years, median 73 years). Of the 24 women referred, 16 underwent CPEX; 2 women reached an AT of ≥11, both underwent surgery; 9 women reached their AT <11mg/ml/min (5 underwent surgery, 1 declined surgery, 3 were deemed not fit for surgery); 5 women did not reach an AT (1 underwent surgery, 3 declined surgery & 1 was deemed not fit for surgery).

3 women had ≤ grade 3 complications following surgery. There were 4 patient deaths in the follow-up period, all in the no surgery group, 1 of which was confirmed as disease related.

Conclusion

This study suggests CPEX is useful to clinicians & patients for pre-operative planning & quantifying risk. In this small sample the previously accepted AT of ≥11mg/ml/min appears to be an appropriate threshold to prompt discussion of the increased risk with the patient.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-1314

EVALUATION OF THE SEXUAL FUNCTION IN YOUNG WOMEN AFTER SURGERY FOR BREAST CANCER

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Aims

The objective of our work was to evaluate the sexual function, the body image and the marital agreement in women in remission for at least one year, after breast surgery for breast cancer and aged under 40 years at the diagnosis and followed at the department gynecology and obstetrics at Farhat Hached University Hospital in Sousse Tunisia.

Method

We carried out a cross-sectional study involving 105 patients. The feminine sexuality function was explored the Female Sexual Function Index (FSFI). We considered the marital agreement in the couple that was assessed by the Marital Adjustment Test (MAR), anxiety and depression that were assessed by the Hospital Anxiety and Depression Scale (HAD-S), and finally the body image that was evaluated by Body-Esteem Scale for Adolescents and Adults (BESAA).

Results

Sexuality assessment returned an average FSFI score of $22.7 \pm 13.3$ (range 3.6-69) and 64% of the patients had a FSFI score of less than 26.55, probably a sexual dysfunction.

Conclusion

If we consider that this impairment of sexual function can be related to breast cancer, the rate found in our study is close to that reported in the literature.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-1316

EVALUATION OF THE SEXUAL FUNCTION AFTER SURGERY FOR BREAST MENOPAUSAL WOMEN

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Aims

The objective of our work was to evaluate the sexual function, the body image and the marital agreement in women in remission for at least one year, after breast surgery for breast cancer and already menopausal at the diagnosis and followed at the department gynecology and obstetrics at Farhat Hached University Hospital in Sousse Tunisia.

Method

We carried out a cross-sectional study involving 100 patients. The feminine sexuality function was explored the Female Sexual Function Index (FSFI). We considered the marital agreement in the couple that was assessed by the Marital Adjustment Test (MAR), anxiety and depression that were assessed by the Hospital Anxiety and Depression Scale (HAD-S), and finally the body image that was evaluated by Body-Esteem Scale for Adolescents and Adults (BESAA).

Results

Sexuality assessment returned an average FSFI score of 21.1 ± 13.2 (range 2-52) and 78% of the patients had a FSFI score of less than 26.55, probably a sexual dysfunction.

Conclusion

If we consider that this impairment of sexual function can be related to both breast cancer and menopause, the high rate found in our study is close to that reported in the literature.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-1318

EVALUATION OF THE SEXUAL FUNCTION AFTER SIMPLE HYSTERECTOMY FOR STAGE I ENDOMETRIAL CANCER IN MENOPAUSAL WOMEN

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Aims

The objective of our work was to evaluate the sexual function, the body image and the marital agreement in women in remission for at least one year, after simple hysterectomy for stage 1 endometrial cancer in already menopausal women at the time of diagnosis and followed at the department gynecology and obstetrics at Farhat Hached University Hospital in Sousse Tunisia.

Method

We carried out a cross-sectional study involving 52 patients. The feminine sexuality function was explored the Female Sexual Function Index (FSFI). We considered the marital agreement in the couple that was assessed by the Marital Adjustment Test (MAR), anxiety and depression that were assessed by the Hospital Anxiety and Depression Scale (HAD-S), and finally the body image that was evaluated by Body-Esteem Scale for Adolescents and Adults (BESAA).

Results

Sexuality assessment returned an average FSFI score of 18.1 ± 9.7 (range 2-45) and 81% of the patients had a FSFI score of less than 26.55, probably a sexual dysfunction. This rate was the same either hysterectomy was performed after laparoscopy or after laparotomy.

Conclusion

This impairment of sexual function can be related to the endometrial cancer, to menopause and to the impairment of the body image due to the hysterectomy.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0434

EFFECT OF RED GINSENG ON GENOTOXICITY AND HEALTH-RELATED QUALITY OF LIFE AFTER ADJUVANT CHEMOTHERAPY IN PATIENTS WITH OVARIAN CANCER: A RANDOMIZED, DOUBLE BLIND, PLACEBO-CONTROLLED TRIAL

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Aims

We evaluated the effect of red ginseng on toxicity, health-related quality of life (HRQL) and survival after adjuvant chemotherapy in patients with epithelial ovarian cancer (EOC).

Method

A total of 30 patients with EOC were randomly assigned to placebo (n=15) and red ginseng groups (n=15) after cytoreductive surgery and adjuvant chemotherapy. All patients took placebo or red ginseng (3,000 mg/day) for three months. Then, we compared toxicity using laboratory markers, adverse events and genotoxicity between the two groups at week 0 (before consumption) and week 12 (after consumption). For genotoxicity, we evaluated binucleated cells (BN) index and micronuclei (MN) yield. Moreover, HRQL was investigated using questionnaire of the EORTC QLQ-C30, BFI, BPI, HADS and MOS-SS.

Results

Red ginseng reduced MN yield in comparison with placebo despite no difference of BN index. Although red ginseng increased serum levels of alanine aminotransferase and aspartate aminotransferase significantly, they were within the normal value. Moreover, there were no differences in adverse events between placebo and red ginseng groups. In terms of HRQL, red ginseng was associated with improved emotional functioning and decreased symptoms of fatigue, nausea and vomiting, and dyspnea, reduced anxiety and interference affecting life and improved daytime somnolence. However, there was no effect of red ginseng on prognosis of EOC.

Conclusion

Red ginseng may be safe and effective to reduce genotoxicity and improve HRQL despite no benefit of survival in patients with EOC who received chemotherapy.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0180

POSTOPERATIVE RECOVERY AFTER ABDOMINAL SURGERY FOR GYNECOLOGIC MALIGNANCY WITH INTRATHECAL MORPHINE OR EPIDURAL ANALGESIA. A RANDOMIZED TRIAL

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Aims

To determine whether the use of regional analgesia with intrathecal morphine (ITM) in an enhanced recovery program (ERAS) gives a shorter duration of hospital stay with a similar health-related quality of life (QoL) to epidural analgesia (EDA) in women after laparotomy for proven or assumed gynecological malignant tumors.

Method

An open-label, randomized, controlled single center study. Eighty women undergoing midline laparotomy for proven or assumed gynecological malignant tumors were included. ERAS with standardized perioperative routines including a standardized general anesthesia was used. The allocated treatment (ITM or EDA) was applied immediately preoperatively. The ITM group received morphine, clonidine and bupivacaine intrathecally; the EDA group an epidural infusion of bupivacaine, adrenalin and fentanyl.

Results

The length of hospital stay did not differ between the groups (median 3.3 vs. 4.3 days) but the time to meet the standardized discharge criteria was significantly shorter for the ITM group (3.0 vs. 4.0 days). Significantly, more women allocated to ITM were discharged on day 3, 62.5% vs. 30%. The ITM group used significantly less opioids whereas no differences were observed in pain assessment or QoL. No serious adverse events were attributed to the ITM or EDA.

Conclusion

Compared with EDA, ITM reduces the duration of hospital stay and the opioid consumption postoperatively with an equally good pain alleviation and QoL. ITM is even effective as EDA for postoperative analgesia in gynecological cancer surgery and is easier to administer.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0784

CONSERVATIVE TREATMENT OF POSTOPERATIVE CHYLOUS ASCITES IN GYNECOLOGIC CANCER SURGERIES.

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Aims

This study aimed to evaluate the efficacy of conservative treatment with the formula for postoperative chylous ascites in patients with gynecologic surgeries.

Method

We retrospectively analyzed 107 patients who underwent pelvic and/or para-aortic lymphadenectomy for gynecologic malignancies at Ulsan University Hospital from March 2011 to February 2013.

Results

The 107 cases consisted of 41 cervical cancers, 24 endometrial cancers, 34 ovarian cancers, and eight other cancers. Among the 107 cases, 81 patients underwent pelvic and para-aortic lymphadenectomy, 23 patients underwent pelvic lymphadenectomy without para-aortic lymphadenectomy, and three patients underwent only para-aortic lymphadenectomy. Postoperative chylous ascites occurred in 13/81 of patients who received pelvic and para-aortic lymphadenectomy, in 2/3 patients who received only para-aortic lymphadenectomy, and none of the patients who received only pelvic lymphadenectomy.

The average age of the patients was 55.8 yr. The mean time interval between the operation and the appearance of chylous ascites was 2.8 days (range, 2–5 days). All cases of postoperative chylous ascites were treated with the conservative treatment with our department formula. The cure rate of chylous ascites with the conservative therapy was 100%. None of the cases had recurrent chylous ascites during follow-up.

Conclusion

In gynecologic surgeries, para-aortic lymphadenectomy induced postoperative chylous ascites could be treated in high cure rate by the formula of effective conservative strategy.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0397

QUALITY OF LIFE AFTER ENDOMETRIAL CANCER SURGERY WITH AND WITHOUT LYMPHADENECTOMY: A SINGLE INSTITUTION RETROSPECTIVE COHORT STUDY

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Aims

To compare the quality of life of endometrial cancer patients treated with surgery with and without lymphadenectomy.

Method

Quality of life of the endometrial cancer (FIGO stages I and II) patients treated with surgery between 2012 and 2016 was analyzed. The patients were divided into two groups: Group A consisted of 102 patients who had hysterectomy and bilateral salpingo-oophorectomy without lymphadenectomy (HBSO); Group B consisted of 53 patients who had hysterectomy and bilateral salpingo-oophorectomy with lymphadenectomy (HBSO+LYA). The EORTC Quality of Life Questionnaire Endometrial Cancer Module (QLQ-EN24) and Quality of Life Questionnaire Cancer Module (QLQ-C30) were administered to the selected patients. The data were analyzed using the manual of the EORTC Group.

Results

According to QLQ-C30 fatigue showed statistically significant difference between Group A and Group B (3.033 ± 8.05 vs. 16.99 ± 22.35, p=0.045). As to the symptom scales according to QLQ-EN24 lymphedema showed a statistically significant difference between two groups with a score of 11.74 ± 16.63 in Group A and 21.94 ± 23.63 in Group B (p=0.0279).

Conclusion

Our study showed that fatigue and lymphedema decrease the quality of life in the patients with endometrial cancer treated with lymphadenectomy. Systematic pelvic and paraaortic lymphadenectomy should be accomplished only in the high risk endometrial cancer group to select the adjuvant treatment after surgery.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0178

EFFECT OF POSTMENOPAUSAL HORMONE THERAPY ON CERVICAL ADENOCARCINOMA PATIENTS’ SURVIVAL

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Aims

Gynecologic oncologists are uncertain about the safety of postmenopausal hormone therapy (HT) in cervical adenocarcinoma (AC) patients. This study evaluated the possible adverse effects of HT on cervical AC patients’ survival.

Method

The medical records of 70 cervical AC patients with FIGO stage IA – IB were reviewed. Bilateral salpingo-oophorectomy was performed for all patients. Survival outcomes between HT users (n = 38) and non-users (n = 32) were compared. Tibolone was given to 18 patients and estradiol was given to 20 patients.

Results

Comparison of users with non-users revealed no significant differences in several clinicopathologic variables. Neither progression free survival (PFS; \( P = 0.34 \)) nor overall survival (OS; \( P = 0.22 \)) differed significantly between users and non-users. Neither the risk of progression (HR, 1.71; 95% CI, 0.46 – 6.37; \( P = 0.43 \)) nor the risk of death (HR, 1.59; 95% CI, 0.06 – 45.66; \( P = 0.79 \)) in users were significantly higher than non-users. Clinicopathologic factors did not differ significantly between tibolone users and estradiol users. Neither PFS (\( P = 0.72 \)) nor OS (\( P = 0.30 \)) differed significantly between tibolone users and estradiol users.

Conclusion

HT had no adverse effect on cervical AC patients’ survival and can be given safely to cervical AC patients. Survival did not differ significantly according to HT regimen. This findings may be helpful in improving quality of life in cervical AC patients.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0993

SEXUAL FUNCTION AFTER GYNECOLOGIC CANCER.
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Aims

The aim of this study is to evaluate the sexual function in that patient who have suffered from a gynaecological malignancy at early stages. Moreover the questionnaire in spanish of the sexual function of the women (FSM) will be evaluated.

Method

An observational cross-sectional study was designed, in which healthy women and women with a history of gynaecological pathology at least five years before were studied. FSM questionnaire was used. This questionnaire is validated in Spanish.

Results

The sample under study was 100 women, 27 healthy women and 73 women with gynaecological malignancies. 23 of that women had suffered from a uterus cancer, 23 from a cervix cancer and 27 from ovary cancer. The average age of healthy women was 41.2 and the average age of oncological patients was 50.9. Just 56.2% of oncological patients had sexual activity in the last four weeks, compared with 81.5% of healthy women who had been sexually active in the past four weeks. From the oncological group, 20 received adjuvant therapy in addition to surgical treatment.

Conclusion

49.3% of oncological patients experienced a negative change in their sex lives after treatment. Patients who had received adjuvant therapy had worse sexual function than patients undergoing just surgery and healthy women (p = 0.001). Adjuvant therapy produces a strong negative impact on the personal assessment of the sexual life of patients.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0580

PREVENTION OF EMPTY PELVIC SYNDROME FOLLOWING PELVIC EXENTERATION WITH A MAMMARY IMPLANT IN THE PELVIC CAVITY: CASE REPORT.

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Aims

Pelvic exenteration (PE) refers to en-bloc resection of multiple endopelvic and exopelvic organs. In Gynaecologic Oncology it’s most used to treat recurrent tumours of the lower and middle female genital to achieve locorregional control with clear margins.

After the pelvis exenteration, a large defect will remain at the level of the pelvic diaphragm that increases the risk of acute and chronic complications included under the term of Empty Pelvic Syndrome (EPS). EPS can be avoided by isolating small bowel loops from the pelvic defect.

Method

We present a case of a 52-year-old patient submitted to a total PE for locally recurrent cervical cancer treated by chemorradiation 2 years before. After other sites of relapse were excluded a Total PE was performed with a middle and posterior extralevator abdominoperineal excision. A bioabsorbable mesh was used to pelvic floor reconstruction. To isolate the intestinal loops from the pelvic defect, we placed a mammary prosthesis after filling the pelvis with fluid to calculate the volume to hold. No omental flap was interposed between the prosthesis and the small bowel.

Results

After initial postop, a pelvic effusion appeared requiring pelvi-perineal drainage and antibiotic treatment for 2 weeks. A superficial perineal wound dehiscence was treated conservatively. No other complications such as occlusion or fistulas related to a EPS appeared. No other morbidity related to the prosthetic implants was observed.

Conclusion

After PE, the use of mammary implants to avoid EPS is feasible, safe and effective to isolate small intestine from the pelvic cavity.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0345

PROSPECTIVE CLINICAL COHORT STUDY FOR EFFICACY ASSESSMENT OF TOPICAL TREATMENT WITH OLIVOLEINA ON POST-SURGICAL SCARS IN PATIENTS UNDERGOING RADIOTHERAPY FOR GYNEACOLOGIC CANCERS

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Aims

Evaluate the effectiveness of the topical treatment with olivoleina on the post-surgical quality of healing in patients treated with radiotherapy for gynecologic cancers.

Method

Prospective Cohort study (case/control) (Canadian Task Force classification IIa) in 100 patients operated for gynecologic cancers. The study was carried out by Gynecological Oncologic Unit from January 2014 to July 2016. A comparative analysis of the healing response to topical treatment with olivoleina was carried out in patients who received radiotherapy, with a monitoring at 3, 6 and 12 months. The features of the scars were assessed according to the Vancouver Scale, Manchester Scale and Posas Scale.

Results

52 patients took part in the radiotherapy group, divided into: Group 1 - 36 cases (69.2%) with topical treatment and 16 control cases. Group 2 - 48 patients who didn’t receive radiotherapy, divided into 30 cases (62.5%) with olivoleina topical treatment and 18 control cases. The quality of the healing in patients treated with radiotherapy for gynecological cancers and after that, treated with olivoleina was significantly better (p<0.01). The tolerance was good –very good in 96.9% of the cases. The dermatological effects studied, were good-very good in 95.2% of the cases in relation with the wound hydration, in 73% in relation with the restoring of the skin barrier and in 76,5% in the anti-inflammatory action.

Conclusion

The topical application of olivoleina can be introduced within the therapeutic options of abnormal healing prevention in patients who have received radiotherapy.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0346

INFLUENCE OF SURGICAL AND HISTOPATHOLOGICALS FACTORS ON THE HEALING AND THE THERAPEUTIC RESPONSE TO THE TOPICAL TREATMENT WITH OLIVOLEINA IN A COHORTS STUDY

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Aims

Study of the influence of surgical and histopathologicals risks factors on the abnormal healing in patients operated of gynecological cancers and the response to the topical treatment with olivoleina.

Method

Prospective cohorts study in 100 patients, randomised and comparative, between January 2014 and July 2016. Groups of patients were defined whether the studied risk factor was present or not. In a randomly way, olivoleina was prescribed in 66 patients. The monitoring was carried in 3, 6 and 12 months. The scars were assessed according to the Vancouver, Manchester and Posas Scales.

Results

64 patients received lymphadenectomy. The average of surgical time was 188.06 minutes, of blood loss was 761.90 cc and of monitoring was 10.13 months. When the lymphadenectomy was made, the patients used to have difficulty to the healing in a significant way from the beginning until 6 months later (p<0.01). The subgroup of patients with treatment showed an improvement from the 6th month (p<0.05) and from the 12 months (p<0.01). The high average blood loss during the surgical intervention and the surgical time hindered in the initial healing and 3 months later (p<0.01). The treatment proved a significant improvement in the final result (p<0.01). Dermatologic effects and the tolerance perceived were good-very good in 95.2% and 96.9% of the cases respectively.

Conclusion

The quality of the healing after the topical treatment with olivoleina was significantly better in the patients who received lymphadenectomy. It can be recommended to patients after they have undergone gynecological cancer surgery.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0674

THE EFFECT OF Hysterectomy ON PELVIC FLOOR SYMPTOMS
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Aims

Pelvic floor functioning is a major concern for women requiring a hysterectomy for endometrial cancer and for benign conditions. This study reports the effect of hysterectomy on pelvic floor symptoms preformed using an open abdominal (TAH) or total laparoscopic approach (TLH).

Method

381 women who participated in the Laparoscopic Approach to Cancer of the Endometrium (LACE) trial and required surgery for stage 1 endometrial cancer, were asked to complete the Pelvic Floor Distress Inventory (PFDI-20) before surgery, 6-months post-surgery, and yearly thereafter until 54 months follow-up. The mean change in scores in the TAH and TLH groups were compared using student t-test.

Results

At baseline, women were on average 63 years (SD 10 years), and 88% were overweight or obese. The mean PFDI-20 score was 13.5 (13.8) at baseline, indicating a low level of pelvic floor concerns among the women. Six months after surgery, women in both treatment groups reported better pelvic floor quality of life compared to baseline. Women who received a TAH reported a score of 11.01 (12.71), and women who received TLH 8.95 (11.77). The mean change in PFDI-20 score from baseline to 6-months post-surgery was not significantly different between TAH and TLH groups (0.06 (95% CI -3.18, 3.31); p=0.97).

Conclusion

Prevalence of pelvic floor symptoms in this trial was comparatively low. Surgical treatment of stage 1 endometrial cancer led to improvements in pelvic floor quality of life six months after surgery regardless of whether the surgery was performed via TAH or TLH.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0682

THE ASSOCIATION OF LYPHEDEMA TRAJECTORIES WITH SYMPTOMS AND SYMPTOM SEVERITY FOLLOWING GYNAECOLOGICAL CANCER TREATMENT IN QUEENSLAND: A PROSPECTIVE COHORT STUDY


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Aims

To describe the trajectory of leg swelling and leg symptoms from before, to 24 months after, gynaecological cancer surgery, the association of leg swelling with symptoms and the severity of those symptoms.

Method

Women (n = 408) diagnosed with gynecological cancer (235 uterine, 114 ovarian, 69 cervical, vulvar, or vaginal cancer; respectively) were enrolled in the prospective longitudinal Lymphoedema Evaluation in Gynecological cancer Study (LEGS). Eligibility included: 18 years and older, treated in one of six Queensland hospitals, and diagnosed from June 1, 2008 to February 28, 2011.

Results

Data from 281 women with complete data contributed to the trajectory analyses. Up to 19% of patients reported leg swelling at baseline before surgery. The swelling trajectory of women after surgery was diverse, including 38% of women who continued to have no swelling over the next two years, 32% of women who had low and decreasing trajectory of swelling, and women who had either low (14%) or high (15%) swelling at baseline whose swelling increased further. Women who reported swelling had 4 times increased odds of reporting 12 other symptoms including pain, numbness and weakness. Women in the increasing swelling trajectories had more severe other leg symptoms.

Conclusion

This study adds to previously available leg swelling prevalence estimates by showing that distinct trajectories exist after gynaecological cancer surgery. It furthermore found that persistent or increased swelling is associated with greater odds of also having up to 12 other leg symptoms, most prominently pain, numbness or weakness.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0302

ASSESSING PATIENT REPORTED QUALITY OF LIFE OUTCOMES IN VULVA CANCER PATIENTS – A SYSTEMATIC LITERATURE REVIEW

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Aims

Vulva cancer (VC) treatment causes severe morbidity that may negatively impact the patient’s Quality of Life (QoL). The aim of the present review was to evaluate available patient reported outcome measures (PROMs) to assess disease and treatment related effects in VC patients.

Method

A systematic literature search was performed to identify studies using PROMs in the assessment of disease and treatment related effects in VC patients. The systematic review was conducted in accordance with the PRISMA statement. This review comprises part of phase one in the development of a European Organisation for Research and Treatment of Cancer QoL questionnaire for VC patients.

Results

No randomized controlled trials were identified. Eleven of 2299 articles were selected including 535 women with VC. The selected studies exhibited great heterogeneity. Twenty one different instruments were used to assess QoL in VC patients. Most of the questionnaires were generic. Different issues (sexuality, lymphedema, body image, urinary and bowel function, vulva specific symptoms) were reported as potentially important but results were not systematically collected. One VC specific questionnaire was identified but did not allow assessment and reporting on scale level.

Conclusion

The present review identified several QOL domains of potential relevance for VC patients but a lack of a robust and sensitive PROM to validly assess effects of disease and treatment. Most studies relied on self-constructed non-validated questions. Our study confirms a need to develop a VC specific questionnaire that allows broad cross-cultural adaptation for use in clinical trials.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0552

DOES BLOODCARE POWDER PREVENT POSTOPERATIVE CHYLOUS ASCITES AFTER RETROPERITONEAL LYMPHADENECTOMY FOR GYNECOLOGICAL MALIGNANCIES?

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Aims

To evaluate the effect of an intraoperative hemostatic cellulose agent (BLOODCARE powder®) on reducing the incidence of postoperative chylous ascites (PCA) after complete pelvic and para-aortic lymphadenectomy (PPALN) in patients with gynecological cancers.

Method

This case control study reviewed 150 patients (75 patients each in the control and case groups) with gynecological cancer who underwent retroperitoneal PPALN. In the case group, BLOODCARE powder® was applied via the left renal vein and bilateral obturator fossa. In the control group, no sealant agent was used after the procedure, such as fibrin glue or a hemostatic cellulose agent.

Results

The demographic and surgical characteristics of the patients in both groups were similar (Table 1). Chylous ascites occurred in nine (6%) cases. The incidence of PCA was lower in the case group [1 (1.3 %) vs. 8 (10.7%); P = 0.03]. Logistic regression analysis indicated that using BLOODCARE powder® during the...
surgery independently protected against the development of PCA (Table 2).

### Table 2. Logistic regression analysis of risk factors for chylous ascites after gynecological malignancy surgery.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds ratio</th>
<th>95% confidence interval</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only pelvic LN positive</td>
<td>1.4</td>
<td>1.7–1.2</td>
<td>0.0001</td>
</tr>
<tr>
<td>Only para-aortic LN positive</td>
<td>14.2</td>
<td>13–100</td>
<td>0.009</td>
</tr>
<tr>
<td>Pelvic and para-aortic LN positive</td>
<td>29.4</td>
<td>6.2–138.9</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Number of pelvic lymph nodes removed</td>
<td>1.05</td>
<td>0.9–1.1</td>
<td>0.21</td>
</tr>
<tr>
<td>Number of para-aortic lymph nodes removed</td>
<td>1.1</td>
<td>0.9–1.2</td>
<td>0.10</td>
</tr>
<tr>
<td>No BLOODCARE powder used</td>
<td>8.8</td>
<td>1.6–72.5</td>
<td>0.01</td>
</tr>
<tr>
<td>LN, lymph node</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Conclusion

Using BLOODCARE powder® during retroperitoneal surgery may prevent PCA. This simple, effective agent should be used after retroperitoneal PPALN for gynecological cancers.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0861

QUALITY OF LIFE ASSESSMENT IN OVARIAN CANCER PATIENTS RECEIVING CHEMOTHERAPY: A PILOT STUDY
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3Instituto Português de Oncologia do Porto, Epidemiology, Porto, Portugal

Aims

Assessment of Quality of Life (QoL) of patients with ovarian cancer admitted in our institution undergoing chemotherapy. Identification of areas and variables associated with worse results in view of possible future intervention.

Method

A prospective longitudinal observational study was performed for 12 months. After obtaining an informed consent, patients completed EORTC QLQ-C30 and ovarian cancer-specific QLQ-OV28 questionnaires at diagnosis, after 3 and 6 cycles of treatment. Association between QoL scores and clinical variables was assessed using Mann-Whitney or Kruskal-Wallis tests, as applicable.

Results

Twenty-one patients were recruited, 62% (n=13) had ECOG PS 0. Median age was 55 years old (range 27-73). During the study only one patient died and 102 questionnaires were completed. The mean global QoL score was 49.6 ± 20.15 at diagnosis, 51.11± 23.75 after 3 cycles and 62.5 ± 26.7 after 6 cycles of therapy. At baseline, scales with worst results were emotional functioning (within functional scales), constipation, fatigue, appetite loss (within symptom scales) and attitude to disease/treatment. Except for the last one, all of them have had an improvement at third evaluation. There was an impairment of mean score in cognitive functioning, body image, sexuality, hair loss and neuropathy. Age above 50 years old and post-menopausal status at diagnosis were associated with worst QoL (p< 0.05).

Conclusion

This prospective study reinforce the importance of quality of life assessment in ovarian cancer patients ongoing chemotherapy, as a potential tool for therapeutic and management decisions, in order to benefit of our patients care.

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QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0730

PROGNOSIS OF DONOR PATIENTS ACCORDING TO THE CHARACTERISTICS OF PATIENTS DERIVED XENOGRAFT (PDX) TUMOR IN GYNECOLOGICAL CANCER.

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Aims

Patients derived xenograft (PDX) reflects molecular and cellular characteristics of the donor tumor and is an important model in the study of cancer biology. PDX models also have been developed to apply more personalized strategy against cancer, such as evaluation of drug efficacy and biomarker validation. The purpose of this study is to evaluate the prognosis of donor patients according to the characteristics of PDX tumor in gynecological cancer.

Method

Cancer tissues from gynecological cancer patients were fragmentized to 3 mm pieces and transplanted into athymic nude mice. The volume of each PDX tumor were measured using a digital caliper for up to 1 year and 4 months after transplantation. The largest PDX tumor in each patient's cases were selected. Donor patient's prognosis were evaluated by survival rate calculated using survival significance methods, applied with the previously reported cut-off value.

Results

Engraftment results showed that implantation succeeded PDX tumor cases had a tendency of poor prognosis than failed cases in 5 year disease free survival. As for the growth of PDX tumors, fast growing cases showed a tendency of poor prognosis in 5 year disease free survival and showed a significant poor prognosis in 5 year overall survival than slow growing PDX tumors.

Conclusion

This study reveals concordance of aggressive cancer biology, with fast growing in PDX tumors and poor prognosis of the donor patient. These findings may be an important resource for studying cancer biology and supporting PDX model for developing personalized strategy against cancer.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0491

SEXUAL FUNCTIONING AND QUALITY OF LIFE AFTER VULVAR RECONSTRUCTION WITH THE LOTUS PETAL FLAP

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²University Medical Center Groningen, Plastic Surgery, Groningen, The Netherlands

Aims

Resection of (pre) malignant lesions in the vulvoperineal area may result in large defects that cannot be closed primarily. In these cases reconstruction is needed. In the vulvoperineal area the lotus petal flap technique is widely used. The aim of this study was to evaluate both sexual functioning and quality of life of patients who underwent reconstructive surgery with a lotus petal flap in the vulvoperineal area, since no data are available on this topic.

Method

A cross-sectional study was performed on all patients undergoing a reconstruction with a lotus petal flap from 2005-2016 in the University Medical Center Groningen. The Female Sexual Function Index (FSFI), European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-C30 (EORTC QLQ-C30) and Body Image Scale (BIS) were used.

Results

Twenty-six (68%) patients responded to the questionnaires. The mean age was 65.5 years (SD 16.3) and median follow-up time was 38.5 months (range 15.8-141.4). Quality of life scores were slightly decreased compared to healthy females aged 60-69 years. The total median FSFI score was 13.4 out of 36.0 (SD 8.2) and 53% reported to be sexually active. The mean score on the BIS was 9.6 out of 30.0 (SD 7.3).

Conclusion

Quality of life after vulvoperineal reconstructive surgery with a lotus petal flap is slightly decreased compared to healthy females and vulvar cancer patients. Sexual functioning and body image are decreased after reconstruction of a vulvoperineal defect with a lotus petal flap. Our results should be used for pre-operative counseling and follow-up of these patients.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0551

QUALITY-OF-LIFE OF OVARIAN CANCER PATIENTS WITH PROLONGED USE OF CHEMOTHERAPY - A PROSPECTIVE COMPARATIVE QUANTITATIVE AND QUALITATIVE STUDY

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Aims

To assess the quality-of-life, perception and expectation of patients who received multiple courses of chemotherapy (Group A), and to compare with those who had complete response after adjuvant chemotherapy (Group B).

Method

Patients were recruited in a 1:1 ratio in July 2010 to October 2011. A mixed (quantitative and qualitative) approach, using questionnaires and interview, was used.

Results

The EORTC-QLQ-C-30 Questionnaire showed lower level of physical (72.16±4.40 Vs 84.89±2.56, p=0.019), role (71.57±7.93 Vs 93.33±3.17, p=0.019) and social functioning (59.8±7.01 Vs 88.89±3.87, p=0.001), and more nausea and vomiting (17.65±6.92 Vs 1.11±1.11, p=0.031) and appetite loss (25.49±7.3, Vs 2.22±2.22, p=0.007), in Group A than Group B. The only difference in the EORTC-QLQ-OV28 was more hair loss in Group A than Group B (50.98±7.49 Vs 10.71±5.13, p<0.001). The Hospital Anxiety and Depression Scale showed more Group A patients were depressed than Group B (60.0% Vs 0%, p=0.001). In the interview, most Group B patients received chemotherapy because of their family, and were satisfied with it because there was no recurrence. However, in Group A, most expected a cure initially and so were disappointed when there were further recurrence or progressive diseases. Most were not willing to continue chemotherapy because of poor physical health or financial reason, but did so because of family members or symptoms. After prolonged use, a few still expected chemotherapy would prolong their survival.

Conclusion

Prolonged chemotherapy was tolerable but it was necessary to have a proper counseling on its palliative intent to avoid unrealistic expectation and hence depression.

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QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-1237

BIG DATA ARE NEEDED IN RESEARCH ON RARE TUMOURS
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Aims

Before the ESMO-ESGO-ESTRO guideline on conservative treatment in endometrial cancer (EC) was published in 2015, a similar nationwide Dutch protocol served as a guide for clinicians treating patients with low-grade EC with the wish to preserve fertility. The protocol was introduced to uniform treatment of respective women in order to obtain firm knowledge about response, recurrence and efficacy of treatment after recurrence. We evaluated adherence to the protocol and consequences of adherence.

Method

Within 10 years, 33 patients were enrolled in a registry and oncological and obstetrical outcomes were analysed. A strict treatment advise (medroxyprogesterone 200mg/day) and follow-up regime (3-monthly biopsies, at least 3 months of consolidation therapy, maximum length of therapy 9 months) was provided. Re-treatment after recurrence was allowed using the same protocol. The accuracy with which the protocol was followed was evaluated.

Results

Nineteen out of 33 patients were completely treated according to protocol. Deviation[Cd1] of the protocol was mostly the result of a request from the patient e.g. persistent desire to conceive whilst not responding to therapy within the set time frame. There was a strong improvement in adherence to the protocol over time.

Conclusion

In rare tumours, like EC in women under 40, deviations from protocols like this, will make it hard to draw conclusions and impossible to improve safety of tailored treatment. In our opinion only 'big data', provided by intensifying international collaboration, creating a large database with prospective data,is highly needed and will enhance shared decision making, which is mandatory, especially in rare tumours.
QUALITY OF LIFE AFTER TREATMENT OF GYNAECOLOGIC CANCER

ESGO7-0077

PATIENTS’ AND GENERAL PRACTITIONERS’ VIEWS OF FOLLOW-UP AFTER TREATMENT OF GYNECOLOGICAL CANCER

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2Institute of Health and Society, Department of General Practice, Oslo, Norway

Aims

Greater involvement by general practitioners (GPs) in cancer follow-up has been suggested. We aimed to explore gynecological cancer survivors’ attitudes toward follow-up by GPs and whether time in the surveillance program influences their opinions. We also aimed to assess GPs views of increased responsibility for gynecological cancer survivors.

Method

A questionnaire on expectations and attitudes to follow-up after gynecological cancer treatment was distributed to women after end of treatment (new) and >1 year in the surveillance program (experienced). Further, a questionnaire was mailed to GPs regarding their attitudes toward follow-up of gynecological cancer.

Results

239 patients (100 new, 139 experienced) and 317 GPs responded. 36% of new patients were willing to be followed-up by their GP compared to 17% of experienced patients, p=0.02. 42% of the GPs were willing to assume exclusive responsibility within three years after treatment. A patient-specific letter from the specialist and expedited routes of re-referral were important conditions to help them provide follow-up care. Both survivors and GPs thought that detection of recurrence was the most important reason for follow-up. 90% of GPs believed that they were better suited than hospital specialists at providing psychosocial support, but the survivors preferred to talk to the gynecologist about psychological and physical late effects after cancer treatment.

Conclusion

Our results suggest that patients change their attitude of who should be responsible for follow-up after they have started in the surveillance program. Before alternative follow-up regimens are implemented, patients’ and GPs’ attitudes to follow-up should be taken into account.
Aims

Because of the lack of quantitative data on sexual function after ovarian cancer, both for survivors and their partners, it is difficult to counsel patients on expected effects. We hypothesized that ovarian cancer may cause sexual problems, not only for survivors, but also for partners. The purpose of this study is to compare sexual function after ovarian cancer for survivors and partners with normdata in age-matched controls.

Method

After an average of six years after their primary treatment, patients with ovarian cancer (n=275) and their partners (n=137) conducted surveys for HR-QoL and sexual function with the EORTC-QLQC30 and OV-28. Normdata for age-matched controls were gathered through the PROFILES-registry. Scores on the questionnaires were linearly transformed. Differences between the groups were compared and correlations were calculated.

Results

Sexual function showed a non-normal distribution. Median level of sexual function of survivors was 83 (minimum 17 – maximum 100). Hundred (36%) of 275 survivors had undisturbed sexual function. For partners, the median level of sexual function was 43 (0-100) with only 2 persons reported undisturbed function and 21 with a score of 0. Normdata showed a median sexual function for female age-matched controls 17 (0-100) and for male age-matched controls 50 (0-100). Sexual function between survivors and partners correlated strongly (Spearman’s rho .617, p<0.01).

Conclusion

An effect on sexual function for survivors of ovarian cancer is present in the majority of cases. However when compared to age-matched controls, the effect seems limited. Further exploration of sexual function in ovarian cancer survivors is warranted.
PORT-SITE METASTASES AFTER LAPAROSCOPIC SURGERY FOR GYNAECOLOGICAL MALIGNANCIES IN A SOUTHEAST ASIAN POPULATION: A CASE SERIES

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1KK Women's and Children's Hospital, Department of Gynaecological Oncology, Singapore, Singapore

Aims

Port-site metastases (PSMs) are known but uncommon complications of laparoscopic surgery for gynaecological malignancies. Minimally invasive surgeries are commonly used in the management of gynaecological malignancies all over the world. Our series showed that even low risk, early stage disease may be complicated by PSMs. Therefore, surgeons should take necessary precautions to prevent these rare recurrences.

Method

We present a series of 4 cases with PSMs after laparoscopic surgery for gynaecological malignancies diagnosed between 1999 and 2014.

Results

The incidence of PSMs was 0.7% in patients treated with laparoscopic surgery in this period. One patient had immature teratoma, one had epithelial ovarian cancer and the remaining 2 had endometrial cancer. 3 of the patients had laparoscopic pelvic lymphadenectomy done. The median time to occurrence of PSM was 15 months (range 4-30 months). Two of these patients had ascites but all washings performed were negative for metastatic cells. All four cases had no lymph node or lymphovascular space involvement. The median time of survival from diagnosis of PSM was 58 months (range 29-119 months). All patients underwent resection of PSM, of which two were given megace and only one was given additional chemotherapy and radiotherapy. One patient died 29 months after diagnosis of PSM due to recurrence of peritoneal and hepatic metastases post-resection.

Conclusion

Due to the increasing use of laparoscopic surgery in the management of gynaecological malignancy, an evaluation of the clinical factors involved in PSMs is important. Surgeons need to be aware that PSMs can occur in low grade, early stage disease.
TRANSLATIONAL RESEARCH

ESGO7-1011

IMPACT ON SURVIVAL OF INTEGRATIVE SYSTEMIC AND LOCAL METABOLOMICS IN HIGH-GRADE SEROUS OVARIAN CANCER

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²University of Vienna, Dept. of Analytical Chemistry- University of Vienna, Vienna, Austria
³Medical University of Vienna, Clinical Institute of Laboratory Sciences, Vienna, Austria
⁴Medical University of Vienna, Center for Medical Statistics- Informatics- and Intelligent Systems & Dept. of Surgery, Vienna, Austria

Aims

Little is known about how and wherefrom cancer cells get fuel, building blocks, and reducing equivalents for their increased cell growth and division.

Method

Targeted metabolomics of preoperative and follow-up sera, ascites, and tumor tissues, RNA sequencing of isolated tumor cells, local and systemic chemokine, and local immune cell infiltration data from up to 65 high-grade serous ovarian cancer patients and 62 healthy controls were correlated to overall survival and integrated in a Systems Medicine manner.

Results

43 mainly (poly)unsaturated glycerophospholipids and 4 essential amino acids (citrulline) were significantly reduced in patients with short survival. The glycerophospholipid fingerprint is identical to the fingerprint from isolated (very)low-density lipoproteins (vLDL), indicating that the source of glycerophospholipids consumed by tumors is (v)LDL. A glycerophospholipid-score (HR0.46; \( P=0.007 \)) and a 100-gene signature (HR0.65; \( P=0.004 \)) confirmed the independent impact on survival in training (\( n=65 \)) and validation (\( n=165 \)) cohorts. High concentrations of LDLs and glycerophospholipids were independent predictors for favorable survival. Patients with low glycerophospholipids presented with less adaptive immune cell tumor infiltration, less oxygenic respiration and increased triglyceride biosynthesis in tumor cells, and lower histone expressions, correlating with higher numbers of expressed genes and more transcriptional noise - a putative neo-pluripotent tumor cell phenotype.

Conclusion

Low serum phospholipids and essential amino acids are correlated with worse outcome in ovarian cancer, accompanied by a specific tumor cell phenotype (figure.1).
TRANSLATIONAL RESEARCH

ESGO7-0618

WHY SHOULD WE INCREASE RESEARCHES IN PHOTODYNAMIC THERAPY OF PERITONEAL METASTASES OF EPITHELIAL OVARIAN CANCER?

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2INSERM, U1189-ONCO THAI - Image Assisted Laser Therapy for Oncology, Lille, France
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4LRGP- Lorraine-University, UMR-CNRS 7274, Nancy, France
5University hospital of Lille, Department of gynecologic surgery, Lille, France

Aims

Epithelial ovarian cancer (EOC) management is underlined by the high rate of peritoneal recurrence that may be related to microscopic peritoneal metastases ignored by conventional cytoreductive surgery. Intraperitoneal photodynamic therapy (PDT) could improve microscopic cytoreduction. In addition, immune response seems to be enhanced after PDT.

Method

We use a folic acid coupled photosensitizer that specifically target EOC cells (through folate receptors). Preclinical studies have been performed in vitro on murine and human (SKOV3 / OVCAR3) cell lines of EOC and in vivo with a preclinical model of peritoneal carcinomatosis (Fisher F344 rat / NuTu-19 cell line). They aimed to precise the ability of photosensitizer to target specifically tumor tissue, to emit specific fluorescence, and to obtain cell death. We also studied human immune response after PDT.

Results

Tissue quantification of a folic acid conjugate showed its specific incorporation within tumor (tumor-to-normal tissue ratio: 9.6). Specificity for EOC metastases is better than previously reported with other photosensitizers. We could detect fluorescence in vitro and in vivo in peritoneal metastases. PDT induces cells death in human EOC cell lines in vitro (100% mortality 24h after PDT). PDT activates the mitochondrial metabolism and the proliferation of human peripheral blood mononuclear cells.

Conclusion

Our project is a multidisciplinary approach that aims to enable intraperitoneal PDT of peritoneal metastases of EOC and to provide original solutions from photosensitizer synthesis to innovative illumination set up. In addition to direct cytotoxicity, PDT could stimulate a delayed immune response and could act as immunotherapy promoting a potential "abscopal" effect.
TRANSLATIONAL RESEARCH

ESG07-0740

MYELOID DERIVED SUPPRESSOR CELLS (MDSC) DETERMINE OUTCOME IN OVARIAN CANCER.
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2KU Leuven, Department of Oncology- Laboratory of Tumor Immunology and Immunotherapy- ImmunOvar Research Group, Leuven, Belgium
3KU Leuven, Department of Oncology- Laboratory of Gynecologic Oncology, Leuven, Belgium

Aims

Immunotherapy trials in ovarian cancer have so far yielded poor results, possibly due to severe immunosuppression. Macrophages are abundant in ovarian cancer (OC) and a predominance of M2 macrophages is correlated with poor survival. Clodronate Liposomes (CL) are a commonly used drug, which effectively depletes macrophages.

Method

Tumorbearing ID8-fLuc-C57BL/6 and ID8-fLuc-Rag1tm1Mom mice were treated with weekly CL. Immune-monitoring on ascites was performed by fluorescent activated cell sorting (FACS). Furthermore peripheral blood mononuclear cells were collected prospectively in 39 patients at diagnosis of OC.

Results

Mice treated with CL died significantly faster compared to immunocompetent mice (p=0.004), whereas the survival was not altered in mice lacking T- and B-cells (Rag1tm1Mom). After treatment with CL, macrophages were nearly absent. There were no significant changes in T- and B-cell populations. After treatment with CL, monocytic myeloid derived suppressor cells (mMDSC) (CD11b+Ly6CHi) increased significantly (p=0.004), whereas granulocytic MDSC (CD11b+Ly6C-Ly6GHi) decreased. In patient samples, we observed a decrease in progression free survival in patients with a high number of mMDSC (CD11b+HLA-DR-CD14+) (17.5 vs 20 months).

Conclusion

In OC mice the absence of adaptive immune system did not influence survival. Depletion of macrophages by CL significantly reduced survival in tumorbearing mice. This could be explained by a significant rise in mMDSC in mice. The increase was also observed in patients with OC. Our research demonstrates for the first time a prominent role for mMDSC as the driver of immunosuppression in OC, which is a new concept in the field of OC.
TRANSLATIONAL RESEARCH

ESGO7-0753

SEARCHING FOR SYNERGY BETWEEN STANDARD CHEMOTHERAPY AND IMMUNOTHERAPY IN AN OVARIAN CANCER MOUSE MODEL

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2KU Leuven, Department of Oncology- Laboratory of Tumor Immunology and Immunotherapy- ImmunOvar Research Group, Leuven, Belgium
3KU Leuven, Department of Oncology- Laboratory of Gynecologic Oncology, Leuven, Belgium

Aims

Up till now, results from trials with checkpoint inhibitors in ovarian cancer (OC) have yielded response rates ranging from 10-15%, possibly due to severe (innate) immunosuppression. The combination of standard chemotherapy with immunotherapy could overcome this immunosuppressive hurdle. To forge synergistic combinations we need more information on the immunological effects of chemotherapy for OC.

Method

Tumor-bearing ID8-fLuc-C57BL/6 mice received a single dose of Carboplatin (100 mg/kg), Gemcitabine (500mg/kg), Pegylated Liposomal Doxorubicin (PLD) (6 mg/kg), Paclitaxel (10 mg/kg) or the combination of Carboplatin (100 mg/kg) and Paclitaxel (TC) (10 mg/kg) or Gemcitabine (CG) (2 mg/kg). Immune-monitoring on tumor was performed by fluorescent activated cell sorting (FACS).

Results

Differences (Δ) in immune cell infiltration (%) between chemotherapy-treated mice and untreated controls are displayed in the table.

<table>
<thead>
<tr>
<th></th>
<th>ΔCarboplatin</th>
<th>ΔGemcitabine</th>
<th>ΔPLD</th>
<th>ΔPaclitaxel</th>
<th>ΔTC (p=0,045)</th>
<th>ΔCG (p=0,008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD4</td>
<td>-3,941</td>
<td>-2,439</td>
<td>-2,726</td>
<td>2,8308</td>
<td>1,81</td>
<td>7,283</td>
</tr>
<tr>
<td>Regulatory T cells</td>
<td>2,569</td>
<td>4,716</td>
<td>0,137</td>
<td>-5,6767</td>
<td>11,515</td>
<td>9,396</td>
</tr>
<tr>
<td>CD8</td>
<td>-3,386 (p=0,034)</td>
<td>-1,8905</td>
<td>-6,656</td>
<td>5,467</td>
<td>0,025</td>
<td>3,240</td>
</tr>
<tr>
<td>gMDSC</td>
<td>10,855 (p=0,071)</td>
<td>0,240</td>
<td>/</td>
<td>-8,5625</td>
<td>-1,415</td>
<td>11,985</td>
</tr>
<tr>
<td>Macrophages</td>
<td>5,785</td>
<td>-2,926</td>
<td>/</td>
<td>-11,8167</td>
<td>1,555</td>
<td>9,895</td>
</tr>
<tr>
<td>M2</td>
<td>-17,865 (p=0,018)</td>
<td>-19,72</td>
<td>-2,433</td>
<td>1,13</td>
<td>0,955</td>
<td></td>
</tr>
<tr>
<td>mMDSC</td>
<td>-3,7775</td>
<td>0,2135</td>
<td>/</td>
<td>-2,253</td>
<td>-0,5675</td>
<td>-2,545</td>
</tr>
</tbody>
</table>

gMDSC: granulocytic Myeloid-derived suppressor cells - mMDSC: monocytic Myeloid-derived suppressor cells

Conclusion

We demonstrated that the use of Carboplatin reduced M2 macrophages. CG did not reduce M2 due to an increase in total macrophages, but reduced mMDSC. M2 and mMDSC are major players of innate immunosuppression. Further research is needed to investigate the synergistic effect of chemotherapy in combination with immunotherapy.
CLINICAL RELEVANCE OF CIRCULATING TUMOR CELLS IN OVARIAN, FALLOPIAN TUBE AND PERITONEAL CANCER

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2University Duesseldorf, Gynecology, Duesseldorf, Germany
3Regioklinik Pinneberg, Gynecology, Pinneberg, Germany
4Assiut University, Faculty of Medicine, Assiut, Egypt

Aims

Presence of circulating tumor cells (CTCs) is associated with impaired clinical outcome in a variety of cancers. Limited data are available on the significance of CTCs in gynaecological malignancies. Aims of the present study were to evaluate the dynamics of CTCs in patients with ovarian, fallopian tube and peritoneal cancer during chemotherapy and to assess the clinical relevance of these changes.

Method

50 patients with ovarian (n=40), fallopian tube (n=5) and peritoneal (n=5) cancer were included. All patients received chemotherapy in the first-line setting (n=25) or tumor recurrence (n=25). CTC analysis was performed prior to chemotherapy, after three and six cycles and analysed using CellSearch.

Results

26 patients had at least one CTC/7.5ml blood at baseline. Positivity rate was 18% in patients with first-line setting and 35% in those with tumor recurrence (p=0.216). Presence of CTCs was not correlated with other prognostic factors, such as the FIGO stage, nodal status, or grading. CTC positivity declined to 5% after three cycles of cytotoxic therapy and no patient was CTC positive after 6 cycles of chemotherapy. 15 patients died during follow-up. Patients with CTCs at baseline had significantly shorter overall survival compared with CTC negative patients (p=0.014; median OS 3.1 vs. 13.4months). In the subgroup of patients with primary cancer, CTC positivity was significantly associated with OS in univariate analysis (p=0.046).

Conclusion

Hematogenous dissemination is a common phenomenon in ovarian, fallopian tube and peritoneal cancer. Patients with CTCs at time of diagnosis are more likely to die than those who are CTC-negative at baseline.
ESTROGEN RECEPTOR BETA AS A PREDICTIVE MARKER IN OVARIAN CANCER PATIENTS TREATED WITH PLATINUM AND TAXANE-BASED CHEMOTHERAPY

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Aims

Predictive markers for platinum and taxane-based chemotherapy of ovarian cancer are widely discussed. A number of earlier studies investigated the relationship between of estrogen receptor beta (ERbeta) expression and progression-free survival (PFS) of ovarian cancer patients, but the findings are controversial. The present study aimed at investigating the predictive significance of ERbeta expression in a cohort of platinum and taxane treated ovarian cancer patients.

Method

ERbeta expression was estimated quantitatively using immunofluorescence method by flow cytometry in 35 serous ovarian cancer surgical specimens. All patients received the I line of chemotherapy with platinum+taxane. Antibodies: primary anti-ERbeta (ab14C8) and secondary (DyLight650, ab98729). Two levels of ERbeta expression around the median index were defined: high – ≥40% of cells expressing the marker and low – <40%. Kaplan-Meier statistics and log-rank tests were used.

Results

ERbeta were revealed in all the specimens investigated and median value of the expression level was 41.5%. Significant differences (p=0.002) were shown between the patients with low and high level of ERbeta expression: median PFS was 8 vs 25.5 months, number of relapses during 40 months of observation – 15 vs 6 in the groups respectively.

Conclusion

A direct correlation between ERbeta level and both PFS and number of relapses during 40 months after the I line of platinum+taxane chemotherapy indicates of a positive prognostic value of a quantitative index of ERbeta expression in prediction of platinum+taxane chemotherapy efficacy in ovarian cancer patients. Supported by RFBR grants (15-04-06991-a, 16-34-01049-mol-a) and President of RF grant MK-7709.2016.7.
A randomized multicenter controlled study showed a significant benefit of front line carboplatin paclitaxel oregovomab -an anti-CA125 mAb- (CIT) relative to carboplatin/paclitaxel (SOC) in optimally debulked ovarian cancer (Ferrandina G, ASCO Proceedings 2017). The present study evaluated peripheral blood for immune correlates.

Method

97 FIGO 3/4 ovarian cancer patients (CA125 >50U) were randomized to 6-cycles SOC with or without addition of oregovomab 2mg IV at cycle 1, 3, and 5 and cycle 5+12 weeks. Peripheral blood mononuclear cells were evaluated at baseline, cycle 5, and cycle 5+13 weeks. Patients were followed for disease progression and survival. Immune cell populations and CA125-specific IFN-γ producing CD8+ T cells (sensitized using autologous dendritic cells loaded with oregovomab/CA-125 immune complexes) were evaluated by flow cytometry.

Results

CIT (N=47) prolonged relapse free survival (RFS) relative to SOC (N=50) (median RFS= N.E. [21.3, N.E. ] vs 15.4 m [10.9,19.3] p=0.0009 log rank). Early survival data is consistent with RFS. Safety/toxicity was similar in both arms. CIT increased percentage and absolute cell count of CA125-specific IFN-γ producing CD8+ T cells (p=0.01 and p=0.02, respectively) at cycle 5. The neutrophil-monocyte/lymphocyte ratio (NMLR) cutoff 3.612 at baseline predicted outcome in the CIT population with HR 9.75 (p<0.001).

Conclusion

Peripheral blood analyses of patients on SOC and CIT indicate that appearance of treatment-emergent CA-125 specific IFN-γ producing CD8+ T cells is associated with treatment efficacy and that baseline NMLR is useful as a predictive marker for clinical response.
TRANSLATIONAL RESEARCH

ESGO7-0822

PRECLINICAL EVALUATION OF A NOVEL ALPHA-PARTICLE EMITTING THERAPEUTIC AGENT FOR SELECTIVE INTRAPERITONEAL THERAPY OF PERITONEAL METASTASES

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Aims

Intraperitoneal radionuclide therapy with β-emitting 32P-colloid has been previously used in treatment of ovarian cancer. It was then shown to be as effective as adjuvant cisplatin therapy for some groups of patients, but late bowel complications occurred more frequently, most likely caused by a combination of long half-life and several millimeters range of electrons from 32P. We have developed a composition of a microparticle and an α-emitting radionuclide, with a considerably shorter range in tissues, specifically designed for local treatment of peritoneal carcinomatosis. Biocompatible microparticles, with no antigen-targeting, act as carriers for the α-emitter 224Ra. This novel α-radiation therapy has a range in tissue of less than 100 µm and is designed to confine the zone of radiation exposure to the intraperitoneal cavity including peritoneal surfaces and liquid volumes. The therapeutic efficacy and safety of the 224Ra-microparticles in murine models are presented.

Method

Radium-224 loaded onto calcium carbonate microparticles was evaluated in immunodeficient athymic nude mice inoculated with human ovarian cancer cells in the peritoneal cavity. Different activities of 224Ra-microparticles were administered intraperitoneally. Tumor growth, survival and tolerance of the treatment were assessed.

Results

Intraperitoneal treatment with 224Ra-microparticles resulted in considerable survival benefit. An advantageous discovery was that only a few kilobecquerels per mouse were needed to yield therapeutic effects. The treatment was well-tolerated up to doses of 1000 kBq/kg and no clinical signs of toxicity were observed.

Conclusion

Intraperitoneal α-therapy with 224Ra-microparticles demonstrated a significant potential for treatment of residual microscopic intraperitoneal disease with a very promising safety profile.
TRANSLATIONAL RESEARCH
ESGO7-0349

TARGETED PROTEOMICS IDENTIFIES PROTEOMIC SIGNATURES IN LIQUID-BIOPSIES OF THE ENDOMETRIUM TO DIAGNOSE ENDOMETRIAL CANCER AND ASSIST IN THE PREDICTION OF THE OPTIMAL SURGICAL TREATMENT

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Aims

Endometrial cancer (EC) diagnosis relies on the observation of tumor cells in endometrial biopsies obtained by aspiration (i.e., uterine aspirates), but it is associated with 22% undiagnosed patients and up to 50% of incorrectly assigned EC histotype and grade. We aimed to identify biomarker signatures in the fluid uterine aspirates to overcome these limitations.

Method

The levels of 52 proteins were measured in the fluid fraction of uterine aspirates from two independent cohorts of patients of 38 and 116 patients by LC-PRM, the latest generation of targeted mass-spectrometry acquisition. A logistic regression model was used to assess the power of protein panels to differentiate between EC and non-EC patients and between EC histological subtypes. The robustness of the panels was assessed by the “leave-one-out” cross-validation procedure performed in the cohort of 116 patients and 38 patients.

Results

The levels of 28 proteins were significantly higher in EC patients (n=69) compared to controls (n=47). The combination of MMP9 and KPYM exhibited 94% sensitivity and 87% specificity for detecting EC cases. This panel perfectly complemented the standard diagnosis, achieving 100% of correct diagnosis in this dataset. Nine proteins were significantly increased in endometrioid EC (n=49) compared to serous EC (n=20). The combination of CTNB1, XPO2 and CAPG achieved 95% sensitivity and 96% specificity for the discrimination of these subtypes.

Conclusion

We developed uterine aspirate-based signatures to diagnose EC and classify tumors in the most prevalent histological subtypes. This will improve diagnosis and assist in the prediction of the optimal surgical treatment.
DIFFERENTIAL EXPRESSION OF MTOR COMPONENTS IN ENDOMETRIOSIS AND ENDOMETRIOID OVARIAN CANCER CELL LINE: EFFECTS OF RAPAMYCIN, RESVERATROL AND BEZ-235


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Aims

Endometriosis is a well-known risk factor for ovarian cancer with previous history of endometriosis being present in up to 28% of patients with ovarian cancer. The genetic changes that characterise endometriosis are poorly understood; however, the mechanistic target of rapamycin (mTOR) pathway has been implicated in a number of ways. For example, protein expression of both Akt and p70S6K is increased in both the ectopic endometrium and endometriotic lesions of patients with deep infiltrating endometriosis (DIE) in comparison to endometrium lining the uterus.

Method

In this study, we investigate the expression of key mTOR components and used endometrioid ovarian carcinoma (MDAH 2774) cell line as an in vitro model to study the effects of rapamycin, resveratrol and BEZ-235 (Dactolisib; a dual kinase inhibitor).

Results

mTOR and Raptor showed a significant increase in expression in endometriosis patients compared to non-affected controls. Rictor showed a significant increase in gene expression in patients aged 20-29 years, but not in patients aged 30-39 years. There was also a significant increase in Rictor expression in patients with disease grade points above 50 but not in those with a disease grade below 50 compared to non-affected controls. Treatment of MDAH 2774 cells with rapamycin and BEZ-235 (100nM) resulted in downregulation of mTOR protein expression at 48 hours of treatment, whereas resveratrol had no effect. None of the treatments resulted in translocation of mTOR from cytoplasm to the nucleus.

Conclusion

Collectively, these data provide evidence for the potential use of rapalogues and dual kinase inhibitors as treatment possibilities in endometriosis.
PROGNOSTIC SIGNIFICANCE OF UPREGULATED MICRORNA-944 EXPRESSION IN FFPE SAMPLE OF CERVICAL CANCER

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Aims

MicroRNAs (miRNAs, miR-) regulate gene expression and modulate several cell pathways associated with tumor malignancy. Of the various miRNAs associated with cancers, miR-944 has been associated with cervical cancer tumorigenesis from the previous studies. The aim of this study was to investigate the clinical prognostic value of miR-944 expression in FFPE sample of cervical cancer.

Method

A total of 68 FFPE cervical cancer tissues were obtained and to check the validity of this biomarker, normal FFPE samples from 50 patients who underwent a hysterectomy for non cervical, benign gynecological diseases were included together. Using quantitative reverse transcriptase PCR (RT-qPCR) to measure mir-944 expression levels in both FFPE samples and simultaneously had electrical medical record assessment of enrolled cervical cancer patients to review their clinical prognostic factors.

Results

Expression levels of miR-944 in cervical cancer tissues were significantly higher than those in normal tissues (P < 0.0001). Increased expression of miR-944 was also markedly associated with tumor size (P = 0.049), FIGO stage (P = 0.027), and lymph node metastasis (P = 0.007). Furthermore, Kaplan Meier analysis suggested that cervical cancer patients with high miR-944 expression had shorter overall survival time than those with low miR-944 expression (P = 0.004). Multivariate Cox proportional hazards model analysis of miR-944 showed that high expression of miR-944 was independent prognostic factors for overall survival.

Conclusion

In conclusion, up-regulation of miR-944 is a meaningful biomarker that has association with poor clinical prognosis in cervical cancer patients.
TRANSLATIONAL RESEARCH

ESGO7-0695

SINGLE-STRAND-ANNEALING RATHER THAN NON-HOMOLOGOUS-END-JOINING PREDICT HEREDITARY OVARIAN CARCINOMA

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Aims

Deficiency in DNA double-strand break repair especially in homologous recombination (HR) is associated with an increased risk for developing ovarian cancer. It is suggested that up to 25% of ovarian cancer patients have inherited mutations and up to 7% somatic mutations resulting in HR defects. HR deficiency opens new options for targeted therapies; the PARP inhibitor Olaparib is approved for BRCA-mutated ovarian cancers. Great efforts have been made to carve out prognostic markers and patient characteristics detecting cancer susceptibility and therapeutic responsiveness. In this work, we performed functional analyses in peripheral blood lymphocytes (PBLs) using a case-control design.

Method

We examined 38 women with defined familial history of breast and/or ovarian cancer, 40 women with primary ovarian cancer, and 35 healthy women without previous cancer or family history. Using a GFP-based test we analyzed error-prone DSB repair mechanisms which are known to compensate HR defects and to generate chromosomal instabilities.

Results

While non-homologous end-joining (NHEJ) did not discriminate between cases and controls, we found increases of single-strand annealing (SSA) in women with familial risk vs. controls (P=0.016) and patients with ovarian cancer vs. controls (P=0.002). Consistent with compromised HR we also detected increased sensitivities to carboplatin in PBLs from high risk individuals (P=0.019) as well as in patients with early-onset ovarian cancer (P=0.046) in comparison to cells from healthy controls.

Conclusion

These findings underscore the great potential of detecting distinct DSB repair activities in PBLs as method to estimate ovarian cancer susceptibility and associated treatment responses beyond the limitations of genotyping.
TRANSLATIONAL RESEARCH

ESGO7-0588

CLAUDIN 1 EXPRESSION AS A STRATIFICATION MARKER IN BORDERLINE TUMORS OF THE OVARY.
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Aims

To evaluate the integral transmembrane protein Claudin1 as marker for borderline ovarian tumors (BOTs).

Method

We analyzed a retrospective cohort of 114 BOTs with validated diagnosis by an independent pathologist. Immunohistochemical detection of Claudin1 was quantified as combined immunoreactive score blinded to clinical patient data. Analyses were performed for Claudin1 positive versus negative.

Results

We detected Claudin1 positivity in 26.3% of patients. There was no significant correlation between the different histological subtypes and Claudin1 detection. The expression levels of this protein were significantly reduced in patients with FIGO Stage I (p<0.045). This negativity was also correlated to micropapillary pattern as 82.1% of patients with negative Claudin1 had no micropapillary pattern. Claudin1 expression was highly associated with the presence of implants (p=0.003).

Conclusion

Our analysis links Claudin1 with micropapillary pattern. Positive expression is associated with the presence of implants, which is related to elevated risk of recurrence. Accordingly, Claudin1 is an interesting marker and worth further analyses of its prognostic value in BOTs.
TRANSLATIONAL RESEARCH

ESGO7-0779

ASCITES DERIVED TUMOR ASSOCIATED MACROPHAGE ALTERS CHEMOSENSITIVITY IN OVARIAN CANCER CELLS

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Aims

Macrophages are the dominant myeloid cells found in tumor microenvironment. Tumor associated macrophage(TAM) has been proved to promote tumor growth, metastasis and chemoresistance. In this study we generated macrophage cell line from the ascites of ovarian cancer model of ID8 injected mouse, determined it’s phenotype and investigated carboplatin chemosensitivity on ovarian cancer cell line in the presence of Macrophage cell line by transwell assay

Method

To generate macrophage cell line we performed cell harvest, sorting, and immortalizing macrophage, and to determine phenotype of macrophage we perform flow cytometry, Quantitative real time polymerase chain reaction, immunofluorescence and LDL uptake assay. And to investigate carboplatin response of ovarian cancer cell cocultured with macrophages, we used transwell assay and cell viability assay

Results

TAMs from ascites of mouse ovarian cancer model had mixed phenotype with M1 and M2. In vitro transwell assay, ovarian cancer cells which were cocultured with TAMs had more chemoresistant than control group upon carboplatin treatment.

Conclusion

Our data suggest that soluble factors from ascites derived TAMs may alter carboplatin chemosensitivity in ovarian cancer cells. Blockade of these function of TAMs might increase the clinical effect of platinum-based chemotherapy
ANATOMICAL AND FUNCTIONAL ASSESSMENT OF THE PELVIC AUTONOMIC NERVES IN A FEMALE SWINE MODEL AND WOMEN

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Aims

To develop a female swine model for anatomical and functional assessment of the pelvic autonomic nerves, and then to validate the assessment in women.

Method

We used 11 female domestic swine, weighing 30 to 40 kg. Among them, we sacrificed three swine for the anatomical assessment, and eight swine for the functional assessment of the pelvic autonomic nerves. We developed a new stimulation & monitoring system for evaluating the function of the pelvic autonomic nerves of female swine. Moreover, the results from swine were compared with those of 11 women with cervical cancer during surgery.

Results

In swine, we found bilateral sympathetic trunk and ganglions run beside aorta and inferior vena cava, and thin fibers from sympathetic ganglions joined together to become the superior hypogastric nerve, which runs bilaterally as the inferior hypogastric nerves. The parasympathetic nerves joined together with inferior hypogastric nerves and formed the pelvic plexus, and we found the rectal, vesical and uterine branches of the pelvic plexus. For the functional assessment, we found regular contraction in bladder, vagina and rectum by stimulating the parasympathetic nerves. After resection of the sympathetic nerves, interval from stimulation to contraction, duration of contraction were decreased, whereas maximal pressure and frequency of contraction were increased. These results were similar to those from twelve patients with cervical cancer whose functions of the pelvic autonomic nerves were evaluated during surgery.

Conclusion

A female swine model may be adequate for the anatomical and functional assessment of the pelvic autonomic nerves of women.
TRANSLATIONAL RESEARCH

ESGO7-1206

GERMLINE MUTATIONS IN BREAST AND OVARIAN CANCER CASES FROM SERBIA
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Aims

Rapid expansion of next generation sequencing (NGS) methods has led to a discovery of new cancer susceptibility genes. However, patients’ selection and genetic testing strategies in many countries haven’t been defined yet. The goal of this study is to identify population specific gene panel for Serbian breast and ovarian cancer patients.

Method

We tested 61 breast and 64 ovarian cancer cases using NGS 94-genes panel. The coding sequence and exon/intron boundaries were enriched using Nextera DNA Library Preparation Kit in combination with TruSight® CancerPanel (Illumina, San Diego, USA). NGS was performed on Illumina MiSeq Sequencing System according to manufacturer’s protocol.

Results

Germline BRCA1/2 mutations were found in 7(11.5%) breast and 13(20.3%) ovarian cancer cases. We found 23(18.4%) mutations in 9 other high to low-risk genes in 19 patients (15.2%). The most frequently mutated breast/ovarian cancer genes were PALB2 (n=3;2.4%), CHEK2 (n=2;1.6%), RAD51C (n=2;1.6%) and NBN (n=1;0.8%). Interestingly, we found 8 mutations (6.4%) in PRF1 gene that encodes perforin, a key effector molecule for T-cell- and natural killer-cell-mediated cytolysis, and 2 mutations (1.6%) in RET, which encodes tyrosine kinase receptor that acts as a signal transducer for cell growth and differentiation.

Conclusion

16% of breast and ovarian cancers in Serbia are related to the mutations in BRCA1/2 genes. Besides this, 6.4% of these cases showed mutations in other breast/ovarian cancer genes and 8% of cases in genes not previously associated to breast/ovarian cancers. Therefore, multigene testing increases the mutation detection rate in Serbia and improves the knowledge of the genetic structure of the population.
INHIBITION OF PHOSPHO-S6 KINASE, PROTEIN INVOLVED IN THE COMPENSATORY ADAPTIVE RESPONSE, INCREASES THE EFFICACY OF PACLITAXEL IN REDUCING THE VIABILITY OF MATRIX-ATTACHED OVARIAN CANCER CELLS

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Aims

To identify the proteins involved the compensatory adaptive response to paclitaxel in ovarian cancer cells and to determine whether inhibition of the compensatory adaptive response increases the efficacy of paclitaxel in decreasing the viability of cancer cells.

Method

We used a reverse-phase protein array and western blot analysis to identify the proteins involved in the compensatory mechanism induced by paclitaxel in HeyA8 and SKOV3 ovarian cancer cells. We used a cell viability assay to examine whether inhibition of the proteins involved in the compensatory adaptive response influenced the effects of paclitaxel on cancer cell viability. All experiments were performed in three-dimensional cell cultures.

Results

Paclitaxel induced the upregulation of pS6 (S240/S244) and pS6 (S235/S236) in HeyA8 and SKOV3 cells. BX795 and CCT128930 were chosen as inhibitors of pS6 (S240/S244), pS6 (S235/S236). BX795 and CCT128930 decreased pS6 (S240/S244) and pS6 (S235/S236) expression in HeyA8 and SKOV3 cells. Compared with paclitaxel alone, addition of BX795 or CCT128930 to paclitaxel was more effective in decreasing the viability of HeyA8 and SKOV3 cells.

Conclusion

Addition of BX795 or CCT128930 to inhibit pS6 (S240/S244) or pS6 (S235/S236) restricted the compensatory adaptive response to paclitaxel in HeyA8 and SKOV3 cells. These inhibitors increased the efficacy of paclitaxel in reducing cancer cell viability.
TRANSLATIONAL RESEARCH

ESGO7-0396

UTERINE LAVAGE-DERIVED MICROVESICLE PROTEOMICS AS A NOVEL APPROACH FOR OVARIAN CANCER DETECTION

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Aims

Screening tests for high-grade ovarian carcinoma (HGOC), including serum CA125 and vaginal ultrasonography, fail to reduce disease-specific mortality, hence the universal recommendation for high-risk populations (e.g., BRCA1/2 mutation carriers) remains risk-reducing bilateral salpingo-oophorectomy (RRBSO) around the age of 40. As most HGOC arise from the fallopian tube epithelium (FTE), a ‘liquid biopsy’ may be obtained through washing of the uterine and tubal cavity, a procedure termed uterine lavage (UtL). We developed a diagnostic proteomic signature for detection of HGOC, based on microvesicles from UtL samples.

Method

Overall, 121 samples from 39 HGOC patients and 82 controls were analyzed by mass-spectrometry. Samples were divided into a discovery set (n=54) used to define the diagnostic signature, and an independent, blinded validation set (n=67).

Results

UtL microvesicle proteomics identified on average 2500 proteins per sample and more than 7000 proteins in the entire cohort. Using support vector machine algorithms, we extracted a 21-protein classifier with a high level of specificity and sensitivity, as represented in the Receiver Operating Characteristics (ROC) curve with an AUC of 0.90. Validation on an independent cohort showed an AUC of 0.74. Moreover, the signature was able to correctly diagnose all 4 early-stage lesions. RT-PCR and immunohistochemistry were able to confirm differential expression of signature proteins.

Conclusion

This proof-of-principle work demonstrates the technical feasibility of UtL, and the ability to obtain a predictive signature for HGOC, based on UtLF microvesicle proteomics. Further work is required to implement this approach for early detection in high risk populations.
TRANSLATIONAL RESEARCH

ESGO7-0918

PTEN STATUS AND CIRCULATING AND ENDOMETRIAL MARKERS OF INSULIN SIGNALLING IN MORBIDLY OBESE WOMEN UNDERGOING BARIATRIC SURGERY

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Aims

Obesity is strongly associated with endometrial cancer (EC). There is extensive interaction between the sex hormone and insulin/IGF axes which both converge on the PI3K/AKT pathway. We assessed the effects of obesity and weight loss on endometrial proliferation, PTEN status and circulating and endometrial biomarkers of insulin signalling.

Method

Morbidly obese women undergoing bariatric surgery were recruited to a prospective cohort study and underwent blood and endometrial sampling at baseline, two and 12 months post surgery. Endometrial proliferation (Ki-67, pAKT), insulin receptor (IR), Insulin-like Growth Factor-Binding Protein 1 (IGFBP1) and PTEN status were assessed using immunohistochemistry.

Results

Seventy two women with median BMI 52.2kg/m² (IQR 47, 57) underwent bariatric surgery. Significant reduction in endometrial proliferation (Ki-67) and downregulation of the PI3K/AKT pathway (pAKT) were observed at 2 and 12 months post surgery. At baseline, endometrial glands were PTEN wild type in 31/35 with sufficient tissue for interpretation. Four were PTEN null at baseline; three of these had incidental atypical hyperplasia (AH) or EC. Glandular PTEN staining re-appeared with weight loss in 3 of 4 cases. Endometrial IGFBP1 expression was significantly increased 2 months post-bariatric surgery. Serum IGF1 was significantly increased and endometrial IR expression significantly decreased 12 months post-bariatric surgery.

Conclusion

PTEN loss may be a reversible feature of early endometrial carcinogenesis. Increased expression of IGFBP1 2 months post weight loss can be explained by falling circulating insulin levels. As circulating IGF1 increased after bariatric surgery the decrease in proliferation may be due to elevated IGF binding proteins.
Aims

To compare RNA-seq and microarrays of gene expression signatures that are known to be related to survival in ovarian cancer, endometrial cancer, breast cancer, colorectal cancer, renal cancer, and lung cancer.

Method

The correlation between the RNA-seq expression and reverse phase protein arrays (RPPA) in the selected genes were compared against the correlation between the microarray expression and RPPA by using the Cancer Genome Atlas data. The concordance index (C-index) in predicting overall survival was also calculated by using RNA-seq and microarrays and compared in each cancer type.

Results

In most selected genes, the correlation coefficients of RNA-seq and RPPA were comparable to those of microarrays and RPPA. Nonetheless, a number of genes showed differences in expression between RNA-seq and microarrays. Furthermore, the prognostic performance (C-index) of gene signature calculated using the microarray data were significantly higher than the prognostic performance calculated using the RNA-seq data across several cancer types.

Conclusion

It is tempting to consider that RNA-seq may outperform microarrays for clinical prediction of survival in cancer patients. However, in a number of selected genes, the correlation of microarrays and protein translation was stronger than that of RNA-seq and protein translation. It was also seen that the predictive model of survival constructed from microarrays was more accurate compared to RNA-seq in some cancers. Therefore, it is advised to carefully select the optimal methods of acquiring transcriptome data after speculating the specific genes and cancer types of interest.
TRANSLATIONAL RESEARCH

ESGO7-0764

CLINICAL CHARACTERISTICS AND GENOMIC BIOMARKERS OF THE HOMOLOGOUS RECOMBINATION DEFICIENCY PHENOTYPE IN HIGH-GRADE SEROUS OVARIAN CANCER


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Aims

BRCA1/2 mutations, as well as other molecular alterations, may lead to defective DNA repair by homologous recombination (HR) in approximately 50% of high-grade serous ovarian cancers (HGSOC). HR-deficiency (HRD) endows these tumors with increased sensitivity for platinum chemotherapy and PARP inhibitors. Here, we aimed to validate a genomic biomarker for HRD and correlated HRD status with clinical-pathological characteristics and outcome.

Method

SNP array profiling was performed on 207 primary HGSOC tumor samples, diagnosed between 1995 and 2011. Tumor ploidy was estimated and large-scale transitions (LSTs, i.e. chromosomal breaks between adjacent regions of at least 10 Mb) were quantified using validated ploidy-specific cut-offs. Clinical, biochemical, radiological, surgical and pathological characteristics at diagnosis, as well as outcome parameters, were retrieved from electronic patient files.

Results

HRD was detected in 128 cases (61.8%) and in 34/37 patients with BRCA mutations (91.9%). FIGO stage and residual disease did not differ between HRD and non-HRD cases, whereas median age at diagnosis was younger in the HRD group (56 versus 64 years, p=0.03). Univariate analysis showed a better overall survival for the HRD group compared with the non-HRD group (HR 0.58, CI: 0.41-0.83, p=0.003) and this prognostic effect remained significant (HR 0.67, CI: 0.46-0.98, p=0.04) after adjusting for residual disease and age at diagnosis. Univariate analysis of other clinical-pathological factors could not identify significant predictors of HRD status.

Conclusion

Genomic profiling identifies HRD in primary HGSOC, which is prognostic for survival. The presence of HRD was not related to any clinical-pathological characteristic.
CIRCULATING TUMOR CELLS: POTENTIAL MARKERS OF MINIMAL RESIDUAL DISEASE IN OVARIAN CANCER? - A STUDY OF THE OVCAD CONSORTIUM


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Aims

In 75% of ovarian cancer patients the tumor mass is completely eradicated by established surgical and cytotoxic treatment; however, the majority of the tumors recur within 24 months. Here we investigated the role of circulating tumor cells (CTCs) indicating occult tumor load, which remains inaccessible by established diagnostics.

Method

Blood was taken at diagnosis (baseline samples, n=102) and six months after completion of adjuvant first-line chemotherapy (follow-up samples; n=78). CTCs were enriched by density gradient centrifugation. A multi-marker immunostaining was established and further complemented by FISH on CTCs and tumor/metastasis tissues using probes for stem-cell like fusion genes MECOM and HHLA1.

Results

CTCs were observed in 26.5% baseline and 7.7% follow-up blood samples. Baseline CTCs indicated a higher risk of death in R0 patients with complete gross resection (univariate: HR 2.158, 95% CI 1.111-4.191, p=0.023; multivariate: HR 2.720, 95% CI 1.340-5.522, p=0.006). Despite the drop down of CTC counts during treatment (from mean 12 to 1 CTCs per ml blood), non-responders were more likely to retain CTCs (p<0.05). Chromosomal gains at MECOM and HHLA1 loci suggest that the observed cells were cancer cells and reflect pathophysiological decisive chromosomal aberrations of the primary and metastatic tumors.

Conclusion

Our data suggest that CTCs detected by the multi-marker protein panel and/or MECOM/HHLA1 FISH represent minimal residual disease in optimally debulked ovarian cancer patients. The role of CTCs cells especially for clinical therapy stratification of the patients has to be validated in consecutive larger studies applying standardized treatment schemes.
IMMUNOHISTOCHEMICAL STUDY OF EGFR AND HER-2 ONCOPROTEIN EXPRESSION IN UTERINE CARCINOSARCOMA BY TISSUE MICROARRAY ANALYSIS

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Aims

We comprehensively analyzed EGFR and HER-2 overexpression in uterine carcinosarcoma by tissue microarray slides to investigate whether EGFR and HER-2 oncoproteins are molecular targeting markers of uterine carcinosarcoma.

Method

This was a retrospective clinicopathological study. The present study was approved by the internal review board for ethical issues. We collected formalin-fixed paraffin-embedded tissue blocks of uterine carcinosarcoma resected from 63 patients who had undergone radical operation at the Division of Gynecology, National Cancer Center Hospital, between 1997 and 2010. We made each tissue microarray thin-section slides of epithelial and mesenchymal components of uterine carcinosarcoma, and analyzed the expression of EGFR and HER-2 oncoproteins immunohistochemically.

Results

In the epithelial component, EGFR overexpression (≥2+) was detected in 4/22 (18.2%) of endometrioid adenocarcinoma (EA), grade 1; 10/30 (33.3%) of EA, grade 2; 22/29 (75.9%) of EA, grade 3. EGFR overexpression was detected in 6/16 (37.5%) of serous adenocarcinoma. In the mesenchymal components, EGFR expression was detected in 57/78 (73.1%) (overexpression (≥2+) was detected in 43/78 (55.1%)). HER-2 overexpression (≥2+) was not detected in the epithelial or mesenchymal components.

Conclusion

EGFR oncoprotein tended to overexpress strongly in the mesenchymal component, and overexpression of EGFR oncoprotein tended to increase proportionally as the EA grading increase in the epithelial component. This study could suggest that EGFR oncoprotein would be a molecular targeting marker of uterine carcinosarcoma.
TFF3 EXPRESSION AS STRATIFICATION MARKER IN BORDERLINE EPITHELIAL TUMORS OF THE OVARY

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Aims

Borderline tumors (BOT) of the ovary account for 10% to 20% of ovarian neoplasms. Like ovarian cancer, BOT encompass several different histological subtypes (serous, mucinous, endometrioid, clear cell, transitional cell and mixed) with serous (SBOT) and mucinous (MBOT) the most common. Current hypotheses suggest low-grade serous carcinoma may develop in a stepwise fashion from SBOT whereas the majority of high grade serous carcinomas develop rapidly presumably from inclusion cysts or ovarian surface epithelium. The pathogenesis of mucinous ovarian tumors is still puzzling. Molecular markers could help to better define relationships between such entities. Trefoil factor-3 (TFF3) is an estrogen-regulated gene associated with prognosis in different types of cancer. It has also been included in a recent marker panel predicting subtypes of ovarian carcinoma.

Method

We analyzed the expression of TFF3 by immunohistochemistry in a cohort of 137 BOT and its association with histopathological features.

Results

Overall expression rate of TFF3 was 21.9%. None of the BOT with serous and endometrioid histology displayed strong TFF3 expression. On the other hand, TFF3 was highly expressed in 61.4% of MBOT cases and 33.3% of BOT with mixed histology (P<0.001) suggesting a potential function of the protein in that subtypes. Associations of TFF3 expression with FIGO stage and micropapillary pattern were significant in the overall cohort but confounded by their correlation with histological subtypes.

Conclusion

The highly specific expression of TFF3 in MBOT may help to further clarify potential relationships of tumors with mucinous histology and warrants further studies.
NATURAL KILLER CELLS PREACTIVATED WITH IL-12 AND IL-18 HAVE ENHANCED FUNCTION AGAINST OVARIAN CANCER

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Aims

Natural killer (NK) cells are therapeutically attractive lymphocytes with the ability to kill cancer cells and produce proinflammatory cytokines without prior exposure to specific tumor antigens. The milieu of the peritoneal cavity in patients with ovarian cancer impairs the functional and proliferative capacity of NK cells through a variety of mechanisms. Our objective was to investigate short-term preactivation of NK cells with IL-12 and IL-18 to enhance function and proliferation against ovarian tumor targets.

Method

NK cells from healthy donors were preactivated with IL-12/18, washed to remove cytokines, then placed against ovarian cancer targets at varying time points to assess function by flow cytometry. Direct measurement of ovarian cancer cell death was performed using automated image analysis. Preactivated human NK cells were injected intraperitoneal (IP) into a xenogeneic mouse model of ovarian cancer to evaluate control of tumor burden, NK cell function, and proliferation.

Results

Preactivation with IL-12/18 durably enhanced NK cell IFN-γ and TNF-α production against in vitro ovarian cancer targets for up to 1 week. Enriched, preactivated NK cells demonstrated a higher level of killing when measured directly in real time. Finally, preactivated human NK cells remained in greater numbers on day 25 following IP injection and decreased tumor burden within the in vivo xenogeneic mouse model of ovarian cancer.

Conclusion

Preactivation of NK cells with IL-12/18 results in persistent, enhanced functionality against ovarian cancer in vitro and in vivo. These findings suggest a potential strategy for NK cell-based therapy to circumvent the immunosuppressive nature found in ovarian cancer.
Aims

Defective DNA repair by homologous recombination (HR) is a feature of approximately 50% of high-grade serous ovarian cancers (HGSOC). Quantifying various forms of genomic damage has emerged as a biomarker for underlying DNA repair deficiencies. However, little is known on the temporal stability of these measures and whether genomic scar dynamics have predictive clinical value.

Method

Matched primary and (first) recurrent HGSOC tumor samples from 42 patients were analyzed with SNP-array profiling and (for a subset of 29) paired whole-exome sequencing. Tumor ploidy was estimated and large-scale transitions (chromosomal breaks between adjacent regions of at least 10 Mb) were quantified using validated ploidy-specific cut-offs to identify HR-deficient (HRD) cases. Mutational load was calculated as the number of single-nucleotide (exonic) variants.

Results

HRD was detected in 24/42 (57.1%) primary and recurrence samples. 22 patients remained HR-deficient at progression, whereas 2 patients switched from HR-deficient to HR-proficient and vice versa. Overall, HRD status at primary diagnosis was a significant predictor for HRD status at first recurrence (p <0.001). Deleterious somatic BRCA1/2 mutations were detected in 7/29 patients (24.1%), all in patients with a primary HR-deficient tumor. One BRCA1-mutated patient switched to HR-proficiency at relapse, but no frameshift reversion event could be documented. Median somatic mutational load was 354 at primary diagnosis and 335 at first recurrence (p=0.732) and did not differ according to HRD status at both timepoints (p=0.546 and p=0.989).

Conclusion

Genomic scars demonstrate a stable pattern through tumor progression, which may limit their predictive value at relapse.
VAGINAL AND VULVAR CANCER

ESGO7-0858

LONG-TERM FOLLOW-UP AFTER SENTINEL LYMPH NODE BIOPSY IN EARLY-STAGE VULVAR CANCER

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Aims

To evaluate the long-term follow-up in patients with early-stage vulvar cancer undergoing sentinel lymph node biopsy (SLNB).

Method

Retrospective cohort study performed in patients with squamous cell vulvar cancer ≤ 4 cm without suspected inguinofemoral lymph node metastases admitted to our center from June 1998 to July 2004 who underwent SLNB. Complete inguinofemoral lymphadenectomy was performed when SLNB was positive intraoperatively or non-detected. In midline tumors with unilateral drainage complete lymphadenectomy of the opposite side was performed. Adjuvant radiotherapy or re-excision was applied if margins were affected in histological examination. Only patients without lymph node metastases assessed by only SLNB were considered.

In order to compare the recurrence rate and disease-specific 10-year survival this cohort was compared to another cohort without lymph node metastases assessed by inguinofemoral lymphadenectomy, sharing both groups the same tumor’s characteristics and adjuvant treatment.

Results

Thirty patients had negative lymph node after performing SLNB and 51 after lymphadenectomy. The median follow-up was 62.8 months (range 2.9 – 131). We observed no significant differences in recurrence rates between patients with negative SLNB and negative lymphadenectomy (43.3% vs 51%, p=0.646) as well as in the disease-specific 10-year survival rate (76.7% vs. 84.3%, p=0.394). The location of first recurrence in negative SLNB were in 33.3%, 6.7% and 3.3% of patients, local, groin and distant recurrence respectively, being in negative lymphadenectomy 45.1%, 5.9% and 0 respectively, being these differences not significant (p=0.441).

Conclusion

SLNB seems to be, in oncological terms, as safe as inguinofemoral lymphadenectomy to assess lymph node status in early-stage vulvar cancer.
EXTENDED PELVIC RESECTIONS FOR LOCALLY INVASIVE VULVAR CANCER

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Aims

To demonstrate the effectiveness of radical pelvic resections for locally invasive vulvar cancer

Method

We report a case series of eight patients diagnosed with locally advanced vulvar cancer in which extended pelvic resections were performed in order to achieve a good local control of the disease.

Results

The main performed procedures consisted of total infralevator pelvic exenteration in two cases, anterior pelvic exenteration in five cases and posterior pelvic exenteration in one case (Figures 1-3).
The early postoperative outcome was uneventful in all cases; however, one case developed at six weeks postoperatively an enteroperineal fistula and required re-intervention.

**Conclusion**

Pelvic exenteration can be safely performed for locally advanced vulvar cancer with acceptable rates of postoperative morbidity.
VAGINAL AND VULVAR CANCER

ESGO7-0670

INCIDENCE OF SHORT AND LONG-TERM POSTOPERATIVE MORBIDITY RELATED TO LYMPH NODE DISSECTION FOR VULVAR CANCER

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Aims

The aim of this study was to determine the incidence of short, and long term postoperative complications, following lymphadenectomy for vulvar cancer. Specifically, the problems of groin wound dehiscence, cellulitis, lymphocyst formation, and lymphoedema were reviewed.

Method

Design: A retrospective, observational, single institution study.

All patients treated for invasive cancer of the vulva, at a tertiary hospital in Sydney, Australia, between the years 1987 to 2015, were included in the study. A retrospective analysis of the hospital medical records, including clinical charts, operative reports and pathology reports were reviewed as part of a larger study.

Results

From 1987 to 2015, 479 women were treated for vulvar cancer, with 410 eligible for inclusion in the study. Mean age was 66.7 years (range 20-95 years). Postoperatively, 6.4% of women developed cellulitis, and 10.8% experienced groin wound breakdown. Lymphocysts occurred in 42.6% (152/357) of dissected groins, following inguinal-femoral lymphadenectomy, and in 23.4% (11/47) of groins following resection of bulky positive nodes only. 43% (107/248) of women who had either unilateral or bilateral groin node dissection subsequently developed lymphoedema, compared to 11 of 47 (23.4%) women who underwent groin node debulking. Of the women who developed lymphoedema 37% developed it within 3 months of surgery.

Conclusion

Results indicate relatively low rates of groin wound breakdown and cellulitis, but high rates of lymphocyst formation and lymphoedema. More detailed analysis of the data is required to develop strategies to further reduce these complications.
VAGINAL AND VULVAR CANCER

ESGO7-1040

SENTINEL LYMPH NODE MAPPING FOR VULVAL CANCER: PRIOR WIDE LOCAL EXCISION DOES NOT IMPAIR NODAL MAPPING.

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Aims

To determine the performance of sentinel lymph node (SLN) mapping technique in staging vulval cancer in women who have undergone an earlier wide local excision (WLE).

Method

Since 2005, women with vulval cancer of stage 1B or greater have undergone central surgery with SLN mapping. We have performed SLN mapping with the combined technique using Tc-99m colloid and methylene blue dye. Patients had preoperative SPEC/CT. If patients presented with clinically suspicious nodes, these nodes were debulked and subsequently treated with radiotherapy +/- chemotherapy. If the SLN was negative, then the specimen was ultra-staged by a single pathologist.

Results

Median age was 67 years and the median body mass index was 28.6. In our study of 32 patients both the SPEC/CT and gamma probe identified SLN in 100% of patients. Methylene blue identified SLN in 97% of cases. 21 patients had stage 1B disease, 4 had stage 2 and 7 had stage 3 cancer. 90% were diagnosed with squamous cell cancer. Median size of the lesion was 15 mm and depth of invasion was 2.5 mm. LVSI present in 28% of cases. LN were positive in 25% cases. The median number of SLN in central tumours was 1 per LN basin and in lateral tumours, it was 2. False negative rate was 3.1%

Conclusion

SLN is a feasible and safe technique even in those who have had prior WLE.
VAGINAL AND VULVAR CANCER

ESGO7-0864

ICG-NIR FOR DETECTING THE SENTINEL LYMPH NODE IN EARLY STAGE VULVA CANCER: A CASE SERIES FROM A UK CENTRE
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Aims

Standard techniques for sentinel lymph node (SLN) biopsy in vulva cancer use a combination of blue dye (BD) and radio-labelled nanocolloid (Tc-99m) as the lymphatic tracers to enable pre and intra-operative localisation of SLNs. Indocyanine green-near infrared (ICG-NIR) fluorescence for SLN biopsy has been widely reported in cancers of the endometrium and cervix. To date, limited data on the use of ICG-NIR for SLN biopsy in early stage vulva cancer is available. Here we present updated data from a UK centre using ICG-NIR for SLN biopsy in patients with vulva cancer.

Method

Patients presenting with unifocal squamous cell cancers of the vulva of less than 4cm diameter were included. Exclusion criteria included bulky lymphadenopathy on CT or clinical examination. ICG-NIR fluorescence imaging was performed in addition to the standard combined technique for SLN detection. If sentinel lymph node detection failed, side specific lymphadenectomy was performed in accordance with the patients pre-operative counselling and consent.

Results

18 patients underwent the SLN procedure using BD/TC-99m and ICG-NIR. Of the SLN successfully detected, 96% were positive for ICG fluorescence compared to 80% for BD

Conclusion

ICG-NIR is a valid and safe technique for the detection of SLN in patients with early stage vulva cancer. ICG-NIR appears superior to BD for the intra-operative visualisation of the SLN.
VAGINAL AND VULVAR CANCER

ESGO7-0707

PRIMARY BIFOCAL MALIGNANT MELANOMA OF THE VAGINA. A CASE-REPORT
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Aims

Primary melanomas of the vagina are a very rare condition, associating a much poorer prognosis than other vaginal malignancies.

Method

This case reports the clinical features and treatment procedures used in an even less common condition: a bifocal primary malignant melanoma of the vagina.

Results

A 60-year-old woman, was admitted with a chief complaint of vaginal bleeding. Clinical examination revealed two non ulcerated dark-brown masses. The biopsy of the lesions revealed malign melanoma. After extension study, the patient was treated surgically: laparoscopic colpectomy, sentinel node study and bilateral pelvic lymphadenectomy were performed, followed by a vaginal reconstruction. The tumour was pathologically staged as a IIb of melanoma according to the “2009 AJCC Melanoma Staging and classification” and the multidisciplinary committee of gynecological oncology decided to complete the treatment with inguinal and pelvic radiotherapy during 28 sessions.

Conclusion

In the last years, some studies and reviews have been published in order to improve and facilitate its management. Nevertheless, protocols haven’t been established yet, and there is even less evidence and guiding ideas on how to manage more specific cases such as bifocal presentations.
VAGINAL AND VULVAR CANCER

ESGO7-1301

MANAGEMENT OF A BIG VULVAR CANCER RECCURENCE
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Aims

To present the management of a big vulvar cancer recurrence.

Method

A 79-year-old woman was admitted to our Gyn-Onc department with a recurrence of vulvar cancer. She had undergone vulvectomy and left inguinal lymphadenectomy two years ago due to gr.1 vulvar carcinoma. The tumor size was 2.5cm and 1+/9 lymph nodes were found (St IIIAi). External beam radiotherapy (7000 cGy) had been given postoperatively. The recurrence was confirmed with a vulvar biopsy. The CT scan showed a lesion in the vulva measuring 7.6cm, extending to the anterior wall of the lower 1/3 of the vagina, reaching the pubic symphysis. The preoperative cystoscopy revealed infiltration of the lower urethra. No other metastasis was found in further imaging.

Results

The patient underwent extended radical vulvectomy from the pubis periosteum caudaly to ischiopubic periosteum laterally and right inguinal lymphadenectomy with excision of the outer 1/2 of the urethra. Multi frozen sections were used to establish clear margins. Reconstruction was achieved with the use of two keystone flaps type 4. A keystone flap is a perforator flap based on random musculo-cutaneous perforators from the area. Twenty one days postoperatively she developed partial left flap necrosis, which was treated with the use of a split-thickness skin graft of the anterior part of the right thigh. The pathology report described a squamous cell carcinoma grade 2-3 and inguinal lymph nodes with no signs of malignancy. Clears margins were confirmed.

Conclusion

Vulvar cancer recurrences are challenging cases which should be managed in a tertiary cancer center with a multispecialty approach.
VAGINAL AND VULVAR CANCER

ESGO7-1333

GENOMIC CHARACTERISATION OF VULVAR (PRE)CANCERS IDENTIFIES DISTINCT MOLECULAR SUBTYPES WITH PROGNOSTIC SIGNIFICANCE

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Aims

Vulvar cancers (VC) are classified on the presence of human papilloma virus (HPV). HPV- VC are associated with TP53 mutations, but little is known about other genetic alterations. In an effort to further delineate the molecular landscape of VC, we comprehensively assessed somatic mutations in a large series of vulvar (pre)cancers.

Method

We performed targeted next generation sequencing (17 genes), p53 immunohistochemistry and HPV testing on 36 VC and 82 precursors. Subsequently, the prognostic significance of HPV and p53-status was assessed in a series of 236 VC patients (follow-up cohort).

Results

Frequent recurrent mutations were identified in HPV- VC and precursors in TP53 (42% and 68%, respectively), NOTCH1 (28% and 39%, respectively) and HRAS (20% and 32%, respectively). Mutation frequency in HPV+ vulvar (pre)cancers was significantly lower (p-value = 0.001). Furthermore, a substantial subset of the HPV- precursors (35/60, 58.3%) and VCs (9/28, 32%) were TP53 wildtype, suggesting a third molecular subtype. Clinical outcomes in the 3 different groups (HPV+, HPV-/p53-WT, HPV-/p53-abn) were evaluated in the follow-up cohort. Local recurrence rate was 5.3% for the HPV+ patients, 16.3% for HPV-/p53-wt patients and 22.6% for HPV-/p53-abn patients (p=0.044). HPV positivity remained an independent prognostic factor for favourable outcome in multivariable analysis (p=0.020).

Conclusion

HPV- and HPV+ vulvar (pre)cancers display striking differences in somatic mutation patterns. HPV-/p53wt VC appear to be a distinct clinicopathologic subgroup with frequent NOTCH1 mutations. HPV+ VC have a significant lower local recurrence rate, independent of clinicopathological variables, opening opportunities for future studies on possible reduction of overtreatment in VC.
18F-FDG PET/CT IN PREOPERATIVE NODAL STAGING OF VULVAR CANCER PATIENTS: IS IT REALLY NEEDED?

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Aims

Aim of this study was to assess the role of PET/CT in nodal staging of vulvar cancer patients.

Method

29 pts (68 years; range 51-83) with vulvar cancer (clinical stage I-II), underwent preoperative FDG-PET/CT scan followed by radical vulvectomy and bilateral (or monolateral in case of tumour >2 cm from midline) inguinal lymphadenectomy or sentinel node biopsy. PET/CT images were analyzed by three examinators in consensus and correlated to histological findings according to a pt-based and a groin-based analyses. SUVmax of the nodal uptake of each inguinal area (if present) has been calculated and correlated to histological findings.

Results

PET/CT analysis in consensus resulted negative at inguinal LN level in 18 pts (10 TN, 8 FN) and positive in 11 pts (6 TP, 5 FP). Incidence of LN metastases resulted 48%. On pt-based analysis, sensitivity, specificity, accuracy, negative and positive predictive value of PET/CT in detecting LN metastases were 43%, 67%, 55%, 55%, 56%. On a groin-based analysis, considering overall 50 LN-sites, sensitivity, specificity, accuracy, negative and positive predictive value of PET/CT were 53%, 85%, 73%, 67%, 76% respectively. The mean value of SUVmax was 4.1 (range 0.7-9.3) for metastatic nodes, whereas 1.6 (range 0.7 – 5.4) for reactive/negative lymph-nodes (p=0.0005).

Conclusion

In vulvar cancer FDG PET/CT showed low sensitivity and moderate specificity for lymph node staging, therefore it is not an accurate tool for the nodal status assessment.
VAGINAL AND VULVAR CANCER

ESGO7-1009

V-Y ADVANCEMENT FLAP VERSUS LOTUS PETAL FLAP FOR PLASTIC RECONSTRUCTION AFTER SURGERY IN CASE OF VULVAR MALIGNANCIES: A RETROSPECTIVE SINGLE CENTER ITALIAN EXPERIENCE.

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Aims

This study retrospectively reviewed patients with primary or recurrent vulvar malignancies that had undergone vulvoperineal reconstruction using the V-Y advancement flap and the two variant of the lotus petal flap (LPF) in terms of surgical outcome and postoperative complications.

Method

Between 2000 and 2016, 234 women operated at San Gerardo Hospital in Monza were included in the study. 128 of them having undergone V-Y flap, whereas 106 underwent LPF (58), or it tunneled variant (48). Overall, 365 flaps were harvested (214: 59% V-Y; 151: 41% LPF). Two hundred and sixty-two (262) flaps were bilateral, (47% V-Y, 24% LPF) whereas 103 flaps were monolateral (11% V-Y, 17% LPF).

Results

The average length of follow-up was 84 months (range, 6 - 180 months). Overall, postoperative complications occurred in 21.5% of patients including 27/128 (21%) of the V-Y group and in 14/106 (13%) of the LPF group. No statistically differences were recorded in terms of complications between the groups when comparing V-Y and LPF’s overall (p=0.588), or by comparing the primary (p=0.202), or the recurrent setting (p=0.281). Site of recurrence are listed in table 3. No statistically difference were found between the groups overall (p=0.974), or when comparing the primary (p=0.873), or the recurrent setting (p=0.971).

Conclusion

V-Y flap and the LPF represent two feasible techniques for vulvoperineal reconstruction after surgery for primary or recurrent vulvar malignancies. The associated rates of complications are reasonable for both procedures. LPF represents the treatment of choice in our department for vulvar reconstruction producing the best aesthetic and functional results.
VAGINAL AND VULVAR CANCER

ESGO7-0794

OUTCOMES AND TOXICITY FOLLOWING ADJUVANT INGUINAL RADIOTHERAPY IN VULVAR CANCER; WEST OF SCOTLAND EXPERIENCE

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Aims

Inguinal radiotherapy with or without concomitant chemotherapy is considered standard for patients who have had wide local excision and inguinal lymphadenectomy, and are found to be node positive.

We were interested in outcomes, toxicity and patterns of failure in this group of patients.

Method

We analysed our databases for patients who had received adjuvant (chemo)radiotherapy to inguinal nodes either unilateral or bilateral.

We queried our systems (Aria and Chemocare) and collected patients from 1st January 2007 to 1st September 2015. Further details on patients were collected through case notes, Clinical Portal, SCI Store and Trakcare.

Results

We found 21 patients that fulfilled the above criteria, median age 66yrs (range 28-84 years). Sixteen patients (76%) had concomitant chemoradiotherapy. Dose of radiotherapy was 50Gy in 60% of the total cohort. About 30% of patients had grade 3 tumours and lymphovascular space invasion (LVSI) was seen in 66%.

Lymphoedema was the only late toxicity, observed in 24% of patients. There was no bowel or bladder related toxicity beyond Grade 1.

Just over half the patients are alive and disease free after a median follow up of 18 months. The median follow up for those who are disease free is 30 months.

Seven patients out of the total of 10 with any relapse, and all patients who had a distant relapse, had LVSI in their initial specimen.

Conclusion

Our results show that chemo-radiation to the inguino-femoral region is well tolerated. LVSI is a strong predictor for relapse.
VAGINAL AND VULVAR CANCER

ESGO7-0347

VULVAR CANCER: TWO PATHWAYS WITH DIFFERENT LOCALIZATION AND PROGNOSIS

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Aims

Two etiologic pathways for vulvar squamous cell carcinoma (SCC) are described: in a background of lichen sclerosus and/or differentiated vulvar intraepithelial neoplasia and related to high-risk human papillomavirus (HPV) infection with high grade squamous intraepithelial lesion (HSIL) as precursor. The aim was to compare the predilection site and survival of HPV-related to non HPV-related vulvar SCCs.

Method

Data of patients treated for primary vulvar SCC at the Radboudumc between March 1988 and January 2015 were analyzed. All histological specimens were tested for HPV with the SPF10/DEIA/LiPA25 system assay and p16INK4a staining was performed using CINtec® histology kit. Vulvar SCCs were considered HPV-related in case of either >25% p16INK4a expression and HPV positivity or >25% p16INK4a expression and HSIL next to the tumour. Tumour localization, disease specific survival (DSS), disease free survival (DFS) and overall survival (OS) of patients with HPV-related and non HPV-related vulvar SCC were compared.

Results

In total 318 patients were included: 55 (17%) had HPV-related (Group 1) and 263 (83%) had non HPV-related vulvar SCC (Group 2). The tumours in Group 1 were significantly more often located at the perineum compared to Group 2, 30% and 14%, respectively (p = 0.001). The DSS, DFS and OS were significantly better in HPV-related than in non HPV-related vulvar SCC patients.

Conclusion

HPV-related vulvar SCCs are more frequently located at the perineum and have a favourable prognosis compared to non HPV-related vulvar SCCs. Both localization and the HPV-relation could explain this favourable prognosis. HPV-related vulvar SCC seems to be a separate entity.
A COMPARATIVE STUDY OF VIDEO ENDOSCOPIC INGUINAL LYMPHADENECTOMY AND CONVENTIONAL OPEN INGUINAL LYMPHADENECTOMY IN TREATING VULVAR CANCER
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Aims

To compare the complications, oncological outcomes, cosmetic satisfaction and quality of life between video endoscopic inguinal lymphadenectomy (VEIL) and conventional open inguinal lymphadenectomy (COIL) in women with vulvar cancer.

Method

Patients with vulvar cancer who underwent COIL (n=27) or VEIL (n=21) in our hospital between 2003 and 2016 were included in this retrospective cohort study. The perioperative data, postoperative complications, oncological outcomes, cosmetic satisfaction and quality of life between COIL and VEIL groups were compared.

Results

20 patients (74.1%) in COIL group and 19 patients (90.5%) in VEIL group returned for their follow-up after the operation. The median follow-up time was 73 months (8-162 months) for the COIL group and 28 months (8-58 months) for the VEIL group. The inguinal lymph node yield in the VEIL group was comparable with that in the COIL group (15±5 VS 18±6, P=0.058). The VEIL group had similar recurrence rate and death rate with the COIL group. The wound complication rate is significantly lower in the VEIL group than that in the COIL group. The VEIL group had higher body image scores (16.27 ± 1.20 VS 13.16 ± 0.87, P < 0.0001) and cosmetic scores (20.13 ± 0.98 VS 16.92 ± 0.72, P < 0.0001) than the COIL group. The patients in the VEIL group had a higher life quality scores by the FACT-V questionnaire than those in the COIL group (165.9±6.3 VS 160.5±6.0, P=0.026).

Conclusion

Comparing with conventional open inguinal lymphadenectomy, video endoscopic inguinal lymphadenectomy can effectively reduce the postoperative wound complications, improve patients’ cosmetic satisfaction and life quality without compromising the therapeutic efficacy.
Aims

Study aimed to determine the rate and factors that can increase local recurrence of vulvar carcinoma.

Method

Study included all women operated due to vulvar carcinoma in Clinic of Obstetrics and Gynecology Clinical Center of Serbia during five years period (January 1st 2012. to December 31st 2016.). Upon admission to the Clinic detailed history data were taken from all patients. During gynecological examination tumor size, localisation and growth were registered. Postoperatively we noted type of performed operation, hystopathological findings and findings of excised tissue margins (clear or with residual malignancy), tumor stage and grade, local invasion depth, presence of local and distant metastases and postoperative complications (wound infection and dehiscence; lymphocele formation). All obtained data were compared according to tumor recurrence.

Results

Study included 63 patients out of which 4.8% had local recurrence of vulvar carcinoma. They in average had 67.87 +/- 11.44 years of age, 4.3 +/- 3.3 pregnancies and 25.81 +/- 4.54 BMI. The most common tumor type was squamocellular carcinoma, stage IB and grade I, with exophitic growth on labia majora or bilateraly. The mean recurrence time was 50.33 +/- 12.41 months. Out of all investigated parameters only having other gynecological illnesses (p=0.046) and metastases in ingvinal lymph nodes (p=0.039) was associated with local recurrence of vulvar carcinoma.

Conclusion

Recurrence rate of vulvar carcinoma is not frequent and the latent time is long, but influenced by gynecological comorbidities and presence of metastases in inguinal lymph nodes.
VAGINAL AND VULVAR CANCER

ESGO7-1197

LAPAROSCOPIC-ASSISTED IMMEDIATE VAGINAL RECONSTRUCTION (LAIVR) WITH PEDICLE DEEP INFERIOR EPIGASTRIC PERFORATOR FLAP (DIEP) FOR VAGINAL PRIMARY MALIGNANT MELANOMA (VPMM)

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Aims

VPMM represents 0.8% of melanomas and less than 3% of vaginal cancers

R0 excision is advised for initial stages with vaginal reconstruction as an option

Method

A 48-year-old woman presented with recurrent vaginal bleeding on account of a brown colored nodule of 25 mm of the upper third vagina

VPMM was pathologically confirmed.

Pre-treatment assessment consisted on endo-rectal ultrasound, MRI and PET-CT.

The vascular network was assessed using CT-scan.

Sentinel lymph node dissection (SLND) and radical B2 hysterectomy with two- upper-third radical colpectomy and vaginal reconstruction using DIEP flap were scheduled.

Left pedicle perforator flap was harvested distally up to the DIE artery origin and rotated into pelvic cavity following the inguinal canal.

Neo-Vagina conformation was done using laparoscopic and vaginal running sutures

Results

pN0(sn), R0 resection were achieved with a healthy margin of 25 mm, a 13 mm Breslow index and IIc AJCC stage

Vaginal healing was achieve in one month
Metastatic disease occurs at 7 months without local recurrence.

**Conclusion**

Due to rarity and unpredictable prognosis, VPMM is a challenging issue.

Immediate vaginal reconstruction using VRAM or DIEP flaps have been widely recognized.

DIEP flap and laparoscopic approach in combination allows the same results with mini invasive procedure.

Its impact on positive body image and sexual activity in a life threatening situation has to be further assessed.
VAGINAL AND VULVAR CANCER

ESGO7-1153

EPITHELOID SARCOMA OF VULVA; REPORT OF A RARE CASE

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Aims

To report a epitheloid sarcoma of vulva

Method

A patient with epitheloid sarcoma of the vulva, detected in postpartum period and managed surgically was presented

Results

Epitheloid sarcoma is a rare (less than 1% of sarcomas) soft tissue tumor arising from tenosynovial tissue. A 27 year old pregnant women admitted to the hospital at 32 weeks of gestation. The patient had a painless 5 cm in diameter mass at left labium majus. A concomitant cesarean section and vulvar local excision of vulvar mass was performed. The pathologic examination revealed an epitheloid sarcoma of the vulva, lymphovascular space invasion and positive surgical margins. A radical hemivulvectomy and left inguinofemoral lymph node dissection was performed. No residual tumor was reported at final pathology. The patient discharged at fifth day of the surgery and no complication associated with surgery was encountered. A Gray external radiotherapy was administered. No recurrence occurred in 6 month postoperative follow up.

Conclusion

Gynecologists should consider the probability of epitheloid sarcoma of vulva at patients presenting with vulvar mass in younger ages. The disease can be treated with wide local excision of the lesion. The long term follow up will be presented later.
SQUAMOUS CELL CARCINOMA OF THE VULVA: A RETROSPECTIVE TUNISIAN STUDY

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Aims

Squamous cell carcinoma of the vulva (SCCV) presents less then 4% of all genital tract malignancies. It affects mostly women in the elderly. Surgery remains the gold standard treatment. Lymph node involvement is the most significant prognostic factor for survival.

Method

We retrospectively studied women with histologically confirmed SCCV, treated in the oncological surgical department of Salah Azaiz Institute of Tunisia, between January 1994 and 2014. We collected 150 SCCV operated at our surgical department. Epidemiological, clinical characteristic and survival were analyzed.

Results

The mean age was 65 years (range 24 – 104 years). The revealing symptom was a genital lump in 70%. The mean diameter of the tumor was 35.7mm (range 10 – 120 mm). Clitoris was involved in 53% of cases. 36% had an ipsilateral inguinal node and 30% bilateral groin nodes. Tumor was classified stage I, II, III and IV in respectively 55%, 7%, 35% and 3% of all cases. Surgery consisted on a radical vulvectomy in 97% of cases. 2 patients had a pelvic exenteration. Lymph node dissection was bilateral in 89%. We omitted the lymph node dissection in a stage I A tumor. Surgery was followed by adjuvant radiation therapy in 30% of cases. 5-years and 10-years survival rate was 50.3% and 31.5% respectively. Disease free survival was 73.7%, 63.8% and 41.5% at respectively 2, 5 and 10 years.

Conclusion

Lymph node involvement is the most significant prognostic factor for SCCV survival. The survival is as good as the diagnosis and the convenient therapy is arranged early.
VAGINAL AND VULVAR CANCER

ESGO7-0408

WHY YOU SHOULD AVOID SUPERFICIAL LYMPH NODE DISSECTION IN SQUAMOUS CELL CARCINOMA OF THE VULVA?
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Aims

In the aim to reduce radicality in the management of squamous cell carcinoma of the vulva (SCCV), DiSaia proposed, in 1979, superficial lymph node dissection (LND). Superficial LND was described as the « sentinel nodes procedure» of the vulva on the basis of the anatomic location of the superficial lymph nodes. In the mid 1980s, this practice became common at the Salah Azaiz Institute of Tunisia.

Method

We identified 63 SCCV with primary treatment consisting of radical vulvectomy and superficial LND

Results

The median tumor size was 29.5mm, attending mostly the Clitoris(54%). 34 women (54%) had palpable groin nodes. 52 women (82.5%) underwent bilateral superficial LND and 10 women (17.5%) underwent unilateral LND. The median number of resected nodes per groin was 7 (range 1 to 18). 4 patients (6.3%) had nodes invasion at final histological exam. Tumors were classified FIGO stage I, II and III in respectively 80%, 14% and 6% (figure). 19 patients (30%) presented postoperative surgical complications (site infection, suture leakage, lymphocele and hematoma). 5-years and 10-years survival rates were respectively 72.7% and 51.2%. Despite negative nodes on superficial LND, 12 patients (20%) had a groin recurrence. The median interval to recurrence was 43 months (range 7 – 132). After groin recurrence, 1-year survival rate was 23.6%.

Conclusion

Accurate identification of node positive patients remains a high priority in the surgical management of patients with vulvar cancer. Superficial LND didn’t show less postoperative complications. Due to the high rate of groin recurrence, this procedure isn’t safe and should be avoided.

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VAGINAL AND VULVAR CANCER

ESGO7-0424

AGGRESSIVE ANGIOMYXOMA: EXPERIENCE OF A TUNISIAN ANTI CANCER CENTER

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Aims

Aggressive Angiomyxoma (AAM) is a benign mesenchymal neoplasm with a myxoid and vascular components. It is characterized by a soft non-encapsulated mass with finger-like projections, infiltrating the soft tissues, slow growth, frequent recurrences and exceptional metastasis. Since Steepe and Rosai first described this tumor in 1983, only approximately 250 cases have been reported worldwide.

Method

From 1999 to 2017, 5 women with aggressive angiomyxoma were managed in the oncologic surgical department of Salah Azaiz institute, Tunisia.

Results

The average age at diagnosis was 38.2 years. The average size at diagnose was 15.4 cm. In three of five cases histopathology confirmed involved resection margins. None of the five patient received an adjuvant treatment. One patient (case no 1) showed a recurrence 24 months after initial surgery with positive margins. Despite positive margins, two women (case no 3 & 5) didn’t show any recurrence after 12 months follow up.

Table 1: Summary with patient with AA

<table>
<thead>
<tr>
<th>Case</th>
<th>Size (cm)</th>
<th>Age (years)</th>
<th>Location</th>
<th>Surgical treatment</th>
<th>Resection margins</th>
<th>Recurrence</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
<td>34</td>
<td>para-vesical &amp; para-rectal</td>
<td>Laparotomy &amp; excision</td>
<td>positive</td>
<td>abdomino-perineal recurrence after 24 months</td>
<td>Dead</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>33</td>
<td>Clitoris</td>
<td>WLE</td>
<td>negative</td>
<td>none</td>
<td>Alive</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>60</td>
<td>Vulva</td>
<td>WLE</td>
<td>positive</td>
<td>none</td>
<td>Alive</td>
</tr>
<tr>
<td>4</td>
<td>15</td>
<td>37</td>
<td>Right gluteus &amp; pelvis</td>
<td>abdomino-perineal excision</td>
<td>negative</td>
<td>none</td>
<td>Alive</td>
</tr>
<tr>
<td>5</td>
<td>15</td>
<td>27</td>
<td>Vulva</td>
<td>WLE</td>
<td>positive</td>
<td>none</td>
<td>Alive</td>
</tr>
</tbody>
</table>

WLE: wide local excision. Conclusion

Due to its rarity and the non specific symptoms, misdiagnosis is a common problem. Surgery remains the only primary treatment, although new treatments such as radiation therapy and hormone therapy are experienced.
VAGINAL AND VULVAR CANCER

ESGO7-1005

VERRUCOUS CARCINOMA OF THE VULVA: EXPERIENCE OF A TUNISIAN ANTI-CANCER CENTER
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Aims

Verrucous carcinoma (VC) of the female genital tract is a rare lesion presenting less than 1% of vulvar cancer. It is a variant of squamous cell carcinoma with slow growing, rarely metastasizing to lymph nodes and impressive exophytic appearance. The aim of the study was to assess the clinico-pathological characteristics and analyze the specificity of the treatment of patients with VC of the vulva.

Method

We report 4 cases of VC treated at the surgical department of salah Azaiz Institute, Tunisia.

Results

The mean age was 66 years. All the tumors attended the clitoris with a median size of 22.5mm. All patient had a radical vulvectomy associated to bilateral inguinal lymph node dissection. Two patients (case 1 & 3) had adjuvant radiation therapy for involved histological margins and/or large tumor size. Case 1 presented a vulvar recurrence 12 months after finishing therapy, managed with a second surgery.

Table 1: summarize of the clinical data

<table>
<thead>
<tr>
<th>Case</th>
<th>Age(years)</th>
<th>Size(mm)</th>
<th>localisation</th>
<th>Surgery</th>
<th>Resection margins</th>
<th>Nodes</th>
<th>Adjuvant therapy</th>
<th>Outcome/DFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>66</td>
<td>35</td>
<td>Clitoris</td>
<td>RV+BLND</td>
<td>Involved</td>
<td>1N+/14</td>
<td>RT</td>
<td>Recurrence/12 months</td>
</tr>
<tr>
<td>2</td>
<td>82</td>
<td>15</td>
<td>Clitoris</td>
<td>RV+BLND</td>
<td>Free</td>
<td>N-</td>
<td>-</td>
<td>CR</td>
</tr>
<tr>
<td>3</td>
<td>45</td>
<td>30</td>
<td>Clitoris</td>
<td>RV+BLND</td>
<td>Free</td>
<td>N-</td>
<td>RT</td>
<td>CR</td>
</tr>
<tr>
<td>4</td>
<td>71</td>
<td>10</td>
<td>Clitoris</td>
<td>RV+BLND</td>
<td>Free</td>
<td>N-</td>
<td>-</td>
<td>CR</td>
</tr>
</tbody>
</table>

RV: radical vulvectomy, BLND: bilateral lymph node dissection, RT: radiation therapy, CR: complete response

Conclusion

Vulvar VC is a distinct type of vulvar carcinoma with unclear etiology. These tumors should be distinguished from giant condyloma acuminatum and well-differentiated squamous cell carcinoma. Surgery remains the most effective treatment.
VAGINAL AND VULVAR CANCER

ESGO7-1102

GROIN RECURRENCE FOLLOWING STAGE IA CARCINOMA OF THE VULVA
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Aims

Stage IA carcinoma of the vulva is associated with low risk recurrence and no groin nodes metastasis. Lymph node dissection could be omitted in this stage.

Method

We report the case of a groin recurrence 16 months after treatment for stage IA squamous cell carcinoma of the vulva (SCCV).

Results

A 49 years old woman, was referred for a 10mm left minor labia lump. Punch biopsy confirmed SCCV. The patient underwent radical vulvectomy with bilateral superficial lymph node dissection (LND). Histology confirmed a 12mm stage IA SCCV, without lymphovascular involvement or VIN. LND count 6 negative nodes each side. No adjuvant treatment were assessed. Follow up discovered a left groin recurrence 16 months after surgery. CT scan showed pathologic left iliac node without other recurrence sites. The patient underwent second surgery with inguinal and iliac LND followed by 60 Gy radiation therapy. Second recurrence appeared 3 months later treated with surgery followed by cisplatin chemotherapy. The patient were eligible for palliative care and died from disease 3 months later.

Conclusion

Several reports of groin recurrence after treatment for stage IA SCCV were published. Current management of stage IA tumors may need to be reevaluated.
VAGINAL AND VULVAR CANCER

ESGO7-1372

IMPACT OF HISTOLOGICAL TUMOR-FREE MARGIN (HTFM) AND RE-EXCISION ON SURVIVAL IN PRIMARY VULVAR CANCER WITH ADJACENT VULVAR INTRAEPITHELIAL NEOPLASIA (VIN III)

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Aims

HTFM in vulvar cancer is an important prognostic factor. Ideally, a diameter of >8mm should be achieved after primary surgery. The role of VIN III persistence after primary surgery is still unclear. The main objective of the current study was to compare differences in disease free survival among patients with different HTFM and the role VIN III re-excision in primary vulvar cancer.

Method

Forty-one patients with remaining VIN III after primary surgery for vulvar cancer which were operated between 1996 and 2016 in our clinic were enrolled in this retrospective study. Re-excision rates for VIN III were calculated. According to the histological margin patients were divided into three group: <3mm, 3-8mm and >8mm. Univariate and multivariate survival analyses were conducted using the Kaplan-Meier method and Cox proportional hazards models, respectively.

Results

The vast majority of patients had pT1b stage (58.5%), grading G2 (70.7%) and node-negative (78.0%) disease at first diagnosis. The re-excision rate was 56.0% (23 cases). The 5-year disease-free survival (PFS) rates in patients with <3mm, 3-8mm and >8mm HTFM were 50.0%, 60.0% and 82.6%, respectively (p=0.05). The 5-year PFS rates in patients with re-excision and without re-excision for VIN III were 78.3 and 61.1%, respectively (p=0.17). Histological margin >8mm and node-positive disease were the only independent factors for PFS in multivariate analysis (p=0.01 and p=0.02, respectively).

Conclusion

HTFM is a potential prognostic indicator for PFS in vulvar cancer patients. Re-excision for VIN III could not carry any additional benefit on PFS after primary surgery.
VAGINAL AND VULVAR CANCER

ESGO7-1098

PROGNOSIS FACTORS IN PATIENTS WITH LOCALLY ADVANCED VULVAR CANCER TREATED WITH SURGERY WITH OR WITHOUT RADIOTHERAPY

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⁷, , Madrid, Spain

Aims

Vulvar cancer is rare, occupying 5% of cancers of the female genital tract. There still have a lot of lacks about the prognosis factors in the treatment of locally advanced vulvar cancer. The aim of the study was to evaluate the main prognostic factors in the effectiveness of combination of surgery and radiotherapy in the treatment of locally advanced vulvar cancer.

Method

Seventy-three cases treated with surgery plus radiotherapy were retrospective analyzed. Descriptive analysis was performed and overall survival (OS) was calculated using the Kaplan-Meier for age, location, the type of growth tumor, size and lymph node affection, in five post-treatment years. Radical vulvectomy guided by TC 99 and blue isosulfan was performed. If inguinal nodes were positive external radiotherapy was applied to the vulvar area.

Results

The most frequent location of the lesions was in the labia majora (43.83%, in the right) followed by the clitoris (28.76%). The third stage was the predominant (89.04%). Undifferentiated carcinoma was the most frequent (79.45%). Endophytic growth tumors recurred more frequently than exophytic growth. Lymph node was positive in 98.3%. Regarding the adverse effects, we find suture dehiscence (13.5%) and radiodermitis (mild in 12% and severe in 7.3%). The 5-years OS rate was 51%.

Conclusion

The tumor recurrence was more frequent two years after the treatment. The worst prognosis factors in locally advanced vulvar cancer treated with surgery plus radiotherapy are the age, clitoris location, endophytic growth tumors and bilateral lymph node affection.
VAGINAL AND VULVAR CANCER

ESGO7-0186

VULVAR ANGIOMYOFIBROBLASTOMA. A RARE CLINICAL AND SURGICAL TUMOR

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Aims

Angiomyofibroblastoma (AMF) is a benign tumor of the superficial soft-tissue, deriving from the mesenchymal cells of the subepithelial myxoid stromal area. We herein report a case of a 50-year-old woman surgically treated for a vaginal painless mass.

Method

A 50-year-old postmenopausal woman presented to the gynecology department due to mass-enlargement in the right part of the vulva, mainly occurring when standing. On clinical examination the lesion arise from the middle third to the right posterior vaginal wall. Her laboratory data were normal. Three years ago she was treated for a mass in left labia majora concerning a sebaceous cyst.

Results

The lesion was excised en block. The surgical specimen was firm with no areas of hemorrhage, necrosis or cystic transformation and measured 8X6X2.5cm. Microscopically, the mass had typical findings of AMF, such as hypo and hypercellular areas with thin-walled blood vessels. On immunohistochemistry, stromal cells were positive for desmin, myogenin, smooth muscle actin (SMA), S-100 and estrogen and progesterone receptors. The patient was released the day after with no post-operative problems.

Conclusion

AMF is a rare soft-tissue neoplasm of the vulva, vagina, scrotum, the inguinal area and the spermatic cord in males. It is usually described in women of reproductive age (46 years) as a painless mass causing dyspareunia and pressure. The differential diagnosis includes hernia, leiomyoma, aggressive angiomyxoma, cellular angiofibroma, bartholin gland cyst, lipoma. AMF has low recurrence potential and very rarely it can be transformed into sarcoma. The treatment is total local excision with or without embolization of its main artery.
VAGINAL AND VULVAR CANCER

ESGO7-1142

METASTASIS OF ADENOCARCINOMA OF THE GALL BLADDER TO THE VAGINA: CASE REPORT AND REVIEW OF THE LITERATURE

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Aims

Few cases of vaginal metastases originating from gastrointestinal carcinoma are reported in the literature. To our knowledge no cases of vaginal metastasis from gallbladder cancer were described. The aim of this article is to review the available literature to establish the clinical presentation, trends in treatment and prognosis of vaginal metastases from gastrointestinal cancer.

Method

We report a rare case of vaginal metastasis from gallbladder carcinoma with a literature search of vaginal metastasis from colorectal and gastrointestinal carcinoma.

Results

Our patient is a 68 years old woman with no medical history that presented with vaginal bleeding and pelvic pain. The clinical examination showed a solid nodule of the anterior wall of the vagina measuring 25 mm. Incisional biopsy was performed and reported well-differentiated, mucinous adenocarcinoma with a complex gland pattern. Tumor cells are immunoreactive for CK7 and CK20 suggestive of metastasis from a gastric cancer. Computed tomography showed a tumor of the gallbladder with nodules of the liver with no lesion of the gastrointestinal system.

Conclusion

Vaginal metastasis of gastrointestinal cancer should be included in the differential diagnosis of a vaginal swelling. There is no proposed standard treatment for vaginal metastases but surgical resection is an appropriate approach for local control when no disseminated metastatic disease is documented.
VAGINAL AND VULVAR CANCER

ESGO7-0977

VAGINAL SQUAMOUS CELL CARCINOMA WITH ISOLATED OVARIAN INVASION.
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¹Salah Azaïz, Surgical Oncology, Tunis, Tunisia
²Salah Azaïz, Pathology, Tunis, Tunisia

Aims

Primary squamous cell carcinoma (SCCA) of the vagina counts one of the rare carcinoma with 0.35% of all cancers in women and 3.1% of gynecologic malignancies. It should only be diagnosed if other gynecologic malignancies have been excluded (especially the cervix and the vulva carcinoma). The predominant site of failure is loco regional, and the cornerstone of treatment is radiation therapy.

Method

We report a case of a single postmenopausal woman treated for a SCCA of the vagina in Salah Azaiez institute

Results

It was a 58-year-old single postmenopausal female presented with vaginal bleeding. The vaginoscopy showed a friable tumor in the first part of the vagina and the biopsy concluded to a squamous cell carcinoma. A thoracoabdominopelvic computed tomography revealed a left solid cystic ovarian mass with suspicious pelvic bilateral nodes. After radiotherapy, the patient underwent laparotomy with hysterectomy, bilateral salpingo-oophorectomy, colpectomy, partial vaginectomy, bilateral pelvic node dissection. Histology confirmed the invading of the left pelvic node as well as the left ovary by the squamous carcinoma.

Conclusion

The presence of adnexal mass in imaging can lend confusion between metastatic lesion and a synchronous cancer. In fact, it is imperative to distinguish by histology metastases from independently existing primary tumours, as prognosis and treatment differ considerably. Radiotherapy is the cornerstone of treatment. Surgery is indicated in too early stage when the only excision can be enough to eradicate the disease or after radiotherapy with persistent tumor, which is the case of our patient. Chemotherapy is more and more used in advanced stages.
VULVAR PAGET DISEASE: A REPORT OF FIVE CASES

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Aims

Extramammary Paget disease has common manifestations to benign diseases. This leads to delay in diagnosis. The purpose of this work is to describe diagnosis, surgical treatment and outcome of a series of women with Paget's disease of the vulva.

Method

A retrospective review was performed of 5 women with Paget's disease of the vulva evaluated at a single institution: Salah Azaiz Institute, between 1993 and 2015.

Results

The results are shown in the table below.

Table title: clinicopathological characteristic's

<table>
<thead>
<tr>
<th>Clinicopathological factors</th>
<th>Patient number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Age at diagnosis (year)</td>
<td>67</td>
</tr>
<tr>
<td>Chief complaint</td>
<td>Eczema</td>
</tr>
<tr>
<td>Surgical procedure</td>
<td>PV+LND</td>
</tr>
<tr>
<td>Resection margin</td>
<td>Negative</td>
</tr>
<tr>
<td>Histological stage</td>
<td>Invasive</td>
</tr>
<tr>
<td>Lymph node metastasis</td>
<td>Yes</td>
</tr>
<tr>
<td>Tumor recurrence</td>
<td>No</td>
</tr>
<tr>
<td>Outcome</td>
<td>Alive</td>
</tr>
<tr>
<td>Disease free survival (months)</td>
<td>55</td>
</tr>
<tr>
<td>Overall survival (months)</td>
<td>55</td>
</tr>
</tbody>
</table>

Conclusion

This work aims to draw attention to the need for biopsy of vulvar lesions that do not respond to usual treatment. Patients should be followed up closely because of the risk of recurrence of the disease. The treatment of choice is wide excision with negative margins, which leads to functional and aesthetic sequelae,. Alternatives to surgery are needed to better care for women with this disease.
VAGINAL AND VULVAR CANCER

ESGO7-1221

RETROSPECTIVE REVIEW OF MULTIPLE CASES OF EPITHELOID SARCOMA OF VULVA AT OUR GYNAECOLOGICAL CANCER CENTRE

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Aims

To evaluate the incidence, presentation, treatment modalities and survival rate of epithelioid sarcoma of vulva in patients treated at our centre.

Method

We performed a retrospective search for patients with epithelioid sarcoma in our histopathological database.

Results

The most recent incidence of vulvar cancer in Czech Republic is 4.16 with mortality 2.07 per 100,000. In our center we treat about 30-40 cases per year. In the past 10 years 5 patients presented with epithelioid sarcoma, the youngest was 19, the oldest 67 (mean 50.6). One of the patients had primary radical excision with IFL, 3 patients underwent primary excision followed by radical re-excision with IFL. One patient was referred with a relapse of disease after radiotherapy, we performed salvage hemivulvectomy, but due to the extent of disease she died 3 months later. Rest of the patients didn't have any further therapy and currently show no evidence of disease.

Conclusion

Epithelioid sarcoma is a rare malignant mesenchymal tumor. It presents usually with a painless subcutaneous nodule and mass with ulcerative surface. Because of these nonspecific findings it could be mistaken for benign lesions. These misdiagnoses could lead to inadequate management or treatment delay. Postoperative radiotherapy is commonly used in the distal type epithelioid sarcoma, but its role in the vulvar epithelioid sarcoma is controversial and in our case it was not successful in preventing the relapse. From our experience the best results are obtained by primary radical surgery with regional lymphadenectomy.

This work was supported by the Charles University research program PROGRES Q 28 (Oncology).
Aims

Vaginal malignant melanoma is a extremely rare non-cutaneous melanoma, and accounts for less than 5% of vaginal cancers and 0.2% to 0.8% of all malignant melanomas.
I experienced a primary malignant melanoma spreading from proximal to distal vaginal mucosa.

Method

64 years old patient visited office due to vaginal discharge. I saw black discolored mucosal lesions spreading whole vaginal surface from upper vagina to vaginal orifice and 0.5cm diameter nodular mass at the 9 o’clock position of the lower 1/3 of vaginal surface. Vaginal mass’s color was not black, same as normally appearing vaginal surface. Punch biopsy was done on several black colored vaginal surface and vaginal mass.
Pathologic report was atypical melanocytic proliferation consistent with malignant melanoma in situ for black colored vaginal surface and malignant melanoma for vaginal mass.

Results

I did laparoscopic radical hysterectomy with pelvic lymph node dissection. And via vaginal approach I did total vaginectomy with bilateral inguinal lymph node dissection.
A histologic examination revealed a 0.5x0.5cm sized nodular lesion with a depth of invasion of 700um, and a 0.2 x 0.2cm satellite lesion. Vaginal mucosal melanomas in situ were spreading all through vaginal surface. Two pelvic lymph nodes and one inguinal lymph nodes were positive.
The patient underwent adjuvant immunotherapy with a high dose of interferon alpha 2 beta and adjuvant RT.

Conclusion

Primary malignant melanoma of the female genital tract is extremely rare.
The recommended therapy for vaginal malignant melanoma is surgically excision.
Lymphadenectomy is debatable but if positive on imaging method as this case full lymphnode dissection may be needed.
VAGINAL AND VULVAR CANCER

ESGO7-0601

COMPLICATIONS & POST-OPERATIVE MORBIDITY OF GROIN LYMPHADENECTOMY FOR THE STAGING OF VULVAL CANCER

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Aims

Inguinal Lymphadenectomy is a routine part of full surgical staging in cases of vulval carcinoma. Wound complications following this procedure have been quoted as high as 60%. In our centre 2 surgeons were using the modified triple incision approach & 2 were using a modified oblique incision for inguinal lymphadenectomy at the time of our study.

Our aim was to compare the modified triple incision approach versus a modified oblique incision for inguinal lymphadenectomy, looking specifically at the wound complications associated with these procedures. Method

We conducted a retrospective cohort study looking at vulval cancer patients who underwent unilateral or bilateral inguinal lymphadenectomy between 01/01/2014-31/12/2016 at University Hospital Wales, Cardiff, Wales.

Results

A total of 23 patients were identified. One or more complications occurred in 22 (95.6%). The complication rate was 17 (100%) in the modified triple incision group (seroma 9 (53%), infection 9 (53%), wound breakdown 10 (59%), lymphoedema 7 (41%), paraesthesia 4 (24%), lymphocyst 6 (35%), return to theatre 2 (18%)) versus 5 (83%) in the modified oblique incision (seroma 3 (50%), infection 2 (25%), wound breakdown 1 (17%), lymphoedema 2 (25%), paraesthesia 0 (0%), lymphocyst 3 (50%), return to theatre 0 (0%). Median modified triple incision hospital stay length 11 days versus the median modified oblique incision hospital stay 4.5 days.

Conclusion

Wound complication rates after inguinal lymphadenectomy in vulval cancer patients are high. This study suggests that an oblique incision may reduce hospital stay and overall wound complication rates. Larger numbers are required to confirm this finding.

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VAGINAL AND VULVAR CANCER

ESGO7-1179

CARCINOMA OF VULVA IN A VERY YOUNG WOMAN

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Aims

Invasive squamous cell carcinoma (ISCC) of vulva rarely seen in women younger than age 35 years. Vulvar ISCC can be divided into two variants. One variant is the more common HPV-unrelated lesion, occurs in older women. The other variant is associated with human papillomavirus that occurs in younger women (35-65 years old). Less than 10 cases with ISCC of vulva at 18 years or younger were reported.

Method

A 18-year-old patient presented with pruritic lesion on vulva (Figure 1). There was no history of systemic disease, or tobacco-alcohol-drug use. She has been sexually active for one year. Gynecologic examination revealed an erosive lesion on clitoris. Excision biopsy was performed and keratinizing type, ISCC of vulva was diagnosed. Cervical Pap smear and HPV test resulted as negative for both. The patient underwent wide local excision and bilateral inguinofemoral lymphadenectomy (Figure 2) and staged as stage IA ISCC.
Results

Follow-up at 8 months after the surgery showed no evidence of recurrence (Figure 3).

Conclusion

Increase of incidence of ISCC of vulva in younger patients has been observed. HPV and immunosupression are implicated as main predisposing factors. Herein, we presented a very young women with vulvar cancer without any predisposing factor.
ELEVEN CASES OF MUCOSAL MALIGNANT MELANOMA OF THE GENITAL TRACT IN A SINGLE INSTITUTION DURING A 15-YEAR PERIOD

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Aims

Mucosal melanoma is rare, and its prognosis is worse than that of melanoma arising from the skin. We herein report 11 cases of mucosal malignant melanoma of the genital tract and discuss their treatment and prognostic outcomes.

Method

A prospectively maintained database of mucosal melanoma of the vagina, vulva, and uterine cervix was analyzed. Data were collected regarding age, stage, operative outcome, progression-free survival, and overall survival.

Results

We treated 11 cases of mucosal melanoma from 2001 to 2017. The median patient age was 62 years (range, 32–80 years). Seven patients underwent a radical operation that achieved negative margins. Two patients underwent palliative operations, one patient underwent radiotherapy, and another underwent immunotherapy. Regardless of the performance of an aggressive operation, eight patients developed relapse of disease. The median progression-free survival period was 10 months (range, 1–107 months), and the median overall survival period was 39 months (range, 1–122 months).

Conclusion

Mucosal melanoma has a demonstrably worse prognosis than cutaneous melanoma. Aggressive treatment or immunotherapy may permit long-term survival of patients with mucosal melanoma.
VAGINAL AND VULVAR CANCER

ESGO7-1250

VULVAR CANCER: RETROSPECTIVE ANALYSIS OF 40 CASES AT HOSPITAL SANTA MARCELINA –SAO PAULO – BRAZIL.
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²Hospital Santa Marcelina, Gynaecology, Sao Paulo, Brazil

Aims

Analyse 40 cases of vulvar cancer, diagnosed and treated at gynecology oncology department of Santa Marcelina Hospital. The variables analyzed were: age, parity, smoking, histological type, staging, treatment and lymph nodal status.

Method

Retrospective analysis of 40 cases of vulvar cancer at period between January 2008 to March 2016.

Results

The median age of patients was 67 years, at the total 40 cases, 37 was diagnosed with spinocellular carcinoma (92.50%) the multiparous (26) represented 65%, the smokers 30.77%. The final staging was: I (15%), II (30%), III (32.50%), IV (15%), Unknown (7.50%). Thirty four patients received surgical treatment (54.28%), fifteen (37.50%) received neoadjuvant radiotherapy and/or chemotherapy. Positive lymph nodes was detected in 11 (42.30%) of 26 cases. Fourteen patients presented relapse (35%) and 19 (47.50%) died.

Conclusion

The vulvar cancer representing 5% of malignant neoplasia of female genitalia. Assaults, mainly, patients from sixth decade, there are predominance of spinocellular carcinoma as histological type. The multiparous is a frequent feature and the association with smoking was 27.50% at present casuistry. The high percentage of neoadjuvant chemotherapy in 37.5% of cases as initial treatment was performed to allow surgical approach. The high mortality at present data (47.50%) should mainly the late diagnosis, stage II and III in accordance with literature.
Aims

The application of the concept of tumour-specific markers to assess a possible disease outcome and to choose appropriate treatment options is obstructed by the limited knowledge on vulvar carcinoma (VC) biology. We aimed to identify protein markers of VC that would be indicative of a tumour that is more likely to progress.

Method

Primary tumour samples from 28 patients with early stage squamous cell VC and 14 samples of normal vulvar tissue were studied using iTRAQ analysis. The results obtained for tumour samples of VC patients that progressed during 8-12 years of follow-up period ("progVC", n=14) were be compared to those obtained for samples of patients who were disease-free at the time of last observation ("d-fVC", n=14). The differentially expressed proteins were subsequently validated using targeted proteomics methods (PRM) and immunohistochemistry using a larger sample set.

Results

5510 proteins were identified in the analysed samples. Of the proteins differentially expressed in "progVC" and "d-fVC" tumours, top 30 candidate markers were chosen for further validation. Correlation of the validation results with clinical parameters of the enrolled VSCC patients indicated that HMGA2, S100A12, FBLN5, MX1, STAT1, WARS, PRTN3 and PRELP should be considered as potential protein markers for the prediction of progression in VC patients.

Conclusion

Our findings provide evidence showing that deregulation of eight proteins' abundance is significantly associated with aggressive phenotype of VC. Their immunohistochemical assessment hold promise as a patient stratification tool.

Acknowledgement

This work was supported by the Polish National Science Centre grant No. 2013/10/E/NZ5/00663.
EVALUATION OF RISK FACTORS FOR WOUND BREAKDOWN AFTER INGUINAL LYMPH NODE DISSECTION IN VULVAR CANCER

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Aims

The aim of this study was to evaluate risk factors for wound complications after inguinal lymph node dissection in patients with vulvar cancer.

Method

We retrospectively identified all patients with Vulvar Cancer treated at the Medical University of Vienna between 1995 and 2015. Clinical data including age, type of operation, number of resected lymphnodes and lymphnodestatus, drainage, use of antibiotics, body mass index (BMI), co morbidities and postoperative morbidities e.g. cellulitis, wound breakdown, lymphcyst formation and lymphedema were obtained by chart review. Statistical calculations were performed using chi-square test and logistic regression analysis.

Results

147 patients and a total number of 254 groin operations were enrolled in this study. 107 patients had bilateral, 40 patients unilateral groin node dissection. The mean age was 69.5 (SD 13.0). 156 (61.4%) cases were performed as complete inguinal lymphadenectomy, 98 (38.6%) cases as sentinel node biopsies. The mean BMI was 27.6 (SD 5.8). 22 patients (8.7%) developed wound breakdown and 53 patients (20.1%) lymph cysts. Univariat analysis showed BMI >30 (p=0.004) and more than five resected lymph nodes (p=0.04) significantly correlated with wound breakdown. In multivariate analysis BMI >30 (OR 5.0 [1.6-16.0], p=0.006), diabetes (OR 3.7 [1.4-10.1], p= 0.01) and more than five resected lymph nodes (OR 4.1 [1.5-11.1], p=0.005) were shown as independent risk factors for postoperative wound breakdown.

Conclusion

Wound breakdown is a frequently seen complication after inguinal lymph node dissection. Obesity, diabetes and an extended number of removed lymph nodes were shown to be independent risk factors for developing wound complications.
DOES HUMAN PAPILLOMAVIRUS INFLUENCE CLINICAL PROGNOSIS IN VULVAR CANCER?

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²Instituto Português Oncologia - Lisboa, Serviço de Virologia, Lisboa, Portugal

Aims

It has been demonstrated that human papillomavirus (HPV) is one of the causes of vulvar invasive squamous cell carcinoma (VSCC), being identified in about 30-50% of those cases. However, evidence is lacking on the influence of HPV-status on the prognosis of this malignancy.

This study aims to determine the influence of HPV-status on the prognosis of patients diagnosed with vulvar SSC.

Method

We analyzed, retrospectively, the clinical files of every patient diagnosed with primary vulvar SCC submitted to surgery at our institution, from 2008 to 2014, that had a HPV genotype analysis in the surgical sample.

We evaluated and compared both groups (HPV-positive vs HPV-negative) in a three year follow-up for the following data: demographic and clinical data, first-line therapy and its clinical response, recurrence rate, disease-free interval, overall and cancer related mortality rates.

Student t test and chi-square were used for statistical analysis of the continuous and categorical variables, respectively.

Results

62 patients were included, 21 (34%) were HPV-positive and 41 (66%) HPV-negative. There were no statistically significant differences between the two groups in demographic and clinical variables. Response to first-line therapy (95% vs 96%), recurrence rate (32% vs 38%), disease-free interval (25 vs 22 months), overall (43% vs 41%) and cancer related mortality (28% vs 29%) were also similar in both HPV-positive and HPV-negative patients, respectively.

Conclusion

The prevalence of HPV in VSCC patients was similar to that described in published literature.

In our study, at a three year follow-up, the HPV status did not influenced the prognosis of disease in patients who underwent surgery.
THE PRIMARY MELANOMA OF THE VULVA: REPORT OF THREE CASES AND REVIEW OF LITERATURE

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Aims

Optimal treatments for vulvar melanomas (VM) have not been identified. VM has a poor prognosis due to late diagnosis and early dissemination. Only a limited amount of literature exists on the condition. This study elucidates the effect of current treatment.

Method

All patients diagnosed with malignant melanoma in the vulva at Salah Azaiez institute, Tunis, Tunisia, in the period from 2011 to 2017, from retrospective chart review and histologic analysis.

Results

A total of 5 patients were included. The average age at the time of diagnosis was 70 years and the median overall survival time was 12 months. The five-year survival in this study was 20%. The majority of the melanomas were nodular and four of the superficially spreading melanomas were found in the vulva only, one patient had extension on vagina. All patients underwent radical vulvectomy with bilateral inguinofemoral lymphadenectomy. Histological examinations showed free margins in all the patients.

Conclusion

Early diagnosis and staging of this cancer is important. Older women with vaginal discharge should always have a gynaecological examination. Tomography should be the standard method for staging the disease. The primary treatment is resection of the tumour, but future treatment might be a combination of resection and immunotherapy.
LEIOMYOSARCOMA OF THE VAGINA, RARE DIAGNOSIS: TWO CASES REPORT

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3Institut Salah Azeiz of Oncology, Department of Pathology, Tunis, Tunisia

Aims

Primary leiomyosarcoma of the vagina is an exceedingly rare diagnosis. Current estimates are that this tumor could at most represent a mere 0.062% of malignant neoplasms in the female genital tract, although in actuality it is likely far less common. The aim of this study evaluate the clinical characteristics of primary vaginal leiomyosarcoma

Method

We retrospectively reviewed the clinical records of two patients with primary vaginal leiomyosarcoma treated at Salah Azaiez institute, Tunis, Tunisia, in the period from 1998 to 2003

Results

Case 1:
A 62-year-old female gravida 10 para 7 with new onset palpable vaginal mass and pink vaginal discharge is diagnosed with primary leiomyosarcoma of the vagina. She underwent a total hysterectomy with bilateral salpingo-oophorectomy and partial vaginectomy, with free margin in histological examination. She didn't receive postoperative radiation neither chemotherapy. She has been lost from sight for three years. She succumbed to her illness after, due to pulmonary metastasis of her leiomyosarcoma. Case 2:
Case Presentation. A 43-year-old female with new onset palpable vaginal mass and pink vaginal discharge is diagnosed with primary leiomyosarcoma of the vagina. She underwent local excision with free margin. She received postoperative radiation plus brachytherapy. The patient remains without recurrence nine years after surgery.

Conclusion

Vaginal leiomyosarcoma is exceedingly rare with an aggressive course, high recurrence, and undetermined ideal treatment regimen. Information on this rare tumor type is predominantly through rare case reports with collective consensus on management lacking. The gynecologic oncologist must exercise prudence in individualizing treatment regimens for this rare yet aggressive malignancy.
Primary clear cell adenocarcinomas most commonly involve the genitourinary system, including the vagina. Previously, primary clear cell adenocarcinomas of the vagina have been discussed within the context of prenatal exposure to diethylstilbestrol.

Method

We present one case of non-diethylstilbestrol-associated primary clear cell adenocarcinoma of the vagina treated at Salah Azaiez institute, Tunis, Tunisia in 2002.

Results

A 82-year-old gravida 7 para 7 single with no history of illness or prenatal DES exposure presented to the gynecology clinic with abnormal vaginal bleeding for one month duration and and weight loss. Although the patient’s mother was born in 1900 which was during the DES era, she had all previous normal and spontaneous term deliveries with no history of miscarriages. The physical exam revealed a mobile mass that measured 4 cm located in the medium anterior vaginal wall, without any lesion in the cervix. Histological exam showed a clear cell carcinoma. Chemotherapy treatment was proposed, but the patient died of pulmonary embolism.

Conclusion

Our case suggest that primary clear cell adenocarcinoma of the vagina may be unrelated to diethylstilbestrol exposure and that non-diethylstilbestrol-associated primary clear cell adenocarcinoma of the vagina.
Aims

The aim of the study is to investigate the clinical features, treatments, and prognosis of embryonal rhabdomyosarcoma of the vagina in childhood.

Method

We retrospectively reported a case of embryonal rhabdomyosarcoma of the vagina in a three years-old child treated at Salah Azaiez institute, Tunis, Tunisia, in 2015.

Results

This study has reported a 3-year-old child presented with abnormal vaginal discharge. Gynecologic examination revealed a vaginal mass in the left inferior wall of the vagina. Biopsy has performed and pathologic examination was consistent with embryonal botryoid type rhabdomyosarcoma. She has undergone the staging work up measurements including body computed tomography (CT) scan, abdominopelvic magnetic resonance imaging (MRI). Abdominopelvic MRI, showed a polypoid mass in the left inferior wall of vagina measuring 3 cm. As no metastases were detected, the girl received neoadjuvant chemotherapy, local excision with free margin. She had an ovarian transposition and adjuvant radiotherapy. The patient remains without recurrence two years after surgery.

Conclusion

This case has reminded that embryonal rhabdomyosarcoma could occur in uncommon site. Longer follow up of these cases has required due to lack of survival data for embryonal rhabdomyosarcoma of this site. The combination of surgery, chemotherapy and radiotherapy can lead to better outcomes.
VAGINAL AND VULVAR CANCER

ESGO7-0904

GLASSY CELL CARCINOMA ARISING IN THE VAGINA
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Aims

Glassy cell carcinoma is a rare neoplasm that occurs most frequently in the uterine cervix. We describe a case of glassy cell carcinoma (GCC) arising in the vagina. The aim of this study is to investigate the clinical features, treatments, and prognosis of GCC of the vagina.

Method

We retrospectively reported a case of GCC of the vagina in a 24 years-old woman treated at Salah Azaiez institute, Tunis, Tunisia, in 2015.

Results

A 24-year-old Tunisian woman was admitted to our hospital for atypical genital bleeding. Gynecological examination revealed a macroscopic circumferential vaginal mass of the whole vaginal wall. The cervix was normal. The pathological diagnosis of the biopsied specimen was glassy cell carcinoma. she underwent a laparoscopic lombo-aortic node dissection, for tumour staging, with ovarian transposition. She was treated by conventional radiation therapy and chemotherapy under the diagnosis of stage I vaginal cancer (International Federation of Gynecologists and Obstetricians classification, 1986). The patient is alive, with recurrence, after three months following the radiation therapy. She underwent actually palliative chemotherapy. Glassy cell carcinoma is classified as the most poorly differentiated form of adenosquamous carcinoma. The present case illustrates the potential for glassy cell carcinoma to arise in the Mullerian epithelium throughout the female genital tract.

Conclusion

Glassy cell carcinoma is classified as the most poorly differentiated form of adenosquamous carcinoma. The present case illustrates the potential for glassy cell carcinoma to arise in the Mullerian epithelium throughout the female genital tract.
A TUMOR OF THE VAGINA NOT TO OVERLOOK, THE MESONEPHRIC ADENOCARCINOMA: ABOUT A CASE REPORT

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2Institut Salah Azeiz of Oncology, Department of Pathology, Tunis, Tunisia

Aims

Mesonephric adenocarcinoma of the vagina is exceedingly rare. Differential diagnosis from other aggressive tumors is complex and controversies exist in the literature regarding the biological behavior, prognosis, and optimal management strategies of these tumors.

Method

A retrospective case of mesonephrotic at Salah Azaiez institute, Tunis, Tunisia, in 2006.

Results

A 38-year-old woman presented with an ulcerated bulging mass at the antero-lateral of the vagina wall, extending to the left parameter tissue. The tumor was an adenocarcinoma with ductal and tubular pattern arising in a background of mesonephric remnants. The patient underwent neoadjuvant chemotherapy and radiotherapy and she was lost of sight for three years. The CT body scan showed a pulmonary metastasis. she underwent a palliative chemotherapy and died after eight years after the diagnosis of her vaginal pathology.

Conclusion

In spite of the aggressive biological behavior attributed in literature to mesonephric carcinomas, which is probably due to the complex differential diagnosis with other müllerian tumors, the favorable course of our patient further supports the hypothesis that malignant mesonephric carcinomas may not behave aggressively and that radical surgery alone may be curative.
VAGINAL AND VULVAR CANCER

ESGO7-1143

PRIMARY SMALL CELL NEUROENDOCRINE CARCINOMA OF VAGINA: A RARE CASE REPORT

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Aims

Primary small cell neuroendocrine carcinoma of vagina is an extremely rare disease. There have been less than 30 previously reported cases in literature. The aim of this case report is to investigate this tumor clinically and pathologically.

Method

We report a case of woman with the diagnosis of primary small cell neuroendocrine carcinoma of vagina, diagnosed and treated at Salah Azaiez institute.

Results

A 37-year-old female presented with complaint of irregular bleeding per vaginum of six months duration. On per speculum examination, an irregular annular growth was noted in the vagina at the level of the lower one-third. This mass was considered as a vaginal cyst. She underwent a local excision. The histological exam showed a small cell neuroendocrine carcinoma of vagina. She underwent chemotherapy and brachytherapy. Eighteen years after, she developed a pulmonary metastasis. The pulmonary lumpectomy with histological exam showed a metastazing lesion of here neuroendocrine carcinoma of vagina. The patient was lost of sight.

Conclusion

Primary small cell neuroendocrine carcinoma of the vagina has histologic, immunohistochemical, and ultrastructural features similar to those of its pulmonary counterpart. The current therapies have usually resulted in poor outcomes, and new therapeutic modalities should be explored.
VAGINAL AND VULVAR CANCER

ESGO7-1149

PERINEAL RECONSTRUCTION USING V-Y ROTATION ADVANCEMENT FLAP FOR TOTAL VULVECTOMY DEFECT OF VULVAR PAGET DISEASE

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Aims

Extramammary Paget disease (EMPD) is an uncommon malignant neoplasm that occurs in areas containing apocrine glands, and the vulva is the most commonly involved site. The treatment of Paget of vulva is mutilating. Reconstruction of total vulvectomy defect represents a challenge, and reconstructive methods include skin graft, local skin flap, musculocutaneous flap, and pedicled perforator flap.

Method

A 65-year-old woman had EMPD at the vulva in 1999. The patient was treated by minimal excision with a 2-mm safety margin and without adjuvant therapy. Seventeen years after the patient presented a large recurrence of her tumour in the vulva, anus, internal side of the left thigh. she underwent a large excision with iliac colostomy. The frozen section showed a free margin. We performed reconstruction with bilateral profunda artery perforator based V-Y rotation advancement flap. The final histological exam showed a positive margin. The patient is undergoing adjuvant treatment with the immunomodulator imiquimod.

Results

The flap survived completely without major post-operative complications with 6-months follow-up.

Conclusion

EMPD is a rare genital neoplasia where surgical excision is recommended. Profunda artery perforator based V-Y rotation advancement flap may represent a valuable option in total vulvectomy defect reconstruction. Specifically, adjuvant imiquimod is a feasible and efficacious treatment option for women with involved resection margins after surgery.
VAGINAL AND VULVAR CANCER

ESGO7-0724

BARTHOLIN GLAND CANCER – MULTIDISCIPLINAR APPROACH
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Aims

Bartholin gland cancer is extremely rare type of cancer. It is only 0.001% of all gynecologic malignancies. The mean age of diagnoses is 50-60 years.

Method

We reported one case of advanced Bartholin gland carcinoma. The 62 year patient complained about a vulvar ulcer.

Results

Histopathologic (HP) finding was: squamocellular vulvar cancer. Anterior rectal wall, pelvic floor muscles and anal sphincter infiltration, positive right inguinal and left pelvic lymph nodes found by MR. She received neoadjuvant chemotherapy (NACT): Cisplatin 90 mg D1, 5-Fluorouracil D1-4 a 1500 mg, with poor response. Considering locally advanced cancer the optimal surgical approach was abdomino-perineal excision in prone position (extralevator APR). Radical vulvectomy with bilateral inguinoferoral lymphadenectomy, pelvic debulky lymphadenectomy hysterectomy and bilateral adnexectomy with resectio of rectum sec Miles in prone position was performed. Final HP was: Locally advanced Bartholin gland adenocarcinoma with positive bilateral inguinal and pelvic lymph nodes. While waiting for the adjuvant radiation, three more cycles of chemotherapy were administrated. Available protocol was: Cisplatin a 90 mg, Doxorubicin a 100 mg D1. At this point radiation therapy is in progress.

Conclusion

Three months after adjuvant chemotherapy patient is in good condition, ECOG 0, with no residual disease. The problem with patients having Bartholin gland carcinoma is that, due to low incidence, there is no consensus of treatment.
VAGINAL AND VULVAR CANCER

ESGO7-0913

EPITHELIOID SARCOMA OF THE VULVA: A CASE REPORT
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Aims

Sarcomas of the vulva account for less than 2% of vulva malignancies with aggressive behavior and poor outcome. The predominant site of involvement is the labia majora followed by the Bartholin gland area, clitoris, and labium minus. Here in, we report a case of vulvar epithelioid sarcoma presenting in a 28-year-old in her 30 weeks pregnancy.

Method

A case report

Results

A 28-year-old white female presented to Tepecik Research and Training Hospital, Izmir, with an asymptomatic nodule involving the right vulva of 9 months duration. The patient noted an increase in the nodule size over the last two months

Conclusion

Epithelioid sarcoma is a rare soft tissue malignancy, which occurs in younger adults (mean age 26 years) with a male predilection and generally involves the distal and proximal extremities. ES involving the vulva is exceptionally rare; only 20 cases are reported in the literature and a mere 8 out of these 20 cases have supportive IHC studies. The patients ranged in age from 23 to 57 years. The clinical impression varied, with Bartholin cyst being the most common impression, followed by fibroma, dermoid cysts, viral warts, and squamous cell carcinoma. The lesions generally presented as nodular masses ranging in size from 1.5 to 6 cm. ES is considered to be of unknown line age and is often misdiagnosed as a benign lesion, especially as a benign granulomatous process.
VAGINAL AND VULVAR CANCER

ESGO7-0364

ONCOPLASTIC TECNIQUES IN VULVAR CANCER: INDICATIONS FOR TRANSPOSITION FLAPS

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Aims

Describe the surgical technique of transposition flaps, among the different types of flaps in vulvar reconstruction

Method

Retrospective study of 23 cases of vulvar cancer diagnosed between April 2008 and July 2016. We present the surgical technique: transposition flaps with surgical images and diagrams that make understandable the design and the displacement of the flap

Results

Limberg flap is very useful by allowing transpose woven from 4 different adjacent zones. It is designed with a geometric basis and are transposing the estetic-functional or loose skin that we choose the possible 4. The design consists of drawing a diamond containing tumor with angles of 60° and 120°. From one of the two angles of 120 degrees is projected an incision of length same to the distance between those angles of 120° and, from here, we can orient to one or other side according to the anatomical area and the distensibility of the skin, through another incision parallel and equal in length to the side of the rhombus. We present an example to cover the area dehiscent l after radical vulvectomy and inguinal bilateral lymphadenectomy in patient with vulvar cancer stage pTII pN0 M0 (0/19).

Dufourmentel flap is used for rhomboid defects, is but its angles are 60 degrees, but oscillating between 60°-90°. We present images of inguinal node metastases lymphadenectomy treated for squamous cell vulvar cancer, stage IIIA1 (pN0/9)

Conclusion

Transposition flaps allow excellent coverage in recurrences with big defects of vulvar cancer, with an optimal morpho-functional reconstruction
VAGINAL AND VULVAR CANCER

ESGO7-0687

VULVAR CARCINOMA IN NORWAY: A 50-YEAR PERSPECTIVE ON TRENDS IN INCIDENCE, TREATMENT AND SURVIVAL

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Aims

To explore trends in vulvar squamous cell carcinoma (SCC) incidence, age and stage at diagnosis, treatment and survival in Norway from 1961 to 2010.

Method

From 1961 to 2010, 2233 cases of vulvar SCC were extracted from the Cancer Registry of Norway. Data on age at diagnosis, tumor morphology, stage of the disease and treatment were analyzed. Age-standardized incidence rates, adjusted to the Norwegian standard population, were computed. Relative survival was calculated as a ratio of the observed survival in the study population over the expected survival in the background population. Multivariate Cox model was fitted to estimate hazard ratios.

Results

The overall incidence of vulvar SCC increased more than 2.5 fold (from 1.70 to 4.66 per 100,000 women/year; P<0.01) (Figure 1). Age-specific incidence rates increased among women aged ≤ 60 years (by 150% in age group 0-39 years, 175% in age group 40-49 years and 68% in age group 50-59 years). From 1971-2010, the percentage of patients receiving surgery as only treatment decreased from 81% to 61%, whereas the use of radiation and combination therapy (surgery and radiation) increased from 3% to 11% and 6% to 20%, respectively. 5-year relative survival increased significantly among women ≤ 80 years (from 72% to 83% among women aged ≤60 years and from 60% to 65% among women aged 61-80 years).

Conclusion

The incidence of vulvar SCC has increased since the sixties, particularly among women younger than 60 years. Despite less radical treatment, survival has improved.
SENTINEL LYMPH NODE BIOPSY IN VULVAR CANCER. EXPERIENCE OF A SINGLE CENTER
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Aims

Lymph node status represents the main prognosis factor in patients with vulvar cancer. Sentinel lymph node biopsy (SLNB) is a useful tool to assess the nodal status with a low morbidity. We describe our experience with SLNB.

Method

We included 80 patients with primary tumors ≤ 5cm without suspected inguinofemoral nodal metastases admitted to our hospital from June 1998 until July 2016 who underwent SLNB. Peritumoral injection with technetium-99 radiocolloid and methylene blue was conducted. Complete inguinofemoral lymphadenectomy was performed only in cases with intraoperative nodal metastases assessed by frozen section or in cases of non-detected sentinel lymph node. In midline tumors with unilateral drainage, lymphadenectomy of the opposite side was carried out. Nodes were postoperatively examined by histological procedure. Ultrastaging with 4µm-thick sections stained with H&E or immunohistochemically examined with antibody against cytokeratins was conducted on negative nodes.

Results

The median age was 73.1 years (range 32.1 – 95.3). Tumors had a median diameter of 1.9 cm (range 0.1 – 5) with infiltration of 4 mm (range 0.5 – 22). Forty-five (56.2%) were midline tumors. The most frequent histology was squamous cell carcinoma (64; 80%) followed by malignant melanoma (13; 16.3%). In midline tumors, bilateral detection was achieved in 26 cases (57.8%). The median nodes removed per patient was 2 (range 1 – 9). In 16 (20%) patients SLNB was intraoperatively positive and confirmed by final routine histological examination. Six (28%) positive nodes were detected by ultrastaging.

Conclusion

SLNB is a feasible procedure that should include ultrastaging in order to increase the accuracy.
VAGINAL AND VULVAR CANCER

ESGO7-0356

IMPROVING THE ONCOLOGIC OUTCOMES. ONCOPLASTIC TECHNIQUES IN THE TREATMENT OF VULVAR CANCER.
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Aims

To study of outcomes and complications of the oncoplastic techniques in reconstructive surgery for vulvar cancer.

Method

Retrospective study of 23 cases of vulvar cancer. 15 cases were treated through radical vulvectomy (8), hemivulvectomy (5) and expanded lumpectomy (2). Arise with images and diagrams the technical realization of flaps fasciocutaneos, local or neighborhood, with vascular pattern axial and randomized, described according to the type of mobilization performed. Surgical variables, complications and disease-free survival (DFS) and overall survival (OS) were assessed using Kaplan-Meier survival curves and a multivariate analysis.

Results

Oncoplastic techniques for reconstruction were performed in 13 cases (86.6%). The mean age was 76.9 years, 87% of the tumors was squamous cell type and the most frequent stage was IIIA1 (26.1%), followed by stages IB and II (21.7%). The most commonly used flaps were transposition flap of interpolation, straight inner flap, flap of Martius and flaps of progress (V-Y, Z). Bilateral inguinal lymphadenectomy was performed in 9 cases and homolateral in 3 cases, with a mean removed lymph nodes of 12.8. Mean operative time was 219.6 minutes and mean blood loss was 1012 ml. There were no major complications: 3 patients had dehiscence, 1 case presented necrotizing fasciitis and another case of flap necrosis. 6 patients required re-intervention (26.1%). OS was 35.7% and DFS was 22.1% at 3 years.

Conclusion

Fasciocutaneos flaps allow a proper morpho-functional reconstruction and good local sensitivity. A protocol of perioperative management is essential to reduce the rate of complications.
VAGINAL AND VULVAR CANCER

ESGO7-0789

ADENOID CYSTIC CARCINOMA OF THE BARTHOLIN GLAND. A CASE REPORT.
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Aims

Accounting for less than 5% of all vulvar malignancies, primary carcinoma of the Bartholin gland is rare. A case of adenoid cystic carcinoma of the Bartholin gland is presented.

Method

Our patient, a 69-year-old woman, first noted a lump in the region of the introitus and labia majora in November 2015. Her only symptom was mass effect. On examination, the patient was found to have a 4 by 3 cm mass in the region of the left-sided Bartholin duct.

Magnetic resonance imaging showed 41×31 cm lobulated enhancing mass arising between the vagina and rectum which appeared to encase the anterior and left lateral walls of the rectum. Transrectal ultrasonography showed abnormal perirectal node involved the anterior portion of the anal sphincter mechanism. Computed tomography (CT) indicated no evidence of distant metastases.

The biopsy of the tumor indicated adenoid cystic carcinoma. The neoplastic cells were strongly reactive for CK 5/6, s100 and CD 117.

Results

The course of treatment included inguinal lymphadenectomy, radical hemvulvectomy and local transposition fasciocutaneous flap. Pathologic review of the resected specimen showed affected borders and postservative radiotherapy (V-MAT with IGRT) was performed to a total dose of 60 Gy in 6 fractions.
Conclusion

Physical examination showed no evidence of recurrent tumor. CT performed 6 months after surgery showed no evidence of pathologic processes.
THE USE OF A VESSEL-SEALING DEVICE DECREASES SIGNIFICANTLY THE AMOUNT OF LYMPHORRHEA IN VULVAR CANCER PATIENTS AFTER GROIN NODE DISSECTION
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Aims

Many attempts to prevent complications following therapeutic groin node dissection have included modifications in surgical techniques in the past. Previous studies that enrolled heterogeneous groups of patients attempted to confirm the efficacy of some techniques such as preservation of the saphenous vein. The aim of the present study was to evaluate the efficacy of the vessel-sealing device (VSD) Ligasure™ following groin node dissection.

Method

Between October 2016 and April 2017, patients diagnosed with vulvar cancer who underwent groin node dissection, were randomized into two surgical dissection technique groups. In the first group, surgery was conducted using Ligasure™ (VSD Group). These were compared with a control group (C group) whereby ligation and monopolar electrocautery was utilized. The primary endpoint was to compare the time to drain removal and total quantity of lymphorrhea in both groups, while the secondary endpoint was to evaluate the rate of complications (infection, wound dehiscence, lymphedema) between the two groups.

Results

A total of 5 patients were enrolled in this trial, so 10 inguinal lymph node dissections were carried out. Two patients were randomly assigned to the control group (C). Significant differences were observed in terms of duration of drainage (VSS: 6.3 days - C: 11.5 days), and a significantly increased quantity of lymphorrhea was identified in control group as well (C: 792 cc VSS: 206 cc average). No other significant differences were recorded for postoperative complications, including lymphocysts, wound dehiscence and infection.

Conclusion

The use of VSS Ligasure™ offers a significant reduction in length of drain usage and in total lymphorrhea, but no significant differences for postoperative complications was observed.
VAGINAL AND VULVAR CANCER

EXPERIENCE IN INTRODUCING SENTINEL LYMPH NODE BIOPSY IN EARLY- STAGE VULVA CANCER: A SINGLE INSTITUTION BASED PROSPECTIVE STUDY

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Aims

Primary vulva cancer (VC) is diagnosed in approximately 100 patient every year in Denmark. To improve treatment quality VC was centralized to two university centers in 2011. The current study evaluates the long-term recurrence and survival rates in early-stage VC patients after sentinel node (SN) procedure was introduced.

Method

All VC patients were prospectively registered in the Danish Gynecologic Cancer Database in the period January 2011 to July 2016. Patients with clinically stage IB (T1 < 4 cm) who had SN procedure performed were included. Inguinofemoral lymph node dissection was performed if the SN’s were not detected or in case of SN metastases.

Results

The SN procedure was performed in 164 VC patients with tumor < 4 cm and no clinical suspicious groin nodes or distant metastases. 58 patients were excluded due to stage IA or III disease. 106 patients had negative SN. Among these one patient (0.9%) experienced an isolated groin recurrence, seven (6.6 %) a localized vulva recurrence and three (2.8) distant metastases. The 5-year overall and disease-specific survival for SN negative patients were 82% and 95%, respectively. The median disease free survival in SN negative patients with recurrent disease was 19 months (CI 11.8-28.2).

Conclusion

This is to our knowledge the largest prospective single center study presenting results of SN procedure in SN negative VC patients. The study confirms the safety of SN introduction as part of the standard of care in early stage VC with low isolated groin recurrence rate and a good overall and disease-specific survival.
VAGINAL AND VULVAR CANCER

ESGO7-0142

NEOADJUVANT ELECTROCHEMOTHERAPY IN SQUAMOUS VULVAR CANCER: PRELIMINARY RESULTS OF A PHASE II TRIAL

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Aims

In previous studies electrochemotherapy (ECT) showed a local control of 80% in patients affected by relapse of squamous cell vulvar cancer (V-SCC). These results encouraged the use of ECT as neoadjuvant treatment in V-SCC. Aim of the study is to evaluate the effectiveness of ECT in reducing lesions in primary V-SCC and the possibility to decrease surgical aggressiveness and complication rate.

Method

The sample size was calculated based on the two-stage optimal design by Simon. The first step was planned to include 9 patients. In case of detection of at least one clinical PR, the study would enroll 8 additional patients. We enrolled patients with histological diagnosis of primary V-SCC and eligible for surgery. Accurate mapping of all lesions and ECT were performed. One month after ECT clinical response was evaluated according to RECIST criteria and the type of surgery was confirmed or modified. Surgery and pathological evaluation of surgical specimens were performed. Adjuvant therapies were prescribed based on pathological evaluation.

Results

We report the results of the first step of the trial. The average age of population was 67±10 years (mean±SD). Clinical response after therapy was observed in 7 patients (77.8%) with 1 CR and 6 PR. No peri-operative complications were recorded. Tumor downsizing led to more conservative surgery in 6 patients. With a median follow-up of 14±11 months (mean±SD) all patients are alive without disease.

Conclusion

Our preliminary analysis suggests that ECT is a suitable neoadjuvant treatment in patients with primary V-SCC. ECT may reduce tumor size and surgical aggressiveness.
VAGINAL AND VULVAR CANCER

ESGO7-1329

SENTINEL LYMPH NODE MAPPING IN EARLY STAGE VULVAR CANCER
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Aims

To evaluate the oncogynaecological outcome in women with vulvar cancer up to 4 cm in the greatest diameter undergoing extirpation of groin sentinel lymph node instead of inguinofemoral lymphadenectomy.

Method

Our prospective study included 80 women with vulvar cancer stage 1B. We excluded patients with suspicion of invasion of groin lymphatic nodes, patients with multifocal tumour and patients that had been treated for other malignancy. Sentinel lymph nodes were detected according to one-day protocol. 20 MBq of radiocolloid Tc99 and 2ml of patent blau were injected intra-dermally peritumourously at different time at the day of surgery. Lymphoscintigraphy was performed. Sentinel lymph node was extirpated and sent for perioperative histopathological examination. The groin lymphatic dissection was performed in patients with positive sentinel lymph nodes.

Results

Out of 80 patients we had to excluded 3 due to the suspicion of groin lymph nodes involvement. There were identified 149 lymph nodes in 115 groins, i.e. 1.3 sentinel lymph node per one groin. 12 women had positive lymph nodes (15.6%), all of them had positive only sentinel lymph nodes with negative other lymph nodes. 6 patients had local or groin recurrence with primary negative lymph nodes, 2 patients with primary positive lymph nodes had groin recurrence.

Conclusion

Sentinel lymph node detection in vulvar tumour smaller than 4 cm decreases morbidity without any negative impact on oncogynaecological outcome.

This work was supported by the Charles University research program PROGRES Q 28 (Oncology)
To evaluate the sonographic characteristics of inguinal lymph nodes in patients with vulvar cancer.

Method

All consecutive patients with vulvar cancer planned for surgical staging of lymph nodes (LNs) at a Gynecologic oncology center were enrolled in the study. LNs were sonographically assessed using a predefined evaluation form that included topography, size, morphology and vessel architecture. The LNs were classified as not infiltrated, suspicious of metastatic involvement, and certainly metastatic. The definitive histopathology was used as a standard reference.

Results

Between 2009 and 2016, of the 75 patients included in the study, data from 131 groins were analyzed. The sensitivity and specificity of ultrasound for the detection of metastatic lymph nodes reached 86.0% and 93.2%. Ultrasound findings revealed typical findings of non-infiltrated lymph nodes as an oval shape (p<0.001), presence of hilum sign (p<0.001), and homogeneity (p<0.001). Infiltrated lymph nodes were described as having cortex asymmetry (p<0.001) or rounded shape (p<0.001), absence of hilum sign (p<0.001), heterogeneous structure (p<0.001), the presence of necrosis (p<0.001), and infiltration of the capsule (p<0.001). Regarding size, the results showed that the larger nodes (p<0.001) were related to infiltrated lymph nodes with the largest/shortest (L/S) ratio≤2.0 (p=0.044). In contrast to infiltrated LNs, non-infiltrated LNs were avascular or showed only hilar perfusion (p<0.001).

Conclusion

The typical features of an infiltrated inguinal lymph node are cortex asymmetry in early stage of metastasizing (intranodal metastases) or a rounded shape in late stage with complete node infiltration, loss of hilum sign, a heterogeneous structure with necrosis, and infiltration of the capsule.
VAGINAL AND VULVAR CANCER

ESGO7-0216

VOLUME-CONTROLLED VERSUS SHORT DRAINAGE AFTER INGUINOEMORAL LYMPHADENECTOMY IN VULVAR CANCER PATIENTS. A NATIONWIDE STUDY OF THE DUTCH GYNAECOLOGIC ONCOLOGY GROUP


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Aims

Inguinofemoral lymphadenectomy for patients with vulvar squamous cell carcinoma is associated with significant morbidity. Inguinal drain management might influence the incidence of complications. The aim of this nation-wide prospective study (MAMBO: Morbidity And Measurement of the BOdy) was to assess the feasibility and the incidence of complications of volume-controlled versus short drainage of the groin.

Method

The MAMBO study consisted of two observational studies in all eight oncology centers in the Netherlands between 2012 and 2016. In the first study, the drain was removed when the production was <30 ml/24 hours except from the first 48 hours and for a maximum of 28 days (MAMBO-IA). In the second study the drain was removed five days postoperatively regardless the production (MAMBO-IB). Complications within eight weeks after surgery were assessed and the incidence of complications was compared.

Results

We included 141 patients (251 groins): 77 patients (139 groins) for volume-controlled drainage and 64 patients (112 groins) for short drainage. Volume-controlled drainage was associated with less lymphocele formation (10% versus 52% respectively, p<0.001). There was no difference in wound infection or primary wound breakdown. The incidence of one or more complications was 41% per groin after volume-controlled drainage versus 72% after short drainage, p=0.005.

Conclusion

This prospective study shows that volume-controlled drainage is associated with significantly less complications compared to short drainage. We advise volume-controlled drainage after inguinofemoral lymphadenectomy in patients with vulvar squamous cell carcinoma.
INTER-OBSERVER AGREEMENT FOR ASSESSING THE DEPTH OF INVASION IN VULVAR SQUAMOUS CELL CARCINOMA

Aims

The depth of invasion (DOI) is an important prognostic factor for patients with vulvar squamous cell carcinoma (SCC). Two different methods are used to assess the DOI; the conservative (recommended by The International Federation of Gynecology and Obstetrics) and the alternative method. See Figure 1. As the DOI guides the mode of treatment, there should be an uniform measurement method which best reflects clinical outcomes. The aim of this study is to assess the inter-observer agreement between pathologists using the conventional versus the alternative method.

Method

Fifty-one slides of vulvar SCC were selected, these slides represent daily practice. Five pathologists (including one resident) independently assessed all slides. Pathologists were requested to measure the DOI using both the conservative and the alternative method. The DOI was categorized into ≤1 mm and >1 mm and Light’s kappa for multi-rater agreement was calculated.

Results
**Preliminary results:** Kappa was 0.73 using the conservative method versus 0.61 using the alternative method. Pathologists were more sure about their measurement using the alternative method. Three pathologists scored the ease of use equally for both methods, two pathologists scored the conservative method more easy.

**Conclusion**

Pathologists reach substantial agreement in determining the DOI using both the conservative and the alternative method. Pathologists were more sure about their measurement using the alternative method. The number of participating pathologists will be increased.
VAGINAL AND VULVAR CANCER

ESGO7-0193

THE IMPACT OF WRITTEN INFORMATION AND COUNSELING (WOMAN-PRO II PROGRAM) ON SYMPTOM OUTCOMES IN WOMEN WITH VULVAR NEOPLASIA: A MULTICENTER RANDOMIZED CONTROLLED PHASE II STUDY

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Aims

To determine if written information and/or counseling based on the WOMAN-PRO II Program decreases symptom prevalence in women with vulvar neoplasia by a clinically relevant degree and to explore differences between the 2 interventions in symptom prevalence, symptom distress prevalence, and symptom experience.

Method

A multicenter randomized controlled parallel-group phase II trial with 2 interventions provided to patients after the initial diagnosis was performed in Austria and Switzerland. Women randomized to written information received a predefined set of leaflets concerning wound care and available healthcare services. Women allocated to counseling were provided additionally with 5 consultations by an Advanced Practice Nurse (APN) between the initial diagnosis and 6-months post-surgery focusing on symptom management, utilization of healthcare services, and health-related decision making. Symptom outcomes were measured 5 times simultaneously to the counseling time points.

Results

A total of 49 women with vulvar neoplasia participated in the study. Symptom prevalence decreased in women with counseling by a clinically relevant degree, but not in women with written information. Sporadically, significant differences between the 2 interventions could be observed in individual items, but not in the total scales or subscales of the symptom outcomes.

Conclusion

The results indicate that counseling may improve symptom prevalence in women with vulvar neoplasia by a clinically relevant extent. The observed group differences between the 2 interventions favor counseling slightly over written information. The results justify testing the benefit of counseling thoroughly in a comparative phase III trial.
VAGINAL AND VULVAR CANCER

ESGO-1060

THE IMPORTANCE OF THE DRAINAGE SYSTEM AFTER INGUINOFLEMORAL LYMPHADENECTOMY FOR THE TREATMENT OF VULVAR CANCER: A SERIE OF 25 CASES

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Aims

Vulvar cancer (VC) is a rare gynecologic malignancy, corresponding of 4% of all female genital cancer. This incidence is about 0.5-1.5 in 100,000 women per year, and rases continuously, mainly among women under 60, probably due to the HPV exposure. The inguinalofemoral lymphadenectomy is indicated when the stromal invasion is greater than 1 mm. Complications like lymphocele, dehiscence and infection related to the groin dissection may occur and be related to the drainage system. Our study objective to test a drainage system with the aim of avoiding lymphocele, dehiscence or infection of the operative site when the inguinalofemoral lymphadenectomy is performed for the staging and treatment of VC.

Method

25 patients from the Outpatient Clinic of Gynecological Oncology Cancer Institute of São Paulo State (ICESP) with the diagnosis of VC (stages IB to IIIC - FIGO) were submitted to the inguinalofemoral lymphadenectomy. The superficial fascia was incised, and the groin dissection were performed. After this, a Ligth Flow Silicone Drain (RUSCH Teleflex Medical - Ireland) size 14 mm was used, linked to a colostomy bag to store the drainage (pictures 1-2). Patients were instructed to compress the region where the lymphadenectomy were performed in order to promote the exit of the lymph through the drain to the colostomy bag.

Results

We did not observe any case of lymphocele, dehiscence or infection of the operative site using this drainage system.

Conclusion

The use of Ligth Flow Silicone Drain when the inguinofoemoral lymphadenectomy is performed for the treatment on VC seems to be appropriate and safe.
VAGINAL AND VULVAR CANCER

ESGO7-0413

VULVAR CANCER IN IRELAND: ANALYSIS OF THE IRISH NATIONAL CANCER REGISTRY OVER A 20 YEAR PERIOD

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Aims

To ascertain if changing practice guidelines have resulted in a change in treatments and survival in vulvar cancer in Ireland.

Method

Data was collected from the National Cancer Registry of Ireland from 1994 to 2014.

Results

A total of 816 vulvar cancer patients were identified with an average of 54 cancers diagnosed per year (range 21-58). The median age at diagnosis was 72 (range 20-85). The standardised incidence rate increased during the study, 1.08 to 2.29 during the period (figure 1). Seventy-two percent (n=591) were squamous cell carcinoma and 80% were stage 1-2 at diagnosis. The rate of surgery within 1 year of diagnosis fell from 89% to 71%, while radiotherapy rates increased from 17% to 31% during the period. Rates of smoking increased from 6% to 57%. Five year survival rates rose from 40% to 66% during the study period (figure 1).

Conclusion

This population-based study demonstrates that the incidence of vulvar cancer in Ireland is increasing, particularly in socially deprived women who smoke. The use of primary radiotherapy has significantly increased over the last two decades with increasing survival rates seen.
VAGINAL AND VULVAR CANCER

ESGO7-0944

PRIMARY MALIGNANT MELANOMA OF THE FEMALE GENITAL TRACT
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Aims

The aim is to establish the clinical features, treatment and prognosis of primary malignant melanoma

Method

We retrospectively reviewed the clinical records of 13 patients with primary malignant melanoma of the female genital tract treated at Salah Azaiez institute, Tunis, Tunisia, in the period from 2008 to 2015

Results

13 patients with primary malignant melanoma are presented. 4 cases with melanoma of the vulva the median age was 59.5 who consulted for vaginal bleeding and a vulvar mass. An anterior pelvic exenteration with bilateral inguinal and pelvic lymphadenectomy was performed for two patients having a locally advanced tumor, the 2 other underwent a radical vulvectomy with bilateral inguinal lymph node dissection. One of the tow patients treated with pelvic exenteration died post operatively of cardiopulmonary complication, the other has developed skin metastases five months after surgery. 5 patients with vaginal melanomas the median age was 63.5. They were both treated with surgery, the other patient developed local recurrence with lung and bone metastases and she died 6 weeks later of widespread disease. Two patients with cervical melanoma were aged 50 and 47 years, both consulted for metrorrhagia, only one patient underwent CHL surgery and lomboaortic dissection followed by an exenteration. The other patient was not operated.

Conclusion

Malignant melanoma of the female genital tract is uncommon. Surgery is the best available treatment for controlling this disease. Radiotherapy is performed as an adjuvant therapy to achieve control of hidden metastases. The role of chemotherapy in patient with distant metastases has not been established.
VAGINAL AND VULVAR CANCER

ESGO7-1140

ADENOID CYSTIC CARCINOMA OF THE VULVA
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Aims
To study the clinical profile and outcome of the adenoid cystic carcinome of the vulva treated in the institute of Salah Azaiez Tunisia

Method
This is a retrospective, record-based study of histopathologically confirmed cases of adenoid cystic of the vulva treated in the institute of Salah Azaiez Tunisia

Results
Case 1 :
A 40-year-old women presented with a painless unilateral vulval swelling a biopsy demonstrated malignant cells consistent with adenoid cystic carcinoma. He underwent radical local excision. On follow-up after two years the patient is alive and well with no evidence of disease.

Case 2 :
A 30 years old lady presented with complaints of a slowly increasing mass in the vulva for the last 3 months. She had no evidence of metastatic disease .A biopsy was done and the histopathologic revaled the diagnostic of Adenoid cystic carcinoma. A simple vulvectomy was performed , the surgical margins were microscopically negative .On histopathologic examination confirmed the diagnosis of adenoid cystic carcinoma of the vulva. The patient was lost to view after one year in a good condition.

Conclusion
Adenoid cystic carcinoma of vulva is an extremely rare, slowly progressing neoplasm mostly involving the Bartholin’s gland. The usual treatment includes wide excision and adjuvant radiotherapy (if required). There may be late local and distant recurrence.
VAGINAL AND VULVAR CANCER

ESGO7-0563

MAMMARY-LIKE ADENOCARCINOMA OF THE VULVA ASSOCIATED TO PAGET’S DISEASE: A CASE REPORT

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Aims

We report a case of vulvar Paget’s disease associated with underlying mammary-like adenocarcinoma. To explore the possibility that this was a case of primary breast carcinoma of the vulva, we investigated the immunohistochemical characteristics of the tumor cells. We also review previously reported cases of primary breast-like carcinoma of the vulva with or without Paget’s disease.

Method

A 41-year-old woman, gravida 4 para 4, presented with a left vulvar labia mass.

Results

There was no previous history of malignancy or breast disease. Her family history was not remarkable for carcinomas. Physical examination found a 2 cm in diameter, erythematous and ulcerative nodule located between the left labium major and labium minor. The clitoris, right labia, vestibule and vaginal wall were intact. An enlarged fixed lymph node was palpated in each groin. An excisional biopsy specimen of the lesion was performed. Histopathological examination found a neoplastic proliferation of epithelial cells. The patient underwent a radical vulvectomy with bilateral inguinal lymph nodes dissection. The tumor measured 1.5 cm in great diameter showing the similar histopathological features seen on the biopsy specimen, described previously with numerous images of lymphatic invasion. It was confined to the vulva. Surgical margins were free of tumor. Four metastatic and bilateral regional nodes were found within the 13 sampled. The tumor was staged T1N2bM0. The patient had simple operating consequences. She’s, at present, under radiotherapy and then proposed for adjuvant chemotherapy.

Conclusion

When Paget’s disease with underlying mammary-like adenocarcinoma of the vulva is established, it is very important to perform all the pathological and immunohistochemical investigations to achieve differential diagnosis from both a metastatic lesion from an orthotopic breast cancer and a vulvar adnexal tumor.
VAGINAL AND VULVAR CANCER

ESGO7-1371

EPITHELIOID SARCOMA OF THE VULVA: A CASE REPORT.
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Aims

Epithelioid sarcoma of vulva is an extremely rare tumor entity which was firstly described in 1970. Until now about 40 cases have been reported in the literature and there are no established guidelines for optimal treatment of this rare neoplasm.

Method

The present study reports a newly efficient approached case of 67-year-old female with epithelioid sarcoma of proximal type.

Results

In January 2016, a painless small nodule placed in the left labia majora was detected by the 67-year-old patient. This lump was rapidly increasing in size, ulcerating and associated with severe bleeding. The gynecological examination undertaken in April 2016 revealed a solid fixed supraclitoral mass measuring 8 x 5 cm and spanning the both labia majora. After blood transfusion, a hemivulvectomy with bilateral sentinel node biopsy was performed. Histopathological examination showed an epithelioid sarcoma of proximal type which has been successfully removed with adequate tumor free margins. The excised inguinal nodes were not affected. No postoperative adjuvant treatment was indicated. Fourteen months of follow-up the patient is well-being without recurrence or metastasis.

Conclusion

Epithelioid sarcoma is distinguished by aggressive behavior. Surgical excision constitutes weightily component in treatment of this tumor entity.
VAGINAL AND VULVAR CANCER

ESGO7-0962

PROGNOSTIC VALUE OF LYMPH NODE RATIO AND NUMBER OF POSITIVE INGUINAL NODES IN PATIENTS WITH VULVAR CANCER

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Aims

To estimate the prognostic significance of lymph node ratio and number of positive nodes in vulvar cancer patients.

Method

This international multicenter retrospective study included patients diagnosed with vulvar cancer treated with inguinal lymphadenectomy. Lymph node ratio (LNR) is the number of metastatic lymph nodes (LN) to the number of removed LN. Patients were stratified into risk groups according to LNR. LNR was correlated with clinical-pathological parameters. Survival analyses were performed.

Results

This analysis included 745 patients. In total, 292 (39.2%) patients had positive inguinal LN. The mean (SD) number of resected and positive LN was 14.1 (7.6) and 3.0 (2.9), respectively. High LNR was associated with larger tumor size and higher tumor grade. Patients with LNRs 0% (N0), >0<20%, and >20% had 5-year overall survival (OS) rates of 90.9%, 70.7%, and 61.8%, respectively (P<.001 - Figure). LNR was associated with both local and distant recurrence-free survival (P<.001). Patients with 0, 1, 2, 3 or more than 3 positive lymph nodes had 5-year OS rates of 90.9%, 70.8%, 67.8%, 70.8% and 63.4% respectively (P<.001). In multivariate analysis, LNR (P=.01) and FIGO stage (P<.001), were associated with OS, whereas the number of positive nodes (P=.8), age (P=.2), and tumor grade (P=.7), were not. In high-risk patients, adjuvant radiotherapy was associated with improved survival.

Conclusion

LNR provides useful prognostic information in vulvar cancer patients with inguinal LN resection in vulvar cancer. LNR allows for more accurate prognostic stratification of patients than number of positive nodes. LNR seems useful to select appropriate candidates for adjuvant radiation.
VAGINAL AND VULVAR CANCER

ESGO7-1274

VULVAR AND VAGINAL CANCER, VULVAR INTRAEPITHELIAL NEOPLASIA 3 AND VAGINAL INTRAEPITHELIAL NEOPLASIA 3, AN EXPERIENCE OF A REFERRAL INSTITUTE

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Aims

To evaluate the demographic and clinical characteristics associated with Vulvar or Vaginal cancer and Vulvar and Vaginal Intraepithelial Neoplasia 3 (VIN 3), (VAIN 3).

Method

A retrospective chart review of 148 women with vulvar and vaginal malignancy and pre-malignancy was performed. Fifty nine and 19 patients with Vulvar and Vaginal Cancer respectively and 57 and 13 patients with VIN 3 and VAIN 3 respectively were evaluated between October 2008 and October 2016.

Results

The median age of vulvar cancer patients was 30 years older than VIN3 patients. HPV was found in 60% and 66.6% of vulvar and vaginal cancer respectively, and in 82.3% and 84.6% of patients with VIN 3 and VAIN 3 respectively. History of CIN (Cervical Intraepithelial Neoplasia) or warts was observed in 10% and 10.5% of vulvar and vaginal cancer respectively, and in 57.9% and 46% of patients with VIN 3 and VAIN 3 respectively. In 52.6 % of patients the vaginal cancer was metastases from other organs.

Conclusion

Most women with vulvar carcinoma are older than 70 years old. VIN3 and VAIN3 are associated with HPV infections and the most prevalent type is HPV 16. Almost half of the vaginal cancers are associated with metastases from other organs and almost half of VAIN 3 is associated with past cervical dysplasia or carcinoma.
VAGINAL AND VULVAR CANCER

ESGO7-1346

MELANOMA OF THE CLITORIS: A CASE REPORT
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Aims

We present a case of 75-year old patient with melanoma of the clitoris, which is a rare neoplasm. Vulvar malignant melanoma makes less than 5% of all malignant neoplasms of the vulva and most commonly originate on the labia minora and clitoris. Median age at presentation is 70 years.

Method

A 75-year-old woman complaining of dark blue tumor of the clitoris which increased in size in the last three months. Patient underwent a complete gynecological evaluation during which a suspicious mass on her clitoris was observed. An excision of the tumor was made and a histopathological suspicion of nodular melanoma was confirmed. Thickness of tumor by Bresslow was 9 mm. TNM classification of the tumor according to IUC 2010 was pT4b NX MX R0 L1 Vo Pn1. Patient has undergone Roferon-A (Interferon alfa-2a, recombinant) therapy.

Results

18 months after diagnosis there is no evidence for neoplastic recurrence.

Conclusion

The primary treatment is resection of the tumor, chemotherapy if is indicated or combination of resection and immunotherapy. This case draws our attention to the importance of early diagnosis of this rare neoplasm of the vulva.
VAGINAL AND VULVAR CANCER

ESGO7-1252

P16INK4A STATUS COULD STRATIFY VULVAR CANCER PATIENTS FOR IMMUNOTHERAPIES BASED ON CANCER TESTIS VACCINES AND IDO-PATHWAY INHIBITORS

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Aims

Recently we have found that vulvar squamous cell carcinoma (vSCC) immune surveillance as represented by Tumor Infiltrating Lymphocytes (TILs) and Tumor Infiltrating Macrophages (TAMs) depends on p16INK4-status regardless to (hr)HPV-DNA. Different immune effectors contributed to clinical outcomes in vSCC patients with positive and negative tumors for p16INK4a. Tumor immunogenicity as represented by cancer testis antigens (CTAs) and cancer induced immune tolerance as represented by expression of indoleamine 2,3-dioxygenase (IDO) were evaluated to discover the biological characteristics of the tumor microenvironment responsible for different infiltration signatures and diverse prognosis of immune cells related to p16INK4-status.

Method

Methods: Data on expression of p16INK4a, CTAs (MAGE-A1, MAGE-A4), IDO and presence of high risk (hr)HPV-DNA, were retrieved from our previous studies on cohort of 85 vSCCs. CTAs and IDO expressions were compared between tumors with different p16INK4a and (hr) HPV-DNA status. Survival analyses included the Kaplan–Meier method, log-rank test and Cox proportional hazards model.

Results

Results: p16INK4a-negative tumors revealed higher expression of MAGE-A4 (p=0.0005). Lack of difference in IDO expression was observed between p16INK4a-negative and positive tumors (p=0.2827). IDO was correlated with worse outcome in p16INK4a-positive tumors only.

Conclusion

Higher MAGE-A4 expression of p16-negative tumors could explain more dense infiltration by TILs. p16INK4a-status could stratify patients for future immunotherapies based on CT vaccines or IDO pathway inhibitors. Large cohort analyses are needed.
VAGINAL AND VULVAR CANCER

ESGO7-0808

HUMAN PAPILLOMAVIRUS IN VULVAR INTRAEPITHELIAL NEOPLASIA

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Aims

Vulvar intraepithelial neoplasia (VIN) is a precursor lesion of vulvar cancer. Human papillomavirus (HPV) is causative for part of VIN lesions. We aimed to analyze the distribution of HPV in VIN and its relation to treatment outcomes.

Method

We retrospectively analyzed patients who diagnosed as VIN between 1990 and 2014 in our institution. HPV DNA was extracted from formalin-fixed and paraffin-embedded samples. SPF1/GP6+ polymerase chain reaction (PCR) followed by HPV Blot and E6 type-specific PCR were performed.

Results

Of the 113 VINs (31.0% with VIN1, 18.6% with VIN2, and 50.4% with VIN3), 85.0% were positive for HPV. Patients with positive HPV was diagnosed younger than those with negative results (44.1 vs. 63.4 years, \(P = 0.008\)). HPV-positivity was significantly higher in VIN3 (94.7%) compared with VIN2 (76.2%) and VIN1 (74.3%) \(P = 0.013\). The most prevalent type was HPV16 (60.4%), followed by HPV6 (14.6%), and HPV11 (11.5%). Of the 20 patients with recurrent VIN \(n = 13\) or progression to vulvar cancer \(n = 7\), 19 had positive HPV. HPV16 was related to VIN3 \(P < 0.001\) and higher recurrent/progression rate \(P = 0.004\). All seven VINs with progression to cancer were HPV positive, six with HPV16 (one was initially VIN1 at 21 years old) and one with HPV58.

Conclusion

HPV-positivity was related to younger age in VIN. HPV16 was most prevalent genotype and significantly related to recurrence/progression. We should closely follow up VIN patients with positive HPV16, and perform biopsies for suspicious lesions despite young age.
VAGINAL AND VULVAR CANCER

ESGO7-0510

PROGNOSTIC FACTORS FOR LOCAL RECURRENCE OF SQUAMOUS CELL CARCINOMA OF THE VULVA: A SYSTEMATIC REVIEW

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Aims

In patients treated for early-stage vulvar squamous cell carcinoma (VSCC) local recurrence is reported in up to 40%. Both clinicopathologic as well as cell biologic factors might be prognostic for local recurrence and knowledge on these factors may help to identify high risk patients and/or to develop strategies to prevent local recurrences. This systematic review aims to evaluate current knowledge on the incidence of local recurrences in VSCC related to clinicopathologic and cellbiologic variables.

Method

Relevant studies were identified by an extensive online search in March 2017. Studies reporting prognostic factors specific for local recurrences of VSCC were included. Two review authors independently performed data selection, extraction and assessment of study quality. The risk difference was calculated for each prognostic factor described by two or more studies.

Results

Twenty-two studies were included and reported mainly pathologic factors. There were differences in study quality and reported factors. Due to differences in study design, homogeneity could not be assumed. The prognostic relevance for local recurrence of VSCC of all analyzed variables remains unequivocal, including pathologic tumor free margin distance less than 8 mm, presence of lichen sclerosus, groin lymph node metastases and a variety of different tumor characteristics. Our review indicates an estimated annual local recurrence rate of 4%.

Conclusion

Current quality of data on prognostic factors for local recurrences in VSCC patients does not allow evidence-based medicine. Further research on prognostic factors, applying state of the art methodology are needed to identify high-risk patients and to develop alternative treatment strategies.
VAGINAL AND VULVAR CANCER

ESGO7-0985

RECONSTRUCTIVE PLASTIC SURGERY IN THE TREATMENT OF VULVAR CARCINOMAS
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Aims

Vulvar reconstruction can be challenging for the gynecologist and multidisciplinary approach is necessary for better wound healing, adequate function, and acceptable appearance. The purpose of this study was to present our experience in reconstructive plastic surgery by using skin/musculocutaneous flaps after extirpation of primary or recurrent vulvar cancer in our clinic.

Method

From January 2006 to December 2016, 109 women with vulvar malignancies underwent radical vulvectomy. Thirteen of them resulted in large perineal defects and vulvar reconstruction was assisted by a plastic surgeon, including lotus flap (7 patients, average age 68.4 years), V-Y flap (5 patients, average age 67.8 years), vertical rectus abdominis musculocutaneous flap (1 patient, age 72 years). The disruption rate and length of hospital stay were evaluated and compared among those techniques.

Results

Although V-Y flaps had the highest rate of disruption (2/5), their hospitalization was the lowest (20.2 days) with 196.7° average operative duration. Lotus flaps resulted in the highest length of hospital stay (24.4 days) with 168° average operative duration. The technique with the lower rate of disruption was vertical rectus abdominis musculocutaneous flap (0%) with 300° average operative duration.

Conclusion

Study outcomes suggest that vulvar reconstructive surgery exerts benefits in patients with vulvar cancer. Multidisciplinary approach with plastic surgeon, in larger vulvar tumors is associated with a favorable oncological outcome as well as acceptable cosmetic results in vulvar cancer patients.
VULVAR PAGET DISEASE IN THE NETHERLANDS

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Aims

The aim of this retrospective cohort study is to assess the clinical course of vulvar Paget disease (VPD), and to study the effect of invasion and treatment on recurrence and survival.

Method

All patients with VPD were yielded from local pathology databases in all Dutch tertiary university medical centres. Data on histopathological and clinical characteristics, diagnostics, treatment and follow-up were retrieved from the medical files and pathology reports. Disease free survival (DFS) and 5-year overall survival (OS) was estimated using Kaplan-Meier curves.

Results

We analysed data of 113 VPD patients treated between 1991 to 2016. Median age was 72.5 years at time of diagnosis. Non-invasive VPD was the most common diagnosis (77%). Most patients with either non-invasive, or (micro-)invasive VPD were surgically treated. Almost 40% of the patients had one or more recurrence. Margin status did not influence the DFS. Of all patients with non-invasive VPD, 8% had an invasive recurrence or developed metastases. There were no deaths of non-invasive VPD reported. The 5 year OS was 80% in non-invasive VPD: 20% died of another causes. Five year OS in (micro-)invasive VPD is significantly worse: 60%.

Conclusion

VPD is rare and a difficult clinical diagnosis. Most patients have non-invasive VPD, which does not affect survival. However, the recurrence rate is high. Prognosis for patients with invasive VPD is worse compared to patients with non-invasive VPD. The risk of developing invasion after non-invasive disease is less than 10% in our cohort.
VAGINAL AND VULVAR CANCER

ESGO7-0896

THE IMMUNE MICROENVIRONMENT IN NON-INVASIVE VULVAR PAGET DISEASE
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Aims

Non-invasive Vulvar Paget disease (VPD) is a rare skin disorder that mainly affects elderly women. Recently, cases of patients with VPD that responded to topical 5% imiquimod cream, an immune modulator, are reported. However, knowledge about the immune microenvironment of VPD is lacking. The aim of this study was to investigate the basic composition of the immune infiltrate in VPD.

Method

The immune infiltrates in 10 VPD patients were compared to those seen in either healthy controls (n=30), and the premalignancy with known response to imiquimod: vulvar high grade squamous cell intraepithelial lesions (n=43). Additional immunohistochemistry for CD4, CD8, CD14, CD20, CD56 and FoxP3 was performed.

Results

On H&E a lichenoid immune infiltrate with little interface reaction was observed in submucosal stroma of most VPD samples. Immunophenotyping showed that this stromal infiltrate mainly consisted of a variety of T-cells. B-cells, NK-cells and macrophages were also present. We noticed a great variety in the amount of cells per sample within one patient.

In the intraepithelial compartment VPD contained significantly less CD4+ and CD8+ compared to vulvar HSIL and healthy controls, and significantly less FoxP3+ cells than in HSIL cases. In contrast, the dermal compartment in VPD contained significantly more CD4+, CD8+, CD14+ and FoxP3+ cells than in healthy controls, but significantly less FoxP3+ cells in comparison to the dermal compartment of HSIL cases.

Conclusion

VPD is characterised by the presence of a dense lichenoid infiltrate, with a mixed cell population in the dermal immune infiltrate, whereas the epithelium is immunosuppressed.
VAGINAL AND VULVAR CANCER

ESGO7-0735

GROIN TREATMENT IN VULVAR CANCER: IS SENTINEL LYMPH NODE DETECTION BASED ON LYMPHOSCINTIGRAPHY ENOUGH?

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Aims

To evaluate if the sentinel lymph node detection (SLND) based on lymphoscintigraphy is predictive of groin nodes status, depending on tumor location.

Method

SLND performed in vulvar cancers, in Portuguese Institute of Oncology of Lisbon, between 2005 and 2016.

Ninety six unifocal invasive squamous cell carcinomas of the vulva of less than 4 cm, without suspicious groin nodes, were included.

Tumor location in relation to the midline was classified as lateral [\(>1 \text{ cm from midline}\) (n=46; 48%)], lateral ambiguous [medial border \(<1 \text{ cm from midline but not involving it}\) (n=21; 22%)], and midline (n=29; 30%).

Preoperative lymphoscintigraphy drainage pattern was evaluated and development of node metastasis in groins without initial drainage was calculated.

Results

From lateral tumors, 84.4% (n=38) had ipsilateral, 11.1% (n=5) bilateral and 4.4% (n=2) contralateral drainage. In one case SLN was not found. One patient (2%), with initial ipsilateral drainage, developed metastasis in contralateral groin.

From lateral ambiguous tumors, 71.4% (n=15) had ipsilateral and 28.6% (n=6) bilateral drainage. From those with ipsilateral drainage, no contralateral groin metastasis were identified in follow-up.

From midline tumors, bilateral drainage occurred in 52% (n=15) and unilateral in 48% (n=14). Three cases (10%), from unilateral drainage group, developed groin metastasis at the side of no drainage.

Conclusion

In our study, lymphoscintigraphy predicted groin nodes status in 96% of the cases. In midline tumors, as recommended by literature, but not in lateral ambiguous, both groins must be evaluated, as 21% (3/14) of the cases with unilateral drainage developed contralateral groin metastasis.
GROIN RECURRENCE IN VULVAR CANCERS WITH NEGATIVE SENTINEL LYMPH NODE BIOPSY

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Aims

To evaluate the rate and characteristics of groin recurrences after negative sentinel lymph node (SLN) biopsy in vulvar cancer.

Method

Ninety six unifocal invasive squamous cell carcinomas of less than 4 cm, without suspicious groin nodes, submitted to SLN detection in Portuguese Institute of Oncology of Lisbon, between 2005 and 2016, were included. In all cases a combination of preoperative Tc-99m nanocolloid and intraoperative blue dye was used.

Those cases with negative SLN biopsy were divided in two groups: Group 1 – with groin recurrence and Group 2 – without it.

Patients age, body mass index, menopausal status, number of SLN, tumor pathological characteristics, local recurrence rate and indication for postoperative vulvar radiotherapy were compared between groups using non parametric tests. Significant differences were considered when p-values <0.05.

Results

The SLN detection rate was 99%.

Of the 95 SLN detected 66.3% (n=63) were negatives. From those, 8 (12.7%) groin recurrences were identified in a median time of 7 (4-47) months.

Comparing both groups, there were no statistical significant differences between them according all the characteristics analyzed.

Conclusion

In our experience, groin recurrence rate after negative SLN biopsy was 12.7% but no predictive factors were identified.
VAGINAL AND VULVAR CANCER

ESGO7-1087

LANGERHANS CELL HISTIOCYTOSIS LIMITED TO THE FEMALE GENITAL TRACT: A REVIEW OF LITERATURE AND REPORT OF THREE ADDITIONAL CASES

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Aims

Our aim is to provide a comprehensive review of Langerhans Cell Histiocytosis (LCH) of the gynecologic tract, including clinical presentation, pathologic diagnosis, therapy and prognosis. In addition, we report and add to the literature three new cases. LCH is a rare tumor, composed of cells sharing morphologic and immune-phenotypic characteristics of dermal Langerhans cells and can arise in the vulva, vagina, cervix or endometrium.

Method

A comprehensive search of English language literature was performed as well as a search of our institutional archives over the past twenty years. The diagnosis of our institutional cases was confirmed by review of hematoxylin/eosin stained sections as well as tumor cell immunoreactivity for immunohistochemical stains CD1a and S-100. Clinical history and follow-up information were obtained from review of medical charts.

Results

Our search revealed 32 cases of pure genital LCH. Our institutional archives provided three additional LCH cases, two vulvar and one cervical. Although therapy and outcomes reported in the literature are variable, our three patients, treated with hysterectomy (1) and excision (2) are disease free after 54, 32, and 127 months.

Conclusion

In summary, as well as a comprehensive literature review, we add to the literature three additional cases of female genital LCH. Similar to previously reported cases, LCH confined to the gynecologic tract appears to have a favorable outcome.
VAGINAL AND VULVAR CANCER

ESGO7-1014

CORRELATION OF ISOTOPE COUNT WITH SENTINEL POSITIVITY IN VULVAR CANCER

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Aims

Sentinel node biopsy (SNB) has become standard of care in vulvar cancer. Often several active nodes are excised per groin, as the correlation of isotope count with the presence of metastases remains unclear. This can result in increased morbidity despite of SNB. The current analysis investigates, whether resection of the hottest node could be sufficient to detect sentinel lymph node (SNL) metastasis.

Method

All patients with primary vulvar cancer receiving a SNB with radioactive tracer at the University Medical Center Hamburg-Eppendorf between 2008 and 2015 were evaluated. The day before surgery, patients received four peritumoral intradermal deposits with an overall mean dosage of 85±12MBq99mTc. Intraoperatively, a handheld gamma counter was used to identify the SNL.

Results

145 patients with 289 groins were analysed. A median of 2 (range 1-7) SNL per groin were removed. From 94/289 (32.5%) groins more than 2 SNL were excised. In 50 groins, a positive SNL was detected. The median number of positive SNL per groin was 1 (range 1-4). The SNL with the highest isotope count carried metastases in 36/46 groins (78.3%; in 4 cases highest count unknown). In 10/46 (21.7%) positive groins, the SNL with the highest count was not the metastatic SNL. Median count of these 12 SNL was 60% of the highest count with a range from 11.0% to 74.0%.

Conclusion

The highest isotope count does not reliably detect the positive SNL in vulvar cancer. To prevent groin recurrence, all SNL accumulating relevant radioactive tracer over 10% background activity should be removed.
VAGINAL AND VULVAR CANCER

ESGO7-0531

MAMMARY LIKE GLAND ADENOCARCINOMA OF THE VULVA: A CASE REPORT
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Aims

To present a case of vulvar carcinoma originating from mammary-like tissue.

Method

A 50-year old woman admitted to the outpatient clinic with the complaint of painless vulvar mass ongoing for two months. Physical examination revealed a 3×4 cm solid mass in the right hemivulva primarily located on labium minus.

Results

A punch biopsy was taken. The Immunohistochemical staining was positive for p63, CAM5.2, GCDFP15 and EMA and negative for Kromogranin and CEA. Pathologist could not reveal a definitive result and 10 days after first biopsy a wide local excision was performed. Final pathologic diagnosis revealed a mammary like gland adenocarcinoma with positive surgical margin (2.5×2×2 cm). Before a radical vulvectomy and bilateral inguinal lymphadenectomy, the patient underwent a CT scan (chest, abdomen and pelvis), mammography and a bone scintigraphy. The results showed no evidence of metastatic disease. Breast examination was unremarkable. After complementation surgery histopathological study showed that there were no residual disease and lymph node metastasis. Adjuvant treatment with cyclophosphamid and doxorubicin was planned and the patient was discharged with an uneventful postoperative course.

Conclusion

Adenocarcinoma derived from so-called mammary- like glands of the vulva are rare and represent a distinct clinicopathologic entity that must be distinguished from metastatic tumors.
VAGINAL AND VULVAR CANCER

ESGO7-0943

INFLUENCE OF SEALING DEVICE IN THE COMPLICATION RATE AFTER AN INGUINOFEMORAL LYMPHADENECTOMY: ILSEDE PILOT STUDY

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Aims

Despite the great change and development of the surgical techniques to treat the vulvar cancer, complications following surgery are still a major issue mainly in the inguinofemoral area. Our objective was to evaluate the impact of the use of a sealing device during inguinofemoral lymphadenectomy on the reduction of postoperative complications including wound infection, wound breakdown, lymphocysts formation and lymphedema.

Method

A single institution retrospective pilot study was carried out. 15 patients with vulvar cancer underwent vulvar cancer excision and inguinal lymphadenectomy between February 2015 and December 2016. 5 of the patients underwent lymphadenectomy with a bipolar sealing device while the remaining 10 patients received the standard procedure. Postoperative complications including wound infection, seroma and lymphedema were selected as primary outcome, through which both groups were compared to each other using chi-squared and t-student tests.

Results

No differences between groups were observed regarding the baseline characteristics. Patients who underwent surgery using a sealing device showed fewer wound infection rate compare to the standard technique using monopolar energy, 0% vs 70% respectively (p=0.026). Incidence of seroma and lymphedema did not show statistically significant differences between groups.

Conclusion

In our study we found that the use of a sealing device in inguinofemoral lymphadenectomy could reduce the rate of wound infection comparing to the standard procedure. It suggests that it also may reduce the rate of seroma and lymphedema formation. A bigger study is needed in order to confirm our hypothesis and develop the most optimal procedure to reduce morbidity after inguinofemoral lymphadenectomy.
LATE BREAKING

ESGO7-1413

PROLIFERATION IN POSTMENOPAUSAL ENDOMETRIAL POLYPS: A POTENTIAL FOR MALIGNANT TRANSFORMATION
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Aims
Endometrial polyps in asymptomatic postmenopausal women are often incidentally found, yet only 1.51% are malignant. Their potential for malignant transformation has not been adequately addressed. We investigated proliferation in endometrial polyps as an indicator of their oncogenic potential in those women.

Method
Immunohistochemical studies of Ki67, using monoclonal antibodies MIB-1, were performed. Cases included 52 benign postmenopausal polyps, 19 endometrioid carcinoma with coexisting benign polyps, 12 polyps with foci of carcinoma and 4 cases of polyps which later developed carcinoma. Control included 31 atrophic endometria and 32 benign premenopausal polyps. Ki-67 was scored in 10/20 random fields, as percentage of positively-stained cells. Statistical analysis was carried out using Mann-Whitney U-test for differences between means, with significance at P < 0.05.

Results
The median Ki-67 score in postmenopausal benign polyps (2.25%) was significantly higher than in atrophic endometrium (0.90%, P<0.0001), significantly lower than in premenopausal benign polyps (6.75%, P<0.001) and endometrial cancer (4.60%, P<0.0001). Where endometrial polyps were found in association with endometrium cancer, Ki-67 was significantly higher in cancer (P<0.0001). No significant difference was found where endometrial carcinoma (2.45%) was focally detected in polyps (1.75%, P=0.37). Ki-67 expression, where polyps were resected and women later developed cancer, was not significantly different (P=0.199).

Conclusion
Polyps from asymptomatic postmenopausal women showed significantly more proliferation in both epithelial and stromal components than inactive atrophic endometrium but less than premenopausal benign polyps and/or endometrial cancer. The implication on clinical practice will be discussed.
PREDICTION OF THE OUTCOME AFTER EXCISION OF CERVICAL PRECANCER BY THE RESECTION MARGINS OR BY POST-TREATMENT HPV TESTING: A SYSTEMATIC REVIEW AND META-ANALYSIS


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Aims

To predict failure after surgical treatment of cervical precancer

Method

We extended previous systematic reviews that assessed separately the risk of treatment failure associated with the margin status of the cervical excisions and the accuracy of post-treatment high-risk (hr) HPV testing to predict residual/recurrent cervical precancer. Information on positive resection margins and subsequent treatment failure was pooled using procedures for meta-analysis of binomial data. The meta-analysis comparing the accuracy of the margin status with post-treatment hrHPV testing was restricted to studies with i) an average follow-up of at least 18 months post-treatment and ii) treated disease and treatment outcome were histologically confirmed cervical intra-epithelial neoplasia of grade two or worse (CIN2+).

Results

The average rate of positive margins was 23% (CI=20-26%) and varied by treatment procedure and severity of the treated lesion. The overall risk of residual/recurrent CIN2+ was 7% (CI=5-8%). Treatment failure was 5 (CI=3.2-7.2) times greater with positive compared to negative resection margins. The risk of treatment failure was highest when the endo-cervical margin was positive.

The pooled sensitivity and specificity to predict residual/recurrent CIN2+ was 56% and 84%, respectively, for the margin status, and 91% and 84%, respectively, for hrHPV testing. The margin status was 41% less sensitive but not more specific than hrHPV. A negative hrHPV test post-treatment was associated with a risk of CIN2+ of 0.8%, whereas this risk was 3.7% when margins were free.

Conclusion

The risk of residual/recurrent CIN2+ is significantly greater with involved margins on excisional treatment. However, hrHPV post-treatment predicts treatment failure more accurately.
LATE BREAKING

ESGO7-1409

PREVALENCE OF ANAL HUMAN PAPILLOMAVIRUS (HPV) INWOVEN WITH CERVICAL OR VULVAR HIGH GRADE INTRAEPITHELIAL NEOPLASIA (PREVACO STUDY)

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Aims

The prevalence of anal cancer is increasing steadily especially in women. There is a paucity of data on the prevalence of anal HPV in women with high grade intraepithelial lesion (HSIL) of the anogenital tract. Our study aimed to estimate the prevalence of anal HPV infection among women with cervical and/or vulvar HSIL.

Method

Anal and cervical or vulvar swabs were collected from immunocompetent women referred to the colposcopy clinic for cervical or vulvar HSIL. All pathological HSIL specimens were reviewed. Patients without a confirmed histological diagnosis of HSIL were excluded. Swab samples were processed and tested for the presence of 36 HPV genotypes with the Linear array assay.

Results

Of the 208 women recruited in the study, 166 had confirmation of anogenital HSIL. Among the 135 patients with paired anal and cervical/vulvar valid HPV results, concurrent HPV infection was observed in 70.6% of women with cervical HSIL and 56.7% of those with vulvar HSIL (p=0.11). Among women with HPV infection on the cervix (N = 61) or the vulva (N = 49), the rate of anal infection was respectively 78.7% (48 of 61) and 77.6% (38 of 49). Oncogenic HPV types 16, 31, 51, 52, 58 and 59 were the most prevalent considering results on all samples.

Conclusion

This study provides evidence for a high prevalence of anal HPV in women with cervical or vulvar HSIL. Further studies are needed to better identify high-risk groups and develop strategies for early detection of anal HSIL and cancer in women with anogenital HSIL.

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LATE BREAKING

ESGO7-1457

BORDERLINE OVATION TUMOR STAGING BY LAPAROSCOPIC SINGLE PORT

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Aims

Feasability of single port staging of an ovarian borderline tumor

Method

We have selected ten consecutive cases of borderline ovarian tumor staging by conventional laparoscopy with a Gelpoint surgical technic is describe with some tips and tricks and a step by step technic
we describe à step by step technic
single port abdominal complete exploration
ovarian cystectomy or oophorectomy technic
abdominal wall biopsy and infra colic omentectomy by single port
we share pur experience of ergonomic tips and tricks

Results

All those ten cases had been done with succes
the operation duration is correct
because of a single scar
single day surgery is possible

Conclusion

borderline ovarian tumor staging by conventional laparoscopic single port is feasible without losing an amount of time
operative recovery is short
a single day surgery is possible
Aims

Inflammation plays an important role in cancer onset and progression; monocyte-to-lymphocyte ratio (LMR) is one of the most studied inflammatory markers. Aim of our study is to evaluate the prognostic role of LMR in ovarian cancer and the significance of other markers as neutrophil-to-lymphocyte ratio (NLR) and platelet-to-lymphocyte ratio (PLR).

Method

Patients with first diagnosis of ovarian cancer admitted to our Institute between 2011 and 2016 were included. Pre-treatment complete blood count data were collected. LMR was defined as the absolute monocyte count divided by the absolute lymphocyte count; NLR was defined as the absolute neutrophil count divided by the absolute lymphocyte count; PLR was defined as the absolute platelet count divided by the absolute lymphocyte count. We correlated inflammatory index with progression free survival (PFS).

Results

94 women were enrolled. Patients with low LMR and high NLR appeared with most widespread disease; among patients treated with primary debulking surgery, 40% had low LMR versus 72% had high LMR (p=0.006), 77% had low NLR versus 54% had high NLR (p=0.023). In the univariate analysis, women with low LMR were associated with worse PFS (7 months versus 18 months, p<0.0001); conversely in patients with high NLR, PFS was 8 months versus 19 months (p=0.014). In the multivariate analysis with adjustments for age, hystotipe, grading, FIGO stage, residual tumor and chemoresponsivity, LMR was confirmed to be an independent predictor of a rich PFS (HR: 0.037, 95% CI, 0.007-0.201, p<0.0001). No correlation was found with PLR.

Conclusion

LMR and NLR could be used to predict treatment strategy and prognosis in ovarian cancer.
LATE BREAKING

ESGO7-1511

COMBINATION OF FLUORODEOXYGLUCOSE POSITRON EMISSION TOMOGRAPHY/COMPUTED TOMOGRAPHY(PET/CT) AND SENTINEL LYMPH NODE(SLN) DETECTION IN LOW-INTERMEDIATE RISK ENDOMETRIAL CANCER: A PROSPECTIVE STUDY

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Aims

This study aimed to define the role of preoperative PET/CT scan evaluation in the management of clinical stage I endometrioid endometrial cancer(EEC) patients submitted to SLN detection.

Method

Fifty-seven patients with EEC who had preoperative PET/CT scan evaluation and underwent SLN mapping were prospectively collected from January 2014 to August 2016. Indocyanine green (ICG) staining was used and injected to the cervix at 3- and 9-o’clock positions (a total of 4 mL of ICG solution in a concentration of 1.25mg/mL). Pelvic lymphadenectomy was performed in all of the patients with positive lymph nodes detected on preoperative PET/CT scan. All patients who did not underwent lymphadenectomy were submitted to CT scan evaluation at 6 months.

Results

Sentinel lymph nodes were detected in 39 (68%) of 57 patients, with a mean of 2.5 SLNs. Three (5%) patients have positive pelvic node findings at PET/CT evaluation. SLN was detected in 2 of these 3 patients and in only 1 case (1.8%) the SLN resulted positive at pathological examination. The remaining 54 patients with negative PET/CT scan evaluation at 6-months follow-up showed no evidence of disease.

Conclusion

The use of preoperative PET/CT scan evaluation in low-intermediate risk EEC patients with not detected SLN may reduce the incidence of unnecessary systematic lymphadenectomy as, in this series of patients, no evidence of disease was detected at 6 months follow-up in patients with a negative PET/CT scan.
LATE BREAKING

ESGO7-1516

APPROACH TO THE OVARIAN CANCER PATIENT AT THE END OF LIFE: THE EOLO STUDY (END-OF-LIFE OVARIAN CANCER)

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Aims

Chemotherapy at the end of life is a complex problem on which oncologists have been questioning. Patients affected by ovarian cancer (OC) often experience a chronicization and slow progression of their disease and, as a result, chemotherapy is proposed until the end of life.

Method

We retrospectively analyzed data from patients affected by OC, treated at our department, and dead in the period between 2007 and 2017, in order to evaluate the frequency of chemotherapy until the last month of life and the chemo-related toxicity and mortality.

Results

A total of 110 OC deaths were analyzed, patients characteristics are presented on Table 1.

Of the 110 patients analyzed, 85 (77%) had undergone chemotherapy over the last three months of life and 38% had chemotherapy even during the last month of life. The chemotherapy was predominantly single-drug with weekly administration, which justifies the low percentage of chemotherapy deaths (6%). The overwhelming majority of patients (81%) needed supportive therapies (infusional, paracentesis, pain therapy and total parenteral nutrition), and long hospitalization became necessary in 20% of cases, mainly for occlusive symptoms. Despite the treatments received, the majority of patients died at home, 19% died in hospital and only 4.5% in hospice.

Conclusion

End-of-life chemotherapy in OC patients is a challenging topic. More studies and multidisciplinary approach are needed to better treat these patients.
NACT+RS is considered by many authors a good alternative to standard chemoradiation for patients affected by LACC. However there is no consensus on indications and type of adjuvant treatment. The aim of our study is to report our results in this setting of patients while proposing criteria for adjuvant treatment.

Method

Between January 2005 and November 2015, LACC patients, with FIGO stage IB2-IIB treated with neoadjuvant platinum-chemotherapy and radical surgery, were included. Adjuvant chemotherapy was proposed in case of positive nodes. Adjuvant radiotherapy was proposed in case of positive margins. Data about the time of relapse, type of retreatment and survival were collected.

Results

Among 10 years, 312 patients were found. 161 patients were excluded because of FIGO stage. A total of 151 patients were analyzed. One-hundred-thirty (92%) patients underwent surgery. Twenty-seven (19%) patients received adjuvant treatment; of these 22 received only chemotherapy and 5 received CT-RT. A total of 33 patients relapsed, 10 (37%) patients in the group of adjuvant treatment, and 23 (20%) in the group without adjuvant therapy. 5 year overall survival rate was 71%, in particular 93.8% for IB2 100% and 79.4% for stage IIA and IIB respectively.

Conclusion

NACT plus surgery in LACC FIGO stage IB2-IIB had comparable survival with RT-CT and the advantage of reducing adjuvant treatment.
IMPORTANCE OF ADVOCACY LECTURES ON WOMEN’S AWARENESS AND ATTITUDE ON CERVICAL CANCER SCREENING AND HPV VACCINATION. A PILOT OBSERVATIONAL STUDY.

J. Billod

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Aims

To assess the knowledge and attitudes of women on cervical cancer screening and vaccination, and impact of lectures to their practices.

Method

Data were collected through a self-administered questionnaire before and after a lecture.

Results

200 women aged 22-59 participated with overall response rate of 70%. 100% of the knew that cervical cancer is the most common gynecologic cancer. 60% are aware that it is caused by HPV and recognizes the risk factors associated with the cancer. Of the 92% who believe that cervical cancer can be prevented by regular pap smear and gynecologic exams, only 39% had their cytology screening. Half of those without prior Pap smear is undecided for future screening. 73% believe that it can be prevented by HPV vaccination, with only 15% had their vaccination. Reasons for not receiving the vaccine are: lack of information about the vaccine, financial reasons, worried of side effects, and no motivation. Post-lecture, almost all participants improved their knowledge on risk factors, signs and symptoms, the importance of screening and vaccination. However, the same percentage still is undecided obtaining screening.

Conclusion

Knowledge on cervical cancer is fair but a major gap is depicted on preventive measures, actual acceptance of screening and vaccination. Advocacy lectures increase awareness on the disease but may not expand their acceptance to screening and vaccination. An intense effort by the health sector, public and private is needed to address women’s’ hesitancy on screening and vaccination by regular and direct health promotions and encourages accessible, affordable and affordable screening and vaccination.
LATE BREAKING
ESGO7-1466

A COST-EFFECTIVENESS ANALYSIS OF LAPAROTOMY, LAPAROSCOPIC AND ROBOTIC SURGERY IN ENDOMETRIAL CANCER

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Aims

To compare the cost-effectiveness of laparotomy, laparoscopic and robotic surgery in Thai endometrial cancer patients.

Method

An economic analysis was conducted to compare total costs of three surgical approaches and health outcomes from both health care provider and patient perspective. Costing data were collected from clinical practice in King Chulalongkorn Memorial Hospital, Bangkok, Thailand. Health outcomes were quantified in terms of complication-free rate, derived from published data and quality of life (QOL) assessed by a Thai version of the FACT-G questionnaire at 4 weeks after surgery. Incremental cost-effectiveness ratios (ICERs) were used to compare costs per complication-free patient gained and costs per quality-adjusted life years (QALYs) gained.

Results

Minimal invasive surgery was more costly compared to laparotomy but the utility of laparoscopy was more favorable. The mean utilities of robotic surgery, laparoscopic surgery and laparotomy were 0.90, 0.96, and 0.78, respectively. The incremental cost per QALYs gained ratio (ICER) of laparoscopic surgery compared with laparotomy was 1,444 Thai baht (43.2USD)/QALY in patient expense and 28,488 Thai baht (852.9USD)/QALY in health care medical cost. ICER of robotic surgery compared with laparotomy was 141,033 Thai baht (4,222.5USD)/QALY in patient expense and 268,578 Thai baht (8,041.3USD) /QALY in health care medical cost.

Conclusion

In Thailand, laparoscopic surgery in endometrial cancer was the most favorable and cost-effective surgical approach, whereas robotic surgery was the least cost-effective.
LATE BREAKING

ESGO7-1419

QUALITY OF LIFE WITH WEEKLY, DOSE-DENSE VERSUS STANDARD CHEMOTHERAPY FOR OVARIAN CANCER IN THE ICON8 STUDY


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12Newcastle University, Department of Oncology, Newcastle upon Tyne, United Kingdom
13Addenbrooke’s Hospital, Department of Medical Oncology, Cambridge, United Kingdom
14Mount Vernon Cancer Centre, Department of Medical Oncology, Northwood, United Kingdom
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16The Christie NHS Foundation Trust, Department of Medical Oncology, Manchester, United Kingdom

Aims

To explore the impact of dose-dense chemotherapy on quality of life (QoL) in women with newly-diagnosed ovarian cancer.

Method

ICON8 is a randomised phase III trial of standard vs. weekly dose-dense chemotherapy in newly-diagnosed ovarian cancer. Patients were randomised 1:1:1 either to (1) 3-weekly carboplatin AUC5/6 paclitaxel 175mg/m², (2) 3-weekly carboplatin AUC6 & weekly paclitaxel 80mg/m² or (3) weekly carboplatin AUC2 & weekly paclitaxel 80mg/m². Primary analysis of progression-free survival showed no significant difference between groups. All participated in the QoL substudy and completed EORTC-QLQ-C30 and OV28 questionnaires at enrolment, before each chemotherapy cycle, 6-weekly to 9 months, then 3 monthly to 2 years. Primary QoL endpoint was global QoL at 9 months, secondary endpoints included specific function and symptom scores. Statistical significance was assessed by analysis of covariance adjusted for baseline score.

Results

17,515 QoL questionnaires were completed by 1,540 participants. There was no significant difference in global QoL (p=0.08), fatigue (p=0.42), emotional function (p=0.21) or social function (p=0.83) at 9 months between randomised groups. Significant difference was observed in peripheral neuropathy (p<0.001), with higher mean scores at 9 months in both weekly arms (27.4, 34.2, 31.3 in arms 1,2,3 respectively). Exploratory analysis indicated that this difference continued to 18 months from randomisation.

Conclusion

Self-reported 9-month global QoL, fatigue, emotional and social functioning did not differ significantly between treatment arms. However, long-term peripheral neuropathy was significantly worse in both weekly treatment groups. These findings do not support weekly, dose-dense paclitaxel within the upfront treatment of high risk ovarian cancer.
LATE BREAKING

ESG07-1414

SURVIVAL OUTCOMES OF TWO DIFFERENT STAGING STRATEGIES IN EARLY STAGE ENDOMETRIAL CANCER COMPARING SENTINEL LYMPH NODES ALGORITHM AND SELECTIVE LYMPHADENECTOMY: AN ITALIAN RETROSPECTIVE STUDY.

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Aims

The impact on survival of lymphadenectomy in endometrial cancer is still debate. We aimed to evaluate the survival outcomes of two different strategy in apparent confined endometrial cancer patients by comparing sentinel lymph node (SLN) mapping and selective lymphadenectomy (LD).

Method

We retrospectively reviewed women with preoperative stage I endometrial cancer underwent surgical staging with either SLN mapping, or LD in two Italian centers.

Results

Eight hundred and two women underwent surgical staging for preoperative stage I endometrial cancer were revised (145 Monza; 657 Rome). All patients underwent peritoneal washing, simple hysterectomy with bilateral salpingo-oophorectomy and nodal staging including SLN mapping, or LD. Overall 8229 lymph nodes were removed (1595 in Monza, 6634 in Rome). Pelvic lymphadenectomy was performed in 33.1% and 52.4% in Monza and Rome, respectively (p < 0.001). Patients with positive pelvic LN were 16.7% and 7.3%, in SLN and LD groups, respectively (p=0.002). Disease-free survival (DFS) curves showed a not significant difference between centers and strategies adopted (SLN mapping, LD, SLN+LD) 0.87 (95% CI 0.63-2.16; p=0.475).

Conclusion

Survival outcomes were similar for both strategies. The SLN strategy allowed to identify a higher rate of stage IIIC1 disease even with a lower median number of lymph node removed in SLN group. Applying a SLN algorithm does not impair the prognosis of endometrial cancer patients. The clinical impact and management of low volume metastasis in high-risk patients should be further clarify.
LATE BREAKING

ESGO7-1475

PARAORTIC LYMPHADENECTOMY IN PATIENTS WITH STAGE IB1 CERVICAL CANCER UNDERGOING RADICAL HYSTERECTOMY.
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Aims

To determine the rate of paraaortic nodal involvement in patients undergoing radical hysterectomy and pelvic and paraaortic (inframesenteric) lymph node dissection in patients with stage IB1 cervical cancer.

Method

A retrospective review of all stage IB1 cervical cancer patients who underwent radical hysterectomy and lymphadenectomy at the Instituto Nacional de Cancerología in Bogotá, Colombia, between January 2009 and March 2017.

Results

A total of 94 patients met inclusion criteria. Median age was 44 (range; 26-68) The histology was squamous, adenocarcinoma, or adenosquamous carcinoma in 56 (59.6%), 29 (30.9%), and 9 (9.6%) patients, respectively. The median surgical time was 209 min (range; 95-395). The median blood loss was 400 ml (range; 20-4000). The median number of resected pelvic and paraaortic nodes were 23 (range,5-68), and 4 (range,1-25), respectively. Pelvic lymph node involvement was present in 11 (11.7%) patients. No patient had paraaortic lymph node involvement. After a median follow-up of 20.3 months (range 0.3-95), 10 patients have relapsed, 4 of them with pelvic nodal involvement;4 patients relapsed exclusively in vaginal cuff, and 1 relapsed in vaginal cuff and bone(poliostotic disease), 2 lung relapses, 2 peritoneal relapses, and 1 recurrence in the paraaortic area(At initial surgery, 18 pelvic nodes were retrieved, 2 of them positive, and 2 paraaortic negative nodes).

Conclusion

The rate of paraaortic lymph node involvement in patients with stage IB1 cervical cancer undergoing radical hysterectomy was 0%. The decision about performing paraaortic lymph node dissection in early stage cervical cancer should be individualized.
LATE BREAKING

ESGO7-1530

SELECTIVE UTERINE ARTERY EMBOLIZATION IN LOCALLY ADVANCED CERVICAL CANCER PATIENTS WITH VAGINAL HEMORRHAGE

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Aims

Objective: To evaluate outcomes of selective uterine artery embolization in patients with severe bleeding and locally advanced cervical cancer.

Method

Methods: A retrospective review of the medical records of all patients that underwent selective uterine artery embolization, with cervical cancer diagnosis, at Instituto Nacional de Cancerología in Bogotá, Colombia, between July 2009 and July 2017. Briefly, the procedure starts with a percutaneous access through right femoral artery, with contrast material, an assessment of pelvic vascularization is carried out; according to findings, a selective uterine artery catheterization with Cobra or Simmons catheter (5F), embolization was done with PVA or 300-500 micras under fluoroscopic visualization. Once bilateral vascular exclusion is demonstrated the procedure finishes. We built a database in Excel 2014 and statistical analysis was performed using the program STATA10.

Results

Results: A total of 52 patients were included. Median age was 45 years (range; 38-49). All the patients presented vaginal bleeding, and all of them, received blood transfusions, due to secondary anemia. The pre-transfusion median haemoglobin level was 7.12 gms/dl (range; 2.3-11.5). All the patients underwent a bilateral selective uterine artery embolization at interventional radiology service. Eight patients (15%) required a second embolization, due to bleeding persistence, after that, all the patients stopped to bleed. There were no complications or deaths associated to procedure.

Conclusion

Conclusion: Selective uterine artery embolization is an useful alternative in locally advanced cervical cancer patients with life threatening bleeding.
LATE BREAKING

ESGO7-1406

THE FIRST YEAR EXPERIENCE OF LAPAROSCOPY RADICAL HYSTERECTOMY AND PELVIC LYMPHADENECTOMY IN FATMAWATI HOSPITALS, JAKARTA

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Aims

Minimally invasive techniques was introduced worldwide as early stage cervical cancer management since 1990s, but it was still considered as a new advance surgical technique in Indonesia. We described our first year experience of total laparoscopic radical hysterectomy and pelvic lymphadenectomy in Fatmawati Hospital, Jakarta.

Method

We enrolled the data of all patients with cervical cancer stage IB1-2A2 from Fatmawati Hospital (tertiary teaching hospital) who underwent laparoscopic radical hysterectomy and pelvic lymphadenectomy from August 2016 to August 2017.

Results

Eighteen patients were 12 squamous cell carcinoma and 6 adenocarcinoma. The mean of the biggest tumor diameter was 4 cm (1-7 cm). Seventeen patients were underwent full staging surgery, one patient had abandoned radical hysterectomy, only left lymphadenectomy was performed due to upstaging. The overall conversion rate was 0%. Four patients were stage IB1, 3 patients were stage IB2, 6 patients were stage IIA1, and 4 patients were stage IIA2. The operation median length were 408.5 (240-540 minutes), the mean hospital length of stay was 5 days. The mean estimate blood loss was 351cc (50-1000) cc. There were 2 bladder injuries, 1 rectal injury, 1 ureteral injury, and 1 stump vaginal dehiscence.

Conclusion

Beyond 1 year experience, laparoscopic radical hysterectomy and pelvic lymphadenectomy is acceptable in standard treatment of early stage of cervical cancer. An extended learning period can be required to achieve the turning point.
LATE BREAKING

ESGO7-1407

SURGICAL COMPLICATIONS AND THE DIFFICULTIES BEYOND THE LEARNING CURVE OF FIRST YEAR LAPAROSCOPY RADICAL HYSTERECTOMY AND PELVIC LYMPHADENECTOMY IN FATMAWATI HOSPITAL

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Aims

First year of experience was the most challenging period for a young laparoscopist. Total laparoscopic Radical Hysterectomy with Pelvic Lymphadenectomy (TLRH-PL) was introduced worldwide as early stage cervical cancer management since 1990s, but it was still considered as a new advance surgical technique in Indonesia. We describe the implementation of TLRH-PL in Indonesia, based on the complication of radical hysterectomy and pelvic lymphadenectomy in first year experience.

Method

A descriptive study was done in Fatmawati Hospital, a tertiary teaching hospital affiliated by University of Indonesia. Seventeen women with early stage cervical cancer (IB1 – IIA2, FIGO classification) who underwent TLRH-PL from August 2016 – August 2017 were enrolled for the study.

Results

Squamous cell carcinoma was found in 11 (64.7%) patients whereas adenocarcinoma (35.3%) was found with the rest. Cervical FIGO staging range from IB1(27.2%), IB2 (17.65%), IIA1(35.3%), and IIA2(23.5%). We describe five major surgical complications whom occurred in five patients, with an overall complication rate was (29.4%). There were two bladder injuries, one rectal injury, one ureteral injury and one post operative stump vaginal dehiscence. Those injuries were tackled laparoscopically and stump vaginal dehiscence was repaired vaginally.

Conclusion

Laparoscopic radical hysterectomy in was favorable for early stage cervical cancer although in our first year experience was still related with high rate complication. An extended learning period can be required for laparoscopic radical hysterectomy and pelvic lymphadenectomy to achieve the turning point.
FACTORS INFLUENCING THE ADOPTION OF THE SENTINEL LYMPH NODE TECHNIQUE FOR ENDOMETRIAL CANCER STAGING: AN INTERNATIONAL SURVEY AMONG GYNECOLOGIC ONCOLOGISTS

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^8MD Anderson Cancer, Gynecologic Oncology, Huston - Texas, USA

Aims

To explore the factors influencing adoption of the sentinel lymph node technique (SLN) for endometrial cancer (EC) staging among gynecologic oncologists.

Method

A self-administered web-based survey was sent via email (04/20/2017-05/21/2017) to all ESGO, IGCS and SGO members. Surgical and pathological practices related to SLN were investigated. Reasons for not adopting SLN were explored.

Results

Among 610 anonymous responders, results for the 489(80.2%) attending physician/consultants in gynecologic oncology are reported: 226(46.2%), 124(25.4%) and 139(28.4%) from ESGO, IGCS and SGO, respectively. Gynecologic oncologists from 69 different countries participated: 201(41.1%) from Europe, 118(24.1%) from the USA, and 117(29.9%) from other countries (10.8% country not reported). SLN is adopted by 246(50.3%) responders, with 93.1% injecting the cervix and 62.6% using Indocyanine green (ICG) dye. The NCCN SLN algorithm is followed by 160(65.0%) responders (USA:74.4%, Europe:55.4%, other countries:71.4%). However, 66.7% complete lymphadenectomy in high-risk patients. When SLN reveals isolated tumor cells (ITC), 13.8% of responders recommend adjuvant therapy. This increases to 52% if micrometastases are detected. Among the 243 not adopting SLN, the majority (126, 51.9%) perform a selective pelvic +/- para-aortic lymphadenectomy based on tumor risk factors; 50.2% cite lack of evidence and 45.3% state that
inadequate instrumentation fuel their decisions. Details reported in Table 1.

**Table 1.** Results from the survey on SLN adoption among gynecologic oncologists members of the ESGO (European Society of Gynecologic Oncology), IGCS (International Gynecologic Cancer Society, and SGO (Society of Gynecologic Oncology).

<table>
<thead>
<tr>
<th>Standard practice of staging for endometrial cancer:</th>
<th>Overall N=489</th>
<th>USA N=118</th>
<th>Europe N=201</th>
<th>Other Countries N=117</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SLN Technique</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tracer most commonly injected:</td>
<td>246 (50.3%)</td>
<td>82 (69.5%)</td>
<td>101 (50.2%)</td>
<td>42 (35.9%)</td>
</tr>
<tr>
<td>- Indocyanine Green (ICG)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Blue dye</td>
<td>154 (62.6%)</td>
<td>72 (87.8%)</td>
<td>57 (56.4%)</td>
<td>12 (28.6%)</td>
</tr>
<tr>
<td>- Combination (ICG + Blue)</td>
<td>40 (16.3%)</td>
<td>9 (11.1%)</td>
<td>14 (13.9%)</td>
<td>19 (45.2%)</td>
</tr>
<tr>
<td>- TyG</td>
<td>29 (11.8%)</td>
<td>9 (11.1%)</td>
<td>7 (6.9%)</td>
<td>6 (14.3%)</td>
</tr>
<tr>
<td>- TyG combined with other tracers</td>
<td>14 (5.6%)</td>
<td>0 (0.0%)</td>
<td>4 (4.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>- Other/No response</td>
<td>1 (1.2%)</td>
<td>1 (1.2%)</td>
<td>0 (0.0%)</td>
<td>1 (2.4%)</td>
</tr>
<tr>
<td><strong>Site of injection</strong></td>
<td>22 (39.6%)</td>
<td>10 (52.6%)</td>
<td>9 (45.2%)</td>
<td>3 (6.9%)</td>
</tr>
<tr>
<td>- Cervix</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Uterine body</td>
<td>5 (8.3%)</td>
<td>2 (4.6%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>- Cervix and Uterine body</td>
<td>5 (8.3%)</td>
<td>1 (2.1%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>- Other/No response</td>
<td>1 (1.2%)</td>
<td>1 (1.2%)</td>
<td>0 (0.0%)</td>
<td>1 (2.4%)</td>
</tr>
<tr>
<td><strong>Back-up lymphadenectomy after SLN performed:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- In all cases</td>
<td>37 (15.9%)</td>
<td>9 (11.1%)</td>
<td>10 (17.8%)</td>
<td>5 (11.9%)</td>
</tr>
<tr>
<td>- Only in “high risk” patients</td>
<td>164 (66.7%)</td>
<td>52 (46.6%)</td>
<td>69 (68.3%)</td>
<td>33 (71.4%)</td>
</tr>
<tr>
<td>- Never</td>
<td>40 (16.3%)</td>
<td>12 (11.9%)</td>
<td>11 (10.9%)</td>
<td>7 (16.0%)</td>
</tr>
<tr>
<td>- Don’t know/No answer</td>
<td>5 (2.0%)</td>
<td>0 (0.0%)</td>
<td>2 (2.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td><strong>Pathologic evaluation of the SLN removed:</strong></td>
<td>37 (15.9%)</td>
<td>13 (56.5%)</td>
<td>0 (0.0%)</td>
<td>4 (8.1%)</td>
</tr>
<tr>
<td>- Tumors removed</td>
<td>152 (74.5%)</td>
<td>69 (46.5%)</td>
<td>22 (68.6%)</td>
<td>19 (38.2%)</td>
</tr>
<tr>
<td>- No tumors removed</td>
<td>194 (78.9%)</td>
<td>69 (46.5%)</td>
<td>22 (68.6%)</td>
<td>19 (38.2%)</td>
</tr>
<tr>
<td><strong>Adjuvant treatment management</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ITC (Isolated Tumor Cells)</strong></td>
<td>145 (58.9%)</td>
<td>46 (39.8%)</td>
<td>55 (26.4%)</td>
<td>30 (77.0%)</td>
</tr>
<tr>
<td>- Adjuvant always suggested</td>
<td>31 (13.8%)</td>
<td>11 (10.9%)</td>
<td>7 (13.9%)</td>
<td>3 (7.0%)</td>
</tr>
<tr>
<td>- Adjuvant based on risk factors</td>
<td>145 (58.9%)</td>
<td>46 (39.8%)</td>
<td>55 (26.4%)</td>
<td>30 (77.0%)</td>
</tr>
<tr>
<td>- Adjuvant not answered</td>
<td>4 (1.7%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td><strong>MICROMETASTASIS</strong></td>
<td>128 (52.0%)</td>
<td>45 (35.0%)</td>
<td>30 (14.9%)</td>
<td>3 (6.9%)</td>
</tr>
<tr>
<td>- Adjuvant always suggested</td>
<td>128 (52.0%)</td>
<td>45 (35.0%)</td>
<td>30 (14.9%)</td>
<td>3 (6.9%)</td>
</tr>
<tr>
<td>- Adjuvant based on risk factors</td>
<td>108 (43.9%)</td>
<td>33 (26.5%)</td>
<td>46 (22.9%)</td>
<td>23 (50.9%)</td>
</tr>
<tr>
<td>- Adjuvant not answered</td>
<td>10 (4.1%)</td>
<td>0 (0.0%)</td>
<td>5 (2.5%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td><strong>MACROMETASTASIS</strong></td>
<td>230 (90.9%)</td>
<td>81 (81.0%)</td>
<td>86 (85.1%)</td>
<td>37 (80.9%)</td>
</tr>
<tr>
<td>- Adjuvant always suggested</td>
<td>18 (4.7%)</td>
<td>1 (1.2%)</td>
<td>8 (8.9%)</td>
<td>3 (7.1%)</td>
</tr>
<tr>
<td>- Adjuvant based on risk factors</td>
<td>18 (4.7%)</td>
<td>1 (1.2%)</td>
<td>8 (8.9%)</td>
<td>3 (7.1%)</td>
</tr>
<tr>
<td>- No adjuvant</td>
<td>15 (3.9%)</td>
<td>0 (0.0%)</td>
<td>6 (6.0%)</td>
<td>2 (4.8%)</td>
</tr>
<tr>
<td><strong>Other than SLN Technique</strong></td>
<td>243 (99.7%)</td>
<td>80 (96.6%)</td>
<td>100 (94.6%)</td>
<td>63 (93.8%)</td>
</tr>
<tr>
<td><strong>Reason for not attempting SLN</strong></td>
<td>122 (50.2%)</td>
<td>22 (63.6%)</td>
<td>41 (61.0%)</td>
<td>25 (33.3%)</td>
</tr>
<tr>
<td>- Not enough evidence</td>
<td>110 (45.5%)</td>
<td>11 (32.4%)</td>
<td>37 (57.0%)</td>
<td>20 (26.3%)</td>
</tr>
<tr>
<td>- Lack of instrumentation</td>
<td>32 (12.9%)</td>
<td>3 (8.6%)</td>
<td>9 (13.9%)</td>
<td>12 (17.2%)</td>
</tr>
<tr>
<td><strong>Standard practice for staging</strong></td>
<td>32 (12.9%)</td>
<td>3 (8.6%)</td>
<td>9 (13.9%)</td>
<td>12 (17.2%)</td>
</tr>
<tr>
<td>- No lymph node assessment</td>
<td>5 (2.1%)</td>
<td>0 (0.0%)</td>
<td>3 (5.0%)</td>
<td>2 (3.9%)</td>
</tr>
<tr>
<td>- Selective pelvic lymphadenectomy</td>
<td>35 (13.4%)</td>
<td>11 (30.6%)</td>
<td>5 (8.0%)</td>
<td>4 (6.9%)</td>
</tr>
<tr>
<td>- Systematic pelvic lymphadenectomy</td>
<td>156 (61.4%)</td>
<td>43 (117.0%)</td>
<td>55 (55.0%)</td>
<td>17 (33.3%)</td>
</tr>
<tr>
<td>- Selective pelvic + aortic</td>
<td>52 (21.4%)</td>
<td>27 (24.3%)</td>
<td>22 (22.4%)</td>
<td>6 (11.1%)</td>
</tr>
<tr>
<td>- lymphadenectomy</td>
<td>9 (3.7%)</td>
<td>1 (2.8%)</td>
<td>3 (4.9%)</td>
<td>2 (3.9%)</td>
</tr>
</tbody>
</table>

**LEGEND:**
1. Multiple answers were allowed.
2. Selective lymphadenectomy + procedure performed only if presence of tumor risk factors for lymph node metastasis.
3. Overall, 53 responders (10.8%) did not report their geographical region.

**Conclusion**

SLN mapping with a cervical injection is gaining widespread acceptance for staging of EC among gynecologic oncologists worldwide. Standardization of the surgical approach with the NCCN algorithm is applied by the majority of users. Management of ITC and the role of backup lymphadenectomy for “high-risk” cases remain areas of investigation.
LATE BREAKING

ESGO7-1487

RISK FACTORS OF NEW PRIMARY CANCERS AFTER BREAST CANCER: A 5-YEAR RETROSPECTIVE ANALYSIS IN TAIWAN

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2Tri-Service General Hospital- National Defense Medical Center, Department of Radiation Oncology, Taipei City, Taiwan R.O.C.
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6Chiang Mai University, Division of Gynecologic Oncology- Department of Obstetrics and Gynecology- Faculty of Medicine, Chiang Mai, Thailand
7Chung Shan Medical University, School of Nursing, Taichung City, Taiwan R.O.C.
8Quemoy University, Department of Computer Science and Information Engineering, Kinmen County, Taiwan R.O.C.

Aims

In this retrospective study, we aimed to investigate the risk factors of developing SPC after breast cancer (BC) and to improve surveillance after treatment might lead to earlier detection.

Method

Eight hundred and seventy-nine patients with SPC after BC were obtained from five tumor registry centers (2000-2014). Twenty predictor variables were identified by three clinical physicians. In addition, five machine learning approaches of WEKA (Waikato Environment for Knowledge Analysis) to develop the predictive schemes for the important risk factors of new primary cancers after BC.

Results

The average age at initial and secondary cancer diagnosis was 54 years old (range 18-94) and 58.3 years old (range 35-83). The median time between initial and SPC diagnoses was 5.8 months (range 0-57.1). The overall incidence of SPC was 7.62%. The most frequent types of cancer at secondary diagnosis were gynecologic cancer (37 patients; 55.22%), contralateral breast cancer (22 patients; 32.84%), digestive cancer (8 patients; 11.94%). Experimental results illustrated that the average accuracy of RandomSubSpace (99.74%) is a superior approach. The other methods were: RandomTree (99.74%), RandomizableFilteredClassifier (99.27%), IBk (98.87%) and Kstar (98.40%).

Conclusion

Our findings suggest that Age, Tumor Size, RT surgery and Histology were the four most critical risk factors. Some specific relationships were observed between first and secondary cancer with risk factors in common, such as hormone status, tobacco use and drinking. In summary, the above information can support the important influence of personal and clinical symptom representations on all phases of guide interventions with BC in all phases of SPC trajectory.
LATE BREAKING
ESGO7-1519

THE ROLE OF CD 44 IN OVARIAN CANCER
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1Clinical center Nis, Clinic of oncology, Nis, Serbia
2Institute of Pathology, Faculty of Medicine- University of Nis, Nis, Serbia

Aims

The aim of this study is to examine the expression of CD44 in ovarian cancer, its correlation with clinical and pathological factors, and to evaluate the impact of expression of CD44 expression in tumor samples concerning disease prognosis, treatment and survival rate of patients.

Method

Tumor samples of 270 patients with ovarian carcinoma (ovarian cancer in FIGO stage I, FIGO stage II, FIGO stage III and FIGO stage IV), treated at the Clinic for Oncology Clinical Center Nis during the period from 2005 to 2011, were analyzed immunohistochemically for expression of CD44. Testing of the correlation with clinical and pathological parameters was done in the statistical data processing program SPSS 20.0.

Results

In patients with the expression of CD44 up to 10%, metastases were significantly present (p <0.05). In FIGO stage I, in most cases, high expression of CD44 (p <0.05) was recorded, whereas low expression of CD 44 (p <0.05) was recorded in FIGO stage IV. Mean survival was significantly longer in patients with the expression of CD 44 over 10%. (p <0.01). The death rate was significantly higher in patients with lower expression of CD 44 (p <0.05)

Conclusion

CD 44 could be used as a prognostic marker for ovarian cancer. The unfavorable clinical course of the ovaries was associated with the absence or low expression of CD 44.
LATE BREAKING

ESGO7-1473

NEW BIOMARKERS IN THE DIAGNOSIS OF OVARIAN PATHOLOGY
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Aims

This project on new diagnostic biomarkers focusses on three pillars: proteins, cfDNA (cellfree DNA resulting from apoptotic tumor cells) and immune profiles.

Method

Serum, plasma and peripheral blood mononuclear cells (PBMC) were collected of 269 women. In 157 of them (68 benign cysts, 13 borderline tumors, 43 invasive ovarian cancers, 33 healthy controls) an immune profile analyses based on the presence of CD4, CD8, MDSC (myeloid derived suppressor cells) and Treg (regulatory T cells) was performed. In 39 invasive ovarian cancer patients, immune profile was monitored during disease progression.

Results

Most striking were the differences in monocytic MDSC (mMDSC), as their presence increased with growing malignancy potential (benign vs borderline vs invasive) (Fig 1). This graded difference remained (p=0.006), but rendered the invasive cancers more pronounced as a separate group, if mMDSC were PDL1 positive. The presence of these cells resulted in poor overall survival (Fig 2) and their increase after neoadjuvant platin-based chemotherapy (NACT) and interval debulking surgery (IDS) resulted in an increased chance of relapse.
Conclusion

Immune profiling in blood for ovarian pathologies holds much promise. For the first time in literature, a clear involvement of mMDSC in ovarian cancer is shown. This finding might have important clinical consequences in the selection of patients and the timing of immunotherapy.
THE INFLUENCE OF ITGBL1 PROTEIN ON OVARIAN CANCER CELLS PROLIFERATION AND CHEMORESISTANCE

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1Maria Sklodowska-Curie Institute - Oncology Center- Gliwice Branch, Center for Translational Research and Molecular Biology of Cancer, Gliwice, Poland

Aims

In our previous microarray study we analyzed gene expression profile of 72 high grade serous ovarian cancers (HG-SOC) [1]. We identified two molecular subgroups of HG-SOC with distinct gene expression profiles and survival [2]. Among differentially expressed genes was an Integrin beta-like1 gene (ITGBL1). ITGBL1 is a poorly characterized protein, structurally cognate with integrin β. Our aim was to study whether and how ITGBL1 can influence the phenotype of ovarian cancer cells.

Method

ITGBL1 coding sequence was PCR-amplified from cDNA and cloned into pLNCX2 vector. Retroviral system was used to obtain two ovarian cancer cell lines: OAW42/ITGBL1(+) and SKOV3/ITGBL1(+) with overexpression of ITGBL1. Control cell lines were obtained by transduction with empty vector. Proliferation and cytotoxicity were analyzed using MTS and crystal violet assay.

Results

We compared proliferation of control OAW42 and SKOV3 cells with isogenic cell lines containing ITGBL1 construct. The results indicate that ITGBL1 overexpression has no effect on proliferation of ovarian cancer cells. We also evaluated an influence of ITGBL1 protein on ovarian cancer cells sensitivity to cisplatin and paclitaxel, and both cell lines overexpressing ITGBL1 were significantly more resistant to cisplatin and to paclitaxel, as compared to the control lines.

Conclusion

Our results indicate that although ITGBL1 has no effect on ovarian cancer cells proliferation rate, it may however increase their resistance to cisplatin and paclitaxel. These results are in line with our previous observation that patients with HG-SOC showing higher ITGBL1 mRNA expression have significantly shorter OS [2].


Acknowledgments: Polish National Science Center grant 2012/04/M/NZ2/00133 to K.M.L.
We observed an increased tendency to treat cancer during pregnancy, which can lead to more obstetrical and neonatal complications. We recommend the referral of pregnant cancer patients who need chemotherapeutic treatment to centres with obstetrical high care units.
ENHANCED RECOVERY AFTER SURGERY (ERAS) STRATEGY IN MAJOR GYNECOLOGIC SURGERY – OUR EXPERIENCE AND COMPARISON WITH CLASSIC PERIOPERATIVE PROTOCOL

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Aims

ERAS is a multimodal strategy to reduce perioperative stress response allowing enhanced postoperative recovery and includes no extensive bowel preparation, early feeding, multimodal analgesia with avoidance of opioid analgesia, early mobilisation, no drainage use, active management of nausea and vomiting.

Method

Prospective data of all consecutive patients who underwent major surgery for pelvic organ tumors in the Department of gynecologic and breast oncology, Maribor, Slovenia, over a 6-month period (41), were collected and compared with a historical consecutive cohort of patients, treated in 6-month period in 2005 (40), before implementation of ERAS.

Results

There were no differences regarding diagnosis and intraoperative complications. The results are shown in Table 1.

Table 1: Comparison of postoperative period between patients undergone ERAS and those having classic perioperative protocols.

<table>
<thead>
<tr>
<th></th>
<th>ERAS</th>
<th>Classic perioperative protocol</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peritoneal drainage</td>
<td>4.9 % (1.5 days)</td>
<td>65 % (6.0 days)</td>
<td>0.000</td>
</tr>
<tr>
<td>Postoperative blood transfusion</td>
<td>7.3 %</td>
<td>25 %</td>
<td>0.03</td>
</tr>
<tr>
<td>Intravenous analgesia</td>
<td>2.5 days</td>
<td>4.8 days</td>
<td>0.000</td>
</tr>
<tr>
<td>Opioid analgesia</td>
<td>1.0 days</td>
<td>3.4 days</td>
<td>0.000</td>
</tr>
<tr>
<td>Postoperative antibiotic therapy</td>
<td>17.1 % (11.4 days)</td>
<td>28.2 % (9.8 days)</td>
<td>P=0.033</td>
</tr>
<tr>
<td>Hospital stay</td>
<td>4.7 days</td>
<td>10.4 days</td>
<td>P=0.026</td>
</tr>
<tr>
<td>Postoperative complications</td>
<td>7.3 %</td>
<td>25.6 %</td>
<td>P=0.024</td>
</tr>
<tr>
<td>Readmission (until Day 30)</td>
<td>5</td>
<td>2</td>
<td>P=0.676</td>
</tr>
</tbody>
</table>

Conclusion

Patients undergoing ERAS had reduced length of hospital stay, less postoperative blood transfusion rate, antibiotic use, complication rate, shorter intravenous and opioid analgesia. ERAS is not only safe, it was shown to be superior to classic perioperative approach and should be implemented in every day clinical practise for major gynaecologic surgery.
PATIENTS’ AND PHYSICIANS’ EXPECTATIONS DIFFER SIGNIFICANTLY DURING THE FOLLOW UP PERIOD AFTER GYNECOLOGIC OR BREAST CANCER TREATMENT

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Aims

The follow up period after completion of primary treatment for gynecologic or breast malignancy might be long. We explored and compared the patients' and physicians' expectations and preferences during the follow up period.

Method

This prospective study included 122 patients after gynecological or breast cancer treatment at the Department of Gynecological and Breast Oncology, Maribor, Slovenia, and 72 primary level gynecologists/general practitioners in our region. A questionnaire was used to compare the expectations/preferences of patients and physicians regarding the center and location of follow-up, the prognosis revealed, attitudes towards examinations, and sense of safety and stress.

Results

Patients consider it more important to be followed-up at the center of treatment, closest to their home, and to be exactly informed about the prognosis. Unlike their physicians, patients consider the sense of safety and stress caused by regular visits as more important, and many of them would rather visit the physician when symptoms occur as opposed to on a regular basis.

Conclusion

Given the lack of evidence-based improvement of survival with regular follow-up, in accordance with our results, individualization of scheduling follow-up visits with the lowest acceptable frequency and intermediate nurse consultations might be associated with meeting patients’ expectations without compromising survival outcomes.
LATE BREAKING

ESGO7-1429

DISSEMINATED PERITONEAL LEIOMYOMATOSIS AND METASTATIC GIST : A MANAGEMENT DILEMMA REGARDING MULTIPLE NODULAR SEROSAL LESIONS

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¹Faculty of Medicine - Alexandria University, Obstetrics and Gynecology, Alexandria, Egypt

Aims

We aim to discuss cases with GIST and LPD regarding their diagnosis and surgical management with pitfalls related. We also aim to focus on management of multiple nodular serosal lesions.

Method

A 60 years old woman was suspected with advanced ovarian cancer on CT and ultrasound imaging by multiple nodular peritoneal lesions and adnexal masses. Another case was 55 years old, diagnosed with multiple fibroid uterus on ultrasound and a huge subserous one. Tumor markers were normal in both cases. Both were scheduled for exploratory laparotomy.

Results

Midline laparotomy was done for the first case where total hysterectomy with bilateral salpingo-oophorectomy and resection anastomosis for the small intestine with removal of macroscopic lesions were done. Midline line laparotomy was done for the second case where total hysterectomy with bilateral salpingo-oophorectomy and omentectomy with resection anastomosis of the small intestine and removal of macroscopic lesions seen were done. By intraoperative findings and histopathological evaluation, the first case was diagnosed as Disseminated Peritoneal Leiomyomatosis. The other case was diagnosed with multiple uterine fibroid and metastatic GIST in patient with neurofibromatosis type I.

Conclusion

Disseminated Peritoneal Leiomyomatosis and metastatic GIST can be similar on imaging and operative findings. Also, they are similar to peritoneal carcinomatosis. These pathologies should be kept on mind when encountering multiple solid nodular masses in the visceral and parietal wall peritoneum on imaging and intraoperatively. Surgical and postoperative management differ according to the pathology. These pathologies should be confirmed by histopathology and immunohistochemistry.
LATE BREAKING

ESG07-1437

INTRAPERITONEAL CHEMOTHERAPY USING PORT-A-CATH : A WAY FOR PREVENTION OF LOCAL RECURRENCE IN ADVANCED EPITHELIAL OVARIAN CANCER

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1Faculty of Medicine - Alexandria University, Obstetrics and Gynecology, Alexandria, Egypt

Aims

We aim to evaluate intraperitoneal chemotherapy using Port-A-Cath for prevention of local recurrence in advanced ovarian cancer.

Method

From July 2015 to December 2015, fifty patients with stage III epithelial ovarian cancer who had optimal surgical cytoreduction underwent Port-A-Cath insertion during laparotomy for intraperitoneal chemotherapy administration using Cisplatin and IV taxol for six cycles. Follow-up was done over one and half year.

Results

Patient age was about 50-70 years. Forty five patients (90%) received 3-4 cycles only due to intolerable GIT troubles. Three cases dropped out on follow-up and two cases didn’t continue therapy due to port related complications. HIPEC was done in two cases only. Five patients out of 47 cases (10%) had port related complications as back flow of fluid around the port site that occurred in two cases where one case was transient and the tube was removed due to malfunctioning in the other one. Infection at port site occurred in one case that was transient and peritoneal treatment was continued. Catheter displacement occurred in two cases that was transient in one case and was removed in the other case. Forty one patients (91.1%) out of 45 cases were disease free on follow up. Local recurrence occurred in 4 cases (8.8%).

Conclusion

Intraperitoneal chemotherapy in optimally cytoreduced stage III epithelial ovarian cancer is associated with high success with low recurrence. It is recommended to be adjuvant with HIPEC. It is associated with low complications.
VALUE AND BEST WAY FOR DETECTION OF SENTINEL LYMPH NODE IN ENDOMETRIAL CANCER: A SURGICAL ALGORITHM FOR LYMPHADENECTOMY

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Aims

We aim to evaluate the value and techniques for SLN mapping in early stage endometrial cancers and whether selective or systematic lymphadenectomy is needed.

Method

Between June 2016 and December 2016, 120 patients underwent surgical staging for early stage endometrial cancer. Patients were classified equally according to SLN mapping technique used. Group A included hysteroscopic guided intra-lesional methylene blue injection, Group B included transcervical injection, Group C included uterine subserosal injection and Group D included combined transcervical and subserosal injection. Blue nodes and enlarged ones were removed and frozen section was done then pelvic and lower para-aortic node dissection was done and sent for pathological examination. We evaluated the role of SLN according to relation of metastatic disease in blue and large nodes in relation to other ones.

Results

SLN count with metastatic disease was more with hysteroscopic technique than combined one. Large nodes with metastatic disease were lower than SLN.

Conclusion

SLN in endometrial cancer has no role due to multiple lymphatic drainage except if direct intra-lesion dye injection. Best technique is hysteroscopic guided injection. We recommended the following algorithm for lymphadenectomy. Systemic bilateral pelvic and lower para-aortic lymphadenectomy if no blue or large metastatic nodes. If positive blue or large nodes, same side lymphadenectomy is needed. If blue or large nodes are negative for metastasis, there is no role. This approach can help patients avoid the side effects associated with a complete lymphadenectomy.
LATE BREAKING

ESG07-1520

BRCA MUTATIONAL STATUS TO PERSONALIZE MANAGEMENT OF RECURRENT OVARIAN CANCER: A MULTICENTRE STUDY.

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Aims

To assess the correlation between BRCA mutational status and disease presentation at recurrence, treatment strategy, and post-recurrence survival in a large multicentre series of high grade serous ovarian cancer (HGSOC) patients.

Method

A consecutive series of 126 recurrent HGSOC patients, with full or partially platinum sensitive disease, tested for BRCA 1/2 germline mutational status. Women received surgery or chemotherapy according to disease spread and patient general health condition.

Results

Seventy-eight (62%) wild-type BRCA (BRCAwt), and 48 (38%) BRCA 1 or 2 mutation carriers (BRCAm) were analysed. Rates of partially and fully platinum-sensitive patients were superimposable between groups. Involvement of multiple anatomic sites and distribution of peritoneal carcinomatosis were also similar. Secondary cytoreductive surgery (SCS) was successfully completed in a larger group of BRCAm (67%) patients compared to BRCAwt (49%, p=0.06). With a median follow-up of 28 months, non-mutated patients showed a shorter median PRS, compared to BRCA carriers (60 months vs not reached; p= 0.01; Fig. 1), with 5-years PRS of 41% and 89%, respectively. In the subgroup of patients who received complete SCS, 5-years PRS was significantly longer in BRCAm compared with BRCAwt (92% vs 43%, p= 0.03). At multivariate analysis, BRCA germ-line mutational status was the only independent prognostic factor for duration of PRS after primary recurrence (p= 0.059).

Conclusion

BRCA mutational status is useful to find out an effective tailored treatment for recurrent HGSOC patients.
A RARE CASE OF MALIGNANT PERIPHERAL NERVE SHEATH TUMOR OF THE VAGINA

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²Charité Universitätsmedizin Berlin Campus Benjamin Franklin, Urology, Berlin, Germany

Aims

Malignant peripheral nerve sheath tumors (MPNSTs) are sarcomas, which originate from peripheral nerves or from cells associated with the nerve sheath, such as schwann cells, perineural cells, or fibroblasts. The incidence is 1 / 1 million people per year; the most common localizations are extremities, trunk, head and neck. MPNST arising from female external genitalia is extremely rare. There is only one published case from 2009 in Saudi Arabia.

Method

A 52-year-old- G0- female admitted to our hospital with complaint of rapidly growing mass located in the anterior vaginal wall. Our Patient had 1999 an early cervical cancer. She was treated by radical hysterectomy with R0 resection. Neither postoperative radiation nor chemotherapy had been performed.

Results

A biopsy of the mass showed MPNST of the vagina. The patient underwent removing of the mass as en bloc resection with clitoris and distal 2/3 of the urethra. There were no distal metastases. The Tumor was 2 cm and was classified as grade 2. After an additional resection, R0 status has been achieved. Immunohistochemistry: strong expression for S100, no expression of desmin und SMA. Proliferation rate (Ki 67) was 40%.

Conclusion

Due to rarity of the condition, there is no consensus about optimal treatment of MPNST. Currently the first step of treatment is surgical resection of the tumor with adequate clear margins. It is strongly recommended, that the cases of MPNST should be registered for appropriate data bank. Our patient is recruited for REGSA (German registry for gynecological sarcoma by Charité ).
LATE BREAKING

ESG07-1527

FUSION ULTRASOUND IN GYNECOLOGICAL MALIGNANCIES: A REAL-TIME VIRTUAL NAVIGATION IN PET/CT 3D VOLUMES FOR LYMPH NODE EVALUATION

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2Università Cattolica del Sacro Cuore, Nuclear Medicine, Rome, Italy

Aims

The fusion virtual navigation (FVN) is an advanced technology of the “precision oncology” that customize the diagnostic process by merging multimedia images from different standard methods. This pilot study evaluated the efficacy of the FVN to identify sonographically the 18F FDG-PET/CT suspicious lymph nodes in women with gynecological malignancies.

Method

From March to June 2017, 21 lymph nodal sites (13 inguinal, 5 pelvic and 3 axillary) were studied from 14 consecutive patients with vulvar (8), breast (3), uterine (2) and ovarian cancer (1) with PET/CT positive or suspicious and ultrasound uncertain lymph nodes. All exams were performed using the Virtual Navigator System software (by Esaote S.P.A., Genova). PET/CT scans were uploaded in DICOM format to the ecograph. A co-registration completed the synchronization, using the following landmark: 1) pubic symphysis (groin and pelvic lymph nodes) and 2) sternum xyphoid process (axillary nodes). PET/CT target lymph nodes were virtually marked and automatically reported during US navigation.

Results

The co-registration was successfully achieved for all the study sites and the FVN guide allowed to identify target lymph nodes in ultrasound. In 16 patients a FNA was performed under FVN guide: 5 negative were addressed to follow up; 11 positive underwent further treatment (3 surgical and 8 medical). 5 patients were directly addressed to surgery, after placement of a tissue marker clip under FVN guide to recognize the target nodes by intraoperative x-ray (3 negative and 2 positive).

Conclusion

FVN is a feasible complementary tool for target therapy, potentially avoiding unnecessary diagnostic surgeries and systemic treatments.
HEALTH-RELATED QUALITY OF LIFE (HRQOL) AND PATIENT-CENTRED OUTCOMES WITH OLAPARIB MAINTENANCE POST-CHEMOTHERAPY IN PATIENTS WITH GERMLINE BRCA-MUTATED PLATINUM-SENSITIVE RELAPSED SEROUS OVARIAN CANCER (PSR SOC)
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5University of California- Irvine, School of Medicine, Irvine- CA, USA
6Centre Francois Baclesse, Medical Oncology, Caen, France
7AstraZeneca, Patient-Reported Outcomes, Gothenburg, Sweden
8Institut Curie, Department of Medical Oncology, Paris, France
9The Christie and University of Manchester, Department of Medical Oncology, Manchester, United Kingdom
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12Tel Aviv University, Gynecologic Oncology Department- Sheba Medical Center, Tel Hashomer, Israel
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14Hospital Clinic, Global Oncology and Hematology, Barcelona, Spain
15Policlinico Universitario Agostino Gemelli, Gynaecology Oncology, Rome, Italy
16The Walter and Eliza Hall Institute of Medical Research, Stem Cells and Cancer, Parkville, Australia
17Istituto Oncologico Veneto, Division of Medical Oncology 2, Padova, Italy
18National Cancer Center Hospital, Department of Breast and Medical Oncology, Tokyo, Japan
19Université Paris Descartes- AP-HP, Medical Oncology Department, Paris, France

Aims

In the Phase III, randomized, double-blind, SOLO2 trial (ENGOT Ov-21; NCT01874353), maintenance olaparib after response to chemotherapy led to significant improvement in progression-free survival (PFS) versus placebo in patients with germline BRCA-mutated PSR SOC (hazard ratio 0.30, 95% CI 0.22, 0.41; P<0.0001; median 19.1 vs 5.5 months; 63% data maturity). Our a priori hypothesis was that maintenance olaparib would not impact HRQOL compared with placebo and would be associated with additional patient-centred benefits to support PFS prolongation (SOLO2 primary endpoint).

Method

HRQOL was evaluated by the Functional Assessment of Cancer Therapy-Ovarian Trial Outcome Index (FACT-O TOI) in all 295 patients. The primary HRQOL analysis was change from baseline in FACT-O TOI score during the first 12 months (mixed model repeated measures). Secondary planned analyses included duration of ‘good quality of life’ by time without symptoms of disease or toxicity (TWiST) and quality-adjusted PFS (QAPFS; a single measure of PFS and QoL outcomes).

Results

Olaparib had no significant detrimental effect versus placebo on HRQOL analysed by change from baseline in FACT-O TOI score (–3.1–2.9, respectively, difference [olaparib–placebo] –0.2; 95% CI –2.4, 2.1; P=0.88). TWIST (15.0/7.7 months, difference 7.3; 95% CI 4.7, 9.0; P<0.001) and QAPFS (mean 14.0/7.3 months, difference 6.7; 95% CI 5.0, 8.5; P<0.0001) significantly improved for olaparib patients.

Conclusion

Maintenance olaparib did not detrimentally impact HRQOL versus placebo. The significant improvement in PFS with olaparib was associated with additional patient-centred benefits, including a longer duration without symptoms of disease or treatment toxicity and longer QAPFS.
LATE BREAKING

ESGO7-1494

CLINICALLY SIGNIFICANT LONG-TERM MAINTENANCE TREATMENT WITH OLAPARIB IN PATIENTS WITH PLATINUM-SENSITIVE RELAPSED SEROUS OVARIAN CANCER (PSR SOC)

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1Prince of Wales Hospital, Department of Medical Oncology - University of New South Wales Clinical School, Randwick, Australia
2University of Edinburgh Cancer Research UK Centre - MRC IGMM, Medical Oncology, Edinburgh, United Kingdom
3Dana-Farber Cancer Institute, Gynecologic Oncology, Boston- MA, USA
4Orenburg Regional Clinical Oncological Dispensary, State Institute of Healthcare, Orenburg, Russia
5Hospital Tenon, Service d'oncologie medicale, Paris, France
6Royal Melbourne Hospital, Medical Oncology, Parkville, Australia
7Tel Aviv Sourasky Medical Center and Tel Aviv University, Department of Oncology and Sackler School of Medicine, Tel Aviv, Israel
8AstraZeneca, Oncology Global Medicines Development, Macclesfield, United Kingdom
9University College London, Department of Oncology- UCL Cancer Institute, London, United Kingdom

Aims

Olaparib (Lynparza), an oral PARP inhibitor, significantly improved progression-free survival versus placebo in patients with PSR SOC in a randomized, double-blind, Phase II study (Study 19, NCT00753545), with the greatest benefit in patients with BRCA1/2 mutations (BRCAm). Interim overall survival (OS) analysis also suggested an advantage for olaparib-treated patients (database cut-off: 30 September 2015). We report the final analysis of long-term olaparib benefit in patients enrolled in Study 19.

Method

Patients who had received ≥2 prior regimens of platinum-based chemotherapy and were in response received olaparib (400 mg bid; capsules) or placebo until disease progression. Retrospective germline or tumour testing resulted in a known BRCAm status for 254/265 patients (96%).

Results

At final database cut-off (9 May 2016), median OS follow-up was 78.0 months. A long-term treatment benefit was shown; see Table for the final hazard ratios (HRs) for OS versus placebo (unadjusted for crossover: 13% full-analysis set [FAS] placebo patients; 23% BRCAm subgroup placebo patients). Details of BRCA wild-type (BRCAwt) patients on treatment for ≥6 years will be presented. No new safety signals or changes in the olaparib tolerability profile were seen.

<table>
<thead>
<tr>
<th></th>
<th>FAS</th>
<th>BRCAm</th>
<th>BRCAwt</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>136</td>
<td>129</td>
<td>74</td>
</tr>
<tr>
<td>Patients on treatment at final database cut-off, n (%)</td>
<td>14 (10.3)</td>
<td>1 (0.8)</td>
<td>7 (9.5)</td>
</tr>
<tr>
<td>Patients on treatment for ≥6 years, n (%)</td>
<td>15 (11.0)</td>
<td>1 (0.8)</td>
<td>8 (10.8)</td>
</tr>
<tr>
<td>OS events, n (%)</td>
<td>96 (72.1)</td>
<td>112 (88.8)</td>
<td>49 (66.2)</td>
</tr>
<tr>
<td>Median OS, months</td>
<td>20.8</td>
<td>27.8</td>
<td>34.9</td>
</tr>
<tr>
<td>HR (95% CI)</td>
<td>0.73 (0.55-0.95)</td>
<td>0.52 (0.42-0.63)</td>
<td>0.84 (0.57-1.25)</td>
</tr>
<tr>
<td>Nominal P-value*</td>
<td>0.021</td>
<td>0.021</td>
<td>0.397</td>
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</tbody>
</table>

*P-value not considered statistically significant because of multiple testing.

Conclusion

Conclusions: This final analysis showed that olaparib provides clinically significant, long-term treatment benefit in patients with PSR SOC. A durable benefit was seen in ≥10% of BRCAm and BRCAwt patients, who continued to receive and benefit from olaparib for ≥6
years – unprecedented in the relapsed ovarian cancer setting. Olaparib was well tolerated in this population and the analysis suggested an olaparib benefit on OS in BRCAm patients.
PREDICTING RISK OF OVARIAN MALIGNANCY IMPROVED SCREENING AND EARLY DETECTION FEASIBILITY STUDY (PROMISE-FS)

Aims

To evaluate feasibility of undertaking a study to stratify a general population on the basis of their predicted ovarian cancer (OC) risk and offer risk management options of screening and prevention.

Method

Design: Multi-centre, prospective, pilot, cohort study (ISRCTN54246466).

Inclusion-criteria: Women ≥18 years.

Exclusion-criteria: Women with history of ovarian/tubal/primary peritoneal cancer or previous genetic testing for OC genes.

Recruitment: Through GP surgeries/primary care. Interested women will be directed to an online ‘Decision Aid’ and telephone help line. Consent will be obtained via telephone. Consenting individuals will provide a blood sample and complete questionnaires at baseline/post-recruitment/7 days/3 months/6 months post results.

Primary outcome: Acceptability and uptake.

Secondary outcomes: Use of helpline; satisfaction/regret; follow-up completion rate; risk perception; cancer worry; psychological health; quality of life (QoL); usefulness of decision aid; stratification of OC-risk category; uptake of risk management options.

Panel genetic testing looking for mutations in BRCA1/BRCA2/RAD51C/RAD51D/BRIP1/OC-SNPs will be performed. Genetic and epidemiological data will be used in a validated risk-algorithm to predict an individual’s lifetime OC-risk. Validated questionnaires will collect data on psychological health, QoL, satisfaction/regret; decision aid and helpline use. Intermediate-risk (≥5%<10% lifetime OC-risk) and high-risk (≥10% lifetime OC-risk) women will be offered options of OC screening (biomarker and USS) and prevention. Mutation carriers/increased risk women will be seen in a high-risk gynaecological cancer clinic and by clinical genetics.

Results

Study is currently in recruitment phase.

Conclusion

PROMISE-FS will help guide future research and planning of a larger study on population based testing and risk stratification for OC prevention.
LATE BREAKING

ESGO7-1417

THROMBOCYTOSIS AS A PROGNOSTIC MARKER IN PATIENTS WITH OVARIAN CARCINOMA

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Aims

The aim of our study was to determine the dependence of preoperative thrombocytosis and clinical stage in patients with ovarian carcinoma as well as the dependence on the serum level of CA 125.

Method

The study is one-central, retrospective for one year (2016-2017). Thirty two patients aged 35 to 81 years with histological (intraoperative and postoperative) ovarian carcinoma were included. All patients were subjected to total hysterectomy with ovaries and uterine tubes, omentectomy and pelvic and paraaortic lymph node dissection. Immediately prior to surgical intervention, laboratory tests were performed by platelet counts and CA 125.

Results

The mean age of patients was 58.43 years (35 to 81 years). In 27 patients, platelet counts were in baseline and platelet count was 5 (15.62%). All patients with thrombocytosis have a disseminated tumor process (III and IV stage according to FIGO). The distribution is as follows: III Stage - 3 (9.38%); IV Stage - 2 (6.25%). In 24 (75%) patients, elevations of tumor marker CA 125 were found, and in 8 (25%) it was in reference values. All patients with thrombocytosis have elevated tumor markers.

Conclusion

The presence of thrombocytosis in ovarian malignancies is associated with an advanced tumor process, a low degree of differentiation and extremely poor prognosis with respect to the treatment effect. The number of platelets prior to surgery may be a prognostic factor.
USEFULNESS OF THE SENTINEL LYMPH NODE BIOPSY IN PATIENTS WITH ENDOMETRIAL CANCER

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Aims

Analyze if sentinel lymph node biopsy could be considered as an efficient lymphatic assessment technique in cases of low and medium-risk endometrial cancer, reflecting the true status of the lymph region.

Method

35 patients with preoperative diagnosis of endometrial carcinoma type 1 were included. Day before surgery 99mTc-nanocolloid was injected in cervix and a SPECT/CT lymphoscintigraphy were carried out. Blue dye was injected at same location intraoperatively. A gamma probe was used to identify SNs. An intraoperative biopsy of SNs was performed. A complete pelvic lymphadenectomy was performed in all cases. Lymphadenectomies were analyzed by conventional techniques (H&E) while SNs were analyzed by ultrasection and immunohistochemistry techniques (ultrastaging).

Results

SN detection rate was 74.3%. False negative rate was 0%. Negative predictive value were 100%. There were no surgical complications resulting from sentinel node sampling. 88.9% of lymphadenectomies performed in low and medium-risk cases were negative.

Definitively, 22% of the patients presented a higher staging than the one supposed according to MRI and biopsy data. A discordance of 20% was recorded for biopsy and 58% for MRI.

The overall incidence of metastasis was 17.1%. By groups, was 13.3% at low risk, 8.3% at medium risk and 37.5% at high risk.

Ultrasataging techniques in SN increased 50% the detection of lymph node metastases.

Conclusion

SLN procedure is a safe and feasible method. It seems to increase the diagnostic accuracy of lymphatic status. Larger series are needed to obtain conclusions, however, the results being published allow us to be optimistic in this line of research.
LATE BREAKING
ESGO7-1422

FLABRA, FRONTLINE APPROACH FOR BRCA TESTING IN OVARIAN CANCER (OC) TREATMENT NAÏVE POPULATION. A LATIN AMERICA (LA) EPIDEMIOLOGIC STUDY


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Aims

Majority of OC cases are sporadic, but in approximately 17% germline mutations in BRCA1 or BRCA2 genes can be identified. While in breast cancer, several clinical factors can raise suspicion for an inherited susceptibility, this is not the case for OC. BRCA mutated OC has distinct clinical characteristics, increased sensibility to platinum and non-platinum drugs, and to DNA repair targeting agents like PARP inhibitors. Additionally, somatic BRCA mutations (BRCAm) could be identified in additional 6% patients. In many areas of the world, prevalence of germline BRCAm nor of additional somatic BRCAm has been well characterized. LA population is a paradigm of poly-ethnicity, with a mixture of Native, Spanish, Italian, Portuguese and Jewish ancestries.

Method

Archived tumor blocks will be used for BRCA testing in 480 patients diagnosed with OC within the last 120 days. After having provided consent, demographics, ethnicity and cancer family history, as well as data relevant to OC diagnosis, counseling approach, and treatment plan will be collected. Blood samples will also be analyzed in positive patients to determine if the mutation is from germline or somatic origin.

Results

We present the results of somatic and germline BRCAm prevalence from first 10% of the sample.

Conclusion

FLABRA is a multi-center, study designed to determine the prevalence of germline and somatic BRCAm in newly diagnosed OC patients, and to describe current counselling and treatment approach at front line with a new approach of starting BRCA testing in tumor, expanding the benefits of new therapeutic options and possible outcomes to more patients.
PROGNOSTIC VALUE OF DYNAMIC EVALUATION OF HE 4 IN PATIENTS WITH CA 125-NEGATIVE OVARIAN CANCER

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Aims

The aim of the work was to estimate the prognostic value of the HE4 marker in ovarian cancer patients with normal CA125 values after the 3rd cycle of chemotherapy.

Method

53 patients with I-IV stage ovarian cancer, who underwent primary cytoreductive surgery and 6 cycles of standard combination of platinum and taxane chemotherapy, were included in study groups. HE4 concentrations were measured before the start of treatment and each cycle and at the end of chemotherapy. The selection criterion for the study was CA125 <35 U/ml after 3 cycles of chemotherapy. In group 1 (n=24), values of HE4 after 3 cycles of chemotherapy were within the normal range, in group 2 (n=29) they exceeded the normal values. The follow-up period was 3 years. In 26 of 53 patients, tumor progression was diagnosed, 27 had remission.

Results

A statistically significant decrease in HE4 concentration was revealed (p<0.001). In group 1, one-year progression-free survival (PFS) was 100%; the three-year PFS was 80.8%. 39.6% of patients in group 2 progressed during the first year of follow-up, the three-year PFS was 29.4%. Statistically significant differences in one- and three-year PFS between the study groups (p=0.001 and p<0.001, respectively) were revealed, which allows to speak of an unfavorable prognosis in patients with normal CA125 and elevated HE4 after 3 cycles of chemotherapy.

Conclusion

Dynamic evaluation of the HE4 level might serve as a prognostic factor in patients with normal CA125 values after 3 cycles of chemotherapy.
LATE BREAKING

ESG07-1425

ANALYSIS OF ASSOCIATION OF OVERALL SURVIVAL IN STAGE III-IV OVARIAN CANCER WITH THE COMPLETENESS OF CYTOREDUCTIVE SURGERY

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Aims

The aim of the study was to analyze the relationship between the completeness of cytoreductive surgery and one-, three- and five-year overall survival (OS), and determine its prognostic significance in patients with stage III-IV ovarian cancer.

Method

119 patients with advanced ovarian cancer were included in this study: 102 patients with stage III and 17 patients with stage IV disease. Complete cytoreduction was achieved in group 1 (n = 50), optimal – in group 2 (n = 51) and suboptimal / non-optimal – in group 3 (n = 18).

Results

Analysis of the relationship between the completeness of cytoreduction and one-, three- and five-year OS in patients with stage III-IV ovarian cancer showed that one-year OS was 100% in group 1 and 2, an 92.9% in group 3. The three-year OS was 93.0% in group 1, 60.2% in group 2, and 66.1% in group 3. The five-year OS in the study groups was 60.7%, 47.4% and 36.7%, respectively. Statistically significant differences in the three- and five-year OS were revealed between groups 1 and 2 ($P_{log-rank} = 0.004$ and $P_{log-rank} < 0.038$, respectively) and between groups 1 and 3 ($P_{log-rank} = 0.043$ and $P_{log-rank} < 0.028$, respectively). Analysis of the one-year OS with regard to the completeness of cytoreduction in patients with stage III-IV ovarian cancer revealed no significant differences between the study groups.

Conclusion

This study revealed that completeness of cytoreductive surgery was crucial for OS and prognosis in patients with stage III-IV ovarian cancer.
LATE BREAKING

ESGO7-1436

DIFFERENCES IN ENDOMETRIAL CANCER MOLECULAR PORTRAITS BASED ON ETHNICITY IN THE CANCER GENOME ATLAS

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Aims

It is clear that racial/ethnic differences in endometrial cancer (EC) incidence, age at presentation and survival exist; however, it is unclear whether this disparity is driven by inherent genetic alterations in the primary tumour.

Method

We investigated the molecular features of EC using data in the TCGA, including somatic mutations, gene expression, DNA methylation and copy-number aberrations (CNAs) and contrasted them between BoAA, Caucasian and Asian women.

Results

There were 503 patients with EC, including 374 Caucasian, 109 Black or African American (BoAA), and 20 Asian patients. Asian women were more likely to be diagnosed at younger age ($P = 0.011$), whereas BoAAs were more likely to have serous type tumors ($P = 0.008$) and higher BMI ($P = 0.0008$). No difference in overall or disease-free survival was evident. Mutation and somatic copy number alteration (SCNA) analysis revealed an enrichment of $TP53$ mutations in BoAAs; whereas $POLE$ and $RPL22$ mutations were more frequent in Caucasians. We also found Asian women to harbour more than double the number of mutations per tumour. Major recurrent SCNA racial differences were observed at chr1q, chr8, chr10, and chr16, which distinguished BoAA tumours into 4 groups and Caucasian tumours into 5. Finally, we observed a significantly higher frequency of mutations in DNA mismatch repair genes associated with Lynch syndrome in Asians.

Conclusion

We have highlighted clinically-relevant molecular differences that intrinsically characterise EC racial disparities, potentially forming the basis for molecular targeted therapies, and also explaining why Asians are frequently diagnosed at an earlier age, potentiating future screening studies.
LATE BREAKING

ESG07-1435

CLINICAL EFFICACY ANALYSIS OF PREOPERATIVE NEOADJUVANT CHEMOTHERAPY WITH HIGH DOSE DENSE PACLITAXEL PLUS CISPLATIN IN STAGES IB2, IIA2, IIB CERVICAL CANCER IN IRAN

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Aims

The study was done to analyze the efficacy of the NACT with high dose-dense paclitaxel and cisplatin before radical surgery on cure rate, survival rate, and the progression of free survival rate of bulky tumor of cervical cancer in Stages IB2, IId A2, and IIB.

Method

Fifty-two patients with cervical cancer in Stages Ib2, IIA2, and IIB were selected, and responding patients to chemotherapy were scheduled to undergo radical hysterectomy and bilateral pelvic lymphadenectomy with or without para-aortic lymphadenectomy.

Results

Fifty out of 52 patients with a median age of 50 years were evaluable for clinical response. Thirty-two patients (64%) responded to the NACT including six (12%) with a complete clinical response. There was no statistical relationship between clinical response, tumor stage and size, and parametrical involvement, however, patients with higher grade of tumor, adenocarcinoma or tumor in upper 2/3 of vagina showed a higher probability of no response to chemotherapy. Downstaging after NACT in all stages was statistically significant regarding pathologic findings and clinical response (p = 0.002). Five-year survival was 88% and factors affecting survival and disease-free survival were pathological response and tumor site based on cox-regression analysis. Overall recurrence rate was 20% and tumor size was the only significant relevant factor for recurrence (p = 0.017).

Conclusion

Combined regimen of chemotherapy in locally advanced cervical cancer proved to be valuable and efficacious without any late complications.
LATE BREAKING

ESGO7-1529

COMPARATIVE MiRNA MICROARRAY PROFILING INDICATES MiR-363 PROMOTES CHEMoresistance IN OVARian CANCER CELLS BY TARGETING THE HIPPO MEMBER, LATS2

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Aims

To study the comparative microRNA profiling between the ovarian cancer cells, KF, and their taxane-resistant counterpart, KF-TX to get novel markers for ovarian cancer taxane-resistance.

Method

Microarray profiling was performed in KF and KF-TX cells. Quantitative-PCR was used to evaluate expression of miR-363 and LATS2 in ovarian cancer cells and tumor tissues. Plasmid-based expression was used to overexpress miR-363. MiR-363 inhibitor and siRNA transfection followed by viability were used to validate the relationship between miR-363 and LATS2. Viability assay, clonogenic assay and western analysis were used to validate the differential response of different clones to TX. Dual luciferase assay was used to validate that miR-363 targets LATS2

Results

qRT-PCR indicated that miR-363 was upregulated in KF-TX cells, while introducing miR-363 into sensitive ovarian cancer cells confers TX-resistance in the responsive cells. MiR-363 inhibitor restored the response to TX. In addition, miR-363 was found to bind to the 3′-UTR of LATS2 mRNA, confirming direct targeting to LATS2. RT-PCR-based evaluation of miR-363 in of human ovarian tumours revealed its upregulation in most of the tumour tissues identified as resistant, while downregulation of the same gene the tissues identified as sensitive ones. Moreover, higher levels of miR-363 in human ovarian cancer specimens were significantly correlated with TX chemoresistance and poor prognosis.

Conclusion

Our study concludes that miR-363 is associated with TX-resistance. Targeting miR-363 may sensitize chemoresistant ovarian cancer to taxane.
BRUSH CYTOLOGY OF THE FALLOPIAN TUBE FIMBRIA AND ITS CORRELATION WITH THE HISTOLOGY OF HIGH GRADE SEROUS CARCINOMA IN FALLOPIAN TUBE

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Aims

Recent studies show that a significant percentage of high grade serous carcinoma (HGSC) arises in the fimbria of the fallopian tube (FT). Stage of the disease is a crucial prognostic factor and there is still no reliable tool for early detection available. The aim of this study is to evaluate cellularity, cytomorphology and immunocytochemistry of brush cytology from FT with respect to histologically proved tubal HGSC.

Method

Prospectively, consecutively cells were sampled via cytobrush from the fimbria of surgically removed FT. Cellularity (inadequate/low/moderate/high), cytomorphology (anisonucleosis, small or large nucleolus, hyperchromasia, mesothelial-like sheets and three dimensional clusters of cells) were evaluated in liquid based cytology samples. Immunocytochemistry using p53, Ki67 antibodies were evaluated. Final results were classified as benign, suspicious and malignant. FTs were sampled with the SEE-FIM protocol. Local ethical committee approved study and informed consent was signed by all patients.

Results

We examined 135 FTs from 90 patients. Sufficient cellularity was presented in 98.5% of samples. Tubal HGSC was histologically diagnosed in 13 patients. Cytology was evaluated in nine samples as malignant, in two as suspicious, in one as benign and one was non-diagnostic. Atypical p53 expression was established in 9 samples and high Ki67 index in 8 samples among 11 malignant or suspicious cytology cases.

Conclusion

Study demonstrates excellent cellularity of FT cytology as well as very good correlation between cytomorphology and immunocytochemistry with histology of HGSC in FT. Our findings support further research of FT brush cytology in early detection of HGSC using for instance hysteroscopy.
LATE BREAKING

ESG07-1524

MASPIN EXPRESSION IN CERVICAL DYSPLASIA AND CERVICAL CANCER, AND ITS RELATION WITH SURVIVAL OF THE DISEASE

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Aims

Mammary serine protease inhibitor (maspin), acts as a tumor suppressor through the inhibition of cancer cell invasion and metastasis. Paradoxically, maspin levels are increased in some types of malignant cells. This would be related with the specific microenvironment of carcinoma cells and also about the genetic background. The aim of this study was to investigate the maspin expression in cervical dysplasia and cancer, and also to analyse the relation with survival.

Method

Maspin expression was assessed by immunohistochemistry (IHC), and labelled streptavidin biotin method (LSAB) was used to determine cytoplasmic and nuclear maspin expressions, respectively, in 30 cases of cervical intraepithelial neoplasia grade 1 (CIN1), 30 cases of CIN2, 30 cases of CIN3, and 29 cases of cervical cancer.

Results

Maspin expression was detected in only seven patients of all patients with cervical intraepithelial neoplasia (n=90). In patients with cervical cancer, maspin expression was detected in 20 patients. No significant relation was noted between maspin expression and overall survival rates of the patients with cervical cancer (p=0.19). Contrast to this we detected significant correlation with nuclear maspin staining and overall survival (p=0.03, Figure 1).

Conclusion

There are very few studies about maspin and cervical cancer in the literature. This study shows that nuclear maspin expression is related to survival rates in cervical cancer. Further series will clarify the role of maspin expression in cervical cancer.
EVALUATION OF UTILITY OF SOLUBLE MESOTHELIN-RELATED PEPTIDE AND FOLATE RECEPTOR ALPHA IN DIAGNOSIS OF OVARIAN CANCER
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Aims

Despite well-established position of Human Epididymis Protein 4 (HE4) and Risk of Ovarian Malignancy Algorithm (ROMA) in diagnosis of adnexal tumors, still large effort is made to discover new potential biomarkers of ovarian cancer. The purpose of the study was to evaluate the utility of Soluble Mesothelin-Related Peptide (SMRP) and Folate Receptor Alpha (FRA) in diagnosis of ovarian cancer.

Method

Serum samples were collected from 107 patients qualified for surgery due to pelvic mass (68 pre- and 39 postmenopausal). 33 of them suffered from ovarian cancer, 74 had benign ovarian tumors. Samples were analyzed to determine the levels of SMRP and FRA. Finally, results were compared with histological outcome of tumors, taken during surgery.

Results

The levels of FRA were significantly higher in sera of women suffering from ovarian cancer compared with patients with benign disease, when the groups of all patients (p=0.0003) and postmenopausal patients (p=0.001) were considered. Concentrations of FRA in sera of patients with serous ovarian cancer were significantly higher than in other histopathological types of ovarian cancer. In premenopausal group, FRA levels did not differ between patients with malignant and benign tumors. As far as SMRP is concerned, its concentrations in sera showed no relevant difference between patients with ovarian cancer and benign disease (p=0.1104).

Conclusion

FRA shows elevated levels in sera of patients with ovarian cancer (especially serous type). Therefore, it reveals some potential to become a biomarker of ovarian malignancy. SMRP did not prove its utility in the diagnosis of ovarian cancer.
LATE BREAKING

ESGO7-1497

SENTINEL LYMPH NODE DETECTION IN VULVAR CANCER BY USING MAGNETISATION OF THE IRON OXIDE PARTICLES
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Aims

Aim of this abstract is to show the feasibility of the new sentinel lymph nodes detection system in a vulvar cancer by using magnetic susceptometry, generating a magnetic field which transiently magnetises the iron oxide particles in comparison to the method when radioisotope with gamma probe is used.

Method

We have used two systems, standard lymphatic mapping with radioisotope and also the magnetic susceptometry system in a radical vulvectomy to detect sentinel lymph nodes. During the inguinal lymphadenectomy sentinel lymph nodes were preferably identified with magnetic susceptometry system. The gamma probe was used only at the end of the surgery to verify whether all sentinel lymph nodes had been harvested.

Results

The results by the use of a magnetic susceptometry system in comparison to the standard method with a radioisotope and a gamma probe would most likely be identical. The sentinel lymph node with the highest magnetic value ex vivo was the same node as the one with the highest radioactivity.

Conclusion

The magnetic detection method of the sentinel lymph nodes seems to be feasible and safe. It is necessary to compare the method to standard procedures of sentinel lymph node detection. The magnetic susceptometry system could potentially be used in cases when the nuclear medicine department is not available or when blue dye could not be used.
A case report of primary small cell ovarian carcinoma of pulmonary type

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Aims

Primary small cell ovarian cancer of pulmonary type (SCCOPT), is a highly aggressive tumor with an incidence of less than 1% of all ovarian cancers. A preoperative diagnosis is usually not obtained and is commonly interpreted as an epithelial ovarian cancer at presentation. To date, only 8 cases of “pure” primary SCCOPT have been reported in literature.

Method

We report a case of a 77-year old Caucasian woman who presented initially with a one-week history of abdominal discomfort. Blood tests were normal apart from slightly raised inflammatory markers and Ca125 of 50 u/ml. Calcium levels were normal. The RMI was found to be 450, hence a CT of the chest-abdomen-pelvis was performed and discussed at the MDT meeting (Figure 1). As there was no evidence of disease beyond pelvis, with no lymphadenopathy, upfront surgery was performed in a gynaecologic oncology center. Total abdominal hysterectomy with bilateral salpingo-oophorectomy and omentectomy was performed uneventfully.

Results

Histology showed a tumour comprising areas of classical small-cell carcinoma morphology, showing cells with scant cytoplasm, stippled chromatin and nuclear moulding (Figure 2). However, other areas of the tumour were comprised of spindled cells and epithelioid cells with more abundant cytoplasm. Immunohistochemistry showed that the lesion was positive with the neuroendocrine markers CD56 and PGP 9.5, and showed dot-like positivity with the cytokeratin EMA, including in the spindled and epithelioid components.
Conclusion

There is no clear consensus for management and optimal regime for postoperative chemotherapy. In general, adjuvant chemotherapy with carboplatin and etoposide combination is offered.
IS TOTAL LAPAROSCOPIC HYSTERECTOMY AN ACCEPTABLE OPTION FOR THE TREATMENT OF EARLY STAGE ENDOMETRIAL CANCER?

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Aims

To assess the frequency and types of complications experienced by women undergoing TLH. We performed an analysis of complications associated with total laparoscopic hysterectomy (TLH) for early stage endometrial cancer in a cancer unit in the UK.

Method

We conducted a retrospective analysis of women who had undergone surgery for endometrial cancer, specifically looking at those women who had TLH as the primary procedure or conversion from TLH.

We assessed the number of women who had an operative procedure that started as a TLH, we assessed the number of procedures converted to laparotomy and any other complications experienced.

The women were then followed up at eight weeks post operatively and then after one year with a telephone consultation.

Results

Over an eighteen month period, 31 women had their procedure listed as TLH. The average age was 51 years. There were no entry complications at laparoscopy. Five procedures were converted to laparotomy due to adhesions from previous surgery in four cases and haemorrhage in one case.

Post operatively two women complained of umbilical pain that resolved months after their procedures.

28% of women could not be contacted by phone.

Conclusion

A small number of women experienced complications which increased their hospital stay and post operative recovery.

From our study the results suggest, that for the majority of patients, TLH to treat early stage endometrial cancer is indeed an acceptable option.
**Aims**

The objective of this study was to assess the knowledge of Cervical Cancer transmission, prevention and HPV vaccine among mothers of daughters aged below 10 years.

**Method**

A cross sectional descriptive study has been conducted among the mothers of daughters aged below 10 years, live in the Mohakhali ‘Sat Tola’ slum area of Dhaka city. The pre-tested questionnaire was used to collect information from the respondents by face to face interview at house-hold level. Convenient sampling technique was used to select the sample. The sample size was 100 in number. The total questions on knowledge was 22. Knowledge score was divided into 3 category: poor, average and good knowledge.

**Results**

Majority respondents’ age was 21 to 29 years. Respondent’s mean age at marriage was 15 years and mean age was 17 years when their first child born. The respondents’ mean knowledge score was 7.19 out of 22. In total, 55% respondents had poor knowledge, 45% respondents had average knowledge and 2% respondents had good knowledge. Among them 98% respondents heard about cancer, 77% respondents heard about Cervical Cancer, 8% respondents knew about sign and symptom and only 2% respondents knew the causes of Cervical Cancer. Around 18% respondents heard about HPV vaccine but nobody knew in which age this vaccine should be administered.

**Conclusion**

The knowledge of Cervical Cancer transmission, prevention and HPV vaccination among mothers who live in slum of Dhaka city is poor. Providing knowledge to these mothers is essential.
LATE BREAKING
ESGO7-1442

AGE-RELATED SPECIFICITIES OF ENDOMETRIAL PROLIFERATION/STEM CELL INDEX DISTRIBUTION
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Aims

The aim of our study was to explore the age-related specificities of endometrial proliferative/stem cell index distribution under normal and hyperplasia conditions. The detection of the relationship between stem cell distribution specificities and proliferative activity under the age norm and endometrial hyperplasia can become one of the assisting diagnostic criterion in morphology diagnostic algorithm.

Method

The study represents a retrospective research. 2 study groups “Norm” and “Endometrial Hyperplasia” (30 cases) were selected from material data of Acad. N. Kipshidze Central University Clinic. HE technology and immunohistochemistry with proliferation marker ki67 and stem cell marker CD146 was performed. The proliferative/stem cell index was calculated by the ratio of Ki67-positive cell percentage value divided by CD146-positive cell percentage value.

Results

In the study group “Norm” the proliferative/stem cell index ranges within the interval 8-16.5 and in the study group “Endometrial Hyperplasia” within the interval 15-23. Its mean average value in the age distribution subgroups accounts for: 1.1) reproductive age – 10.6; 1.2) menopause – 4.5; 1.3) post-menopause – 1, 2.1) reproductive age – 18; 2.2) menopause – 18.2; 2.3) post-menopause – 18.5.

Conclusion

The proliferative/stem cell index in the study group “Norm” progressively decreases with aging, while in the study group “Endometrial Hyperplasia” it behaves opposite and increases with age. Moreover, the proliferative/stem cell index in endometrial hyperplasia cases with regard to norm increases significantly and most markedly differs from the norm in post-menopause period.

Project was supported by scientific grant PhDF2016_42 for PhD scholarships of Shota Rustaveli National Science Foundation.
ATTITUDE AND INTENTION OF HPV VACCINATION AMONG KOREAN UNIVERSITY STUDENTS

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Aims

This study is aimed to examine the attitude toward the HPV vaccination to prevent cervical cancer and intention to receive the vaccine against HPV in Korean university students.

Method

Convenient sample of 273 students was recruited in one university. Self administered questionnaire was used to collect the data. Attitude toward HPV vaccine consisted of 3 items for measuring related beneficial effects and safety concern and the intention to receive the HPV vaccination was measured with 6 items. Descriptive statistics were analyzed using SPSS statistical package.

Results

The mean ages of the students were 20.51±0.82 years. 25.4% responded as they had heard about HPV. 67.0% responded as both men and women are necessary to be vaccinated. Relatively Korean students perceived that the HPV vaccine would be effective for preventing their cervical cancer. In regard to the intention to receive the HPV vaccine, the role of health professional's recommendation was highly perceived (3.77±0.89; maximum 5.0)

Conclusion

To promote HPV vaccination among Korean university students, nurses' and doctors' influences should be reinforced. Still awareness about HPV should also increased in the university setting.

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CLEAR CELL CARCINOMA ARISING FROM ABDOMINAL WALL ENDOMETRIOSIS WITH LYMPH NODE METASTASIS – A RARE CASE REPORT AND REVIEW OF THE LITERATURE.

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Aims

Abdominal wall endometriosis represents 1-2% of all endometriotic lesions. The malignant transformation of abdominal wall endometriosis is rare, though it can occur. Herein we report a rare case of clear cell adenocarcinoma arising from abdominal wall endometriosis with extensive lymph node metastasis.

Method

In this case, a 51-year-old woman presented with a growing mass in the right periumbilical area. Computed tomography scan revealed a 5 cm-sized solid mass located on the right rectus muscle.

Results

A punch biopsy of the abdominal lesion was performed and histology showed metastatic adenocarcinoma of unknown origin. She had a surgical history of laparoscopic subtotal hysterectomy with right salpingo-oophorectomy. The patient underwent radical excision of the mass, trachelectomy, left salpingo-oophorectomy, and lymph node dissection. The abdominal wall mass showed clear cell adenocarcinoma arising from endometriosis on histology. There were extensive lymph node metastases. The patient underwent adjuvant chemotherapy.

Conclusion

Both lymphatic and local invasion are key routes of clear cell adenocarcinoma arising from abdominal wall endometriosis. Extensive lymph node metastasis could be associated with poor prognosis.
COMPLETE CLINICAL REMISSION OF STAGE IV BREAST CANCER WITH BONE AND LYMPH NODE METASTASIS COMBINING LOW-DOSE CHECKPOINT INHIBITORS WITH INTERLEUKIN-2 (IL-2) AND FEVER RANGE HYPERTHERMIA

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Aims

Locally advanced stage inoperable metastatic breast cancer has a poor prognosis.

Method

FD: 09/2016 the 65y female noticed the tumor 10 years ago. She first presented in 09/2016 with massive fungating exulcerating right breast carcinoma deeply infiltrating the anterior right chest wall with metastatic right axillary lymph adenopathy and metastasis to the right iliac bone and vertebral body L5 and T8. Tru-Cut biopsy revealed invasive ductal carcinoma of no special type, G3, cT4 N1 M1 (bone), ER 100% and PR 40% positive, Ki–67 19%, HER-2/NEU (c-erbB-2) neg. confirmed by FISH, Score 2+: the cancer was luminal A, EGFR neg., Tp53 neg., AR neg., PD-L1 and CTLA-4 overexpressed, CA 15-3 was elevated at 42 kU/l. She underwent emergency palliative radiation 5 x between in 11/2016 with 25 Gy TD at 5 Gy SD; she then underwent immunotherapy as described previously combining low-dose checkpoint inhibitor ipilimumab–nivolumab in combination with low dose interleukin (IL-2) treatment parallel to local regional and whole-body hyperthermia. Additionally low-dose metronomic chemotherapy was performed twice combining gemcitabine (800mg/m2) and vinorelbine (30mg/m2).

Results

Restaging at the end of 01/2017 performed with clinical examination, bone scintigram, and CT thorax/abdomen and full laboratory workup proved complete remission of the primary large fungating breast cancer, complete remission of bone metastasis and massive shrinkage of lymphadenopathy with normal tumour markers. Current (09/2017) follow-up time 13 months. Photo documentation will be presented.

Conclusion

This unexpected remission of advanced metastatic breast cancer following immunotherapy including low-dose checkpoint inhibitors, hyperthermia and metronomic chemoradiation therapy warrants further clinical studies.
FINAL VALIDATION OF ProMisE MOLECULAR CLASSIFIER IN A LARGE POPULATION BASED SERIES: NEW ERA IN ENDOMETRIAL CARCINOMA DIAGNOSIS AND TREATMENT.

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Aims

Based on The Cancer Genome Atlas, we previously developed and confirmed a pragmatic molecular classifier for endometrial cancers; ProMisE (Proactive Molecular Risk Classifier for Endometrial Cancer). ProMisE identifies four prognostically distinct molecular subtypes, and can be applied to diagnostic specimens (biopsy/curettings), enabling earlier informed decision-making. We have strictly adhered to the Institute of Medicine (IOM) guidelines for the development of genomic biomarkers, and herein present the final validation step of a locked-down classifier prior to clinical application.

Method

We assessed a large retrospective cohort of women from the Tübingen University Women’s Hospital treated for endometrial carcinoma between 2003-13. Primary outcomes of overall, disease-specific and progression-free survival were evaluated for clinical, pathological, and molecular features.

Results

Complete clinical and molecular data were evaluable from 452 women. Patient age ranged from 29–93 (median 65) years, and 87.8% cases were endometrioid histotype. Grade distribution included G1 (n=282), G2 (n=75), and G3 (n=95) tumors. 276 patients had stage IA disease, with the remaining stage IB (n=89), stage II (n=26), and stage III/IV (n=61). ProMisE was a prognostic marker for progression-free (p=0.001) and disease-specific (p=0.03) survival even after adjusting for known risk factors.

Conclusion

We have developed, confirmed and now validated a pragmatic molecular classification tool (ProMisE) that provides consistent categorization of tumors and identifies four distinct prognostic molecular subtypes. ProMisE can be applied to diagnostic samples and thus could be used to inform surgical procedure(s) and/or need for adjuvant therapy. Based on the IOM guidelines this classifier is now ready for clinical evaluation through prospective clinical trials.

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AMYLOIDOSIS ASSOCIATED WITH MULTIPLE MYELOMA MIMICKING PERITONEAL CARCINOMATOSIS: A VERY UNUSUAL CASE REPORT

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Aims

Background: Extracellular deposition of fibrous protein in various tissues and organs is defined as amyloidosis. It has a coincidence with multiple myeloma in approximately 12-15% of cases. Omental amyloidosis is very uncommon, and a small number of cases of omental amyloidosis associated with multiple myeloma (MM) have been reported.

Case Report: We reported a 61-year-old woman with omental amyloidosis associated with multiple myeloma who presented with abdominal ascites and pleural effusion as initial symptoms. Patient was diagnosed as peritoneal carcinomatosis with elevated CA 125 levels at first evaluation. Exploratory laparotomy was performed. Histopathological examination revealed omental amyloidosis. Postoperative systematic assessment of amyloidosis was relevant with MM after the bone marrow biopsy which was performed and evaluated by hematology department which in turn explained the unusual accumulation of amyloid in omentum.

Method

Figure Legend:

Fig1. Axial upper abdominal CT without intravenous contrast medium demonstrating intraabdominal ascites (red arrow), pleural effusion at the right side of the lung (black arrow) and diffuse infiltrative omental mass (white arrow).

Fig2. Macroscopic appearance of the omentectomy specimen.

Fig3. Amorphous and homogenous eosinophilic material accumulation around the vessel wall and adipose tissue, Hex200.

Fig4. Positive staining of the amorphous material with Congo red, x200.

Results

this is a case report

Conclusion

In this report we represented a very unusual case; omental amyloidosis with abdominal ascites and pleural effusion associated with MM that can be confused with peritoneal carcinomatosis. We should keep in mind the possibility of amyloidosis in the differential diagnosis of abdominal ascites and pleural effusion.
LATE BREAKING

ESGO7-1507

THE ROLE OF COLPOSCOPIC INDEXES IN THE PREDICTION OF CERVICAL DYSPLASIA

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Aims

Colposcopic scoring indexes provide an objective tool in the diagnosis of uterine cervix pathologies. The basic systems include Reid colposcopic index with its variants and the Swede score as the latest modality. The aim of our study was to evaluate the relevance of both indexes in the prediction of CIN2+ lesions.

Method

We included 386 patients who underwent a colposcopic examination because of a suspicious cytological result: ASCUS - 77 (19.9%), LSIL - 182 (47.1%), ASC-H - 39 (10.1%) - 71 (18.4%) and AGC - 17 (4.4%). HPV status was verified by the Hybrid Capture 2 test and the colposcopic finding was evaluated based on the Reid index and the Swede score for each patient. Pregnant patients and patients after surgery on the uterine cervix were excluded from the study.

Results

Reid colposcopic index with the cut off value ≥ 2 showed excellent parameters for the detection of CIN2+ lesions: sensitivity 90.78%, specificity 82.04%, PPV 74.42% and NPV 93.92%. Swede score with cut off value ≥ 4 achieved comparable results: sensitivity 88.65%, specificity 89.39%, PPV 82.79%, NPV 93.19%. The HPV DNA assay showed excellent sensitivity: 96.1%, but low specificity (30.0%) for the detection of CIN2+ lesions.

Conclusion

Swede score showed in our study the best combined sensitivity and specificity for CIN2+ lesion detection. Both scoring systems, however, confirmed a high efficiency in differential diagnosis of cervical pathologies. The accuracy of non-invasive screening for cervical dysplasia can be enhanced by combining the colposcopic examination with molecular markers.
LATE BREAKING

ESGO7-1415

OVARIAN CANCER CELLS SHOW ENHANCED RESPONSE TO THE NOVEL FGFR INHIBITOR CPL-304-110

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Aims

No selective inhibitor targeting Fibroblast growth factor receptor (FGFR) tyrosine kinases has been clinically approved, so far, although few are tested in preclinical and clinical studies. A novel selective FGFR inhibitor, CPL-304-110, was recently synthesized by Celon Pharma S.A. We tested this inhibitor against several ovarian cancer cell lines.

Method

Commercially available ovarian cancer cell lines (A2780, ES2, OAW42, OVCAR3, SKOV3) and our own newly established OVPA8 line, were used. CPL-304-110 was tested in the 0.0001–10 µM concentrations, for 72 hours, and compared to the control inhibitor AZD4547. Cell viability was determined using AlamarBlue assay (data analysis: GraphPad Prism).

Results

Ovarian cancer cell lines were much more sensitive to the novel CPL-304-110 inhibitor (IC50 between 0.98 – 3.51 uM) than to the control inhibitor (IC50: 7.66 – 14.88 uM). SKOV3 cells were the most sensitive (IC50 0.98 uM for CPL304-110, 7.66 uM for control inhibitor). Most sensitive cell lines from other cancers had following IC50 values: gastric line SNU-16: 0.21 nM and 0.09 nM, respectively; lung line DMS114: 0.063 uM and 0.043; bladder line UM-UC-14: 0.031 uM and 0.094 uM.

Conclusion

Although some cell lines derived from other cancers show greater sensitivity against both inhibitors, in the ovarian cancer cell lines we observed evident trend toward enhanced efficacy of our novel FGFR inhibitor over the control one. This suggests that FGFR inhibitor effective against ovarian cancer can be synthesized.

Acknowledgments

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LSF EXPRESSION IN HPV-POSITIVE CERVICAL CANCER AND ENDOMETRIAL CANCER

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Aims

The transcription factor LSF is expressed in a variety of tissues and is involved in many biological processes such as: regulation of cellular and viral promoters, cell cycle, and DNA synthesis. The LSF modulates expression of specific genes which regulate invasion of cancer, angiogenesis, chemoresistance, and senescence. Its overexpression was detected in human hepatocellular carcinoma (HCC) and during colorectal cancer (CRC) tumorigenesis and progression.

The aim of the present study was to analyze mRNA level of LSF transcription factor in HPV dependent cervical cancer and endometrial cancer. RNA was isolated from cervical cancer cells, endometrial cancer cells, and non-cancer cells collected from patients undergoing gynecological surgical procedures.

Method

Total RNA (1 µg) was reversely transcribed to cDNA and used as a template in quantitative polymerase chain reaction (qPCR). qPCR was performed using SYBR Green PCR master mix and appropriate primers. Glyceraldehyde-3-phosphate dehydrogenase (GAPDH) was used as a reference gene.

Results

qPCR analysis showed elevated expression of LSF mRNA in HPV-dependent cervical cancers compared to endometrial cancers. The increased expression of LSF gene was particularly observed during cervical cancer progression.

Conclusion

The further studies are needed to clarify the mechanism by which LSF can be involved in the development of studied cancers.
PHYSICAL ACTIVITY DURING ADOLESCENCE AND YOUNG ADULTHOOD AND THE RISK OF BREAST CANCER IN BRCA1 AND BRCA2 MUTATION CARRIERS

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Aims

Physical activity is inversely associated with the risk of pre- and postmenopausal breast cancer among women in the general population and remains one of the most important modifiable risk factors. It is not clear whether or not physical activity is associated with the risk of breast cancer among BRCA mutation carriers.

Method

We conducted a case-control study of 1,413 BRCA mutation carriers. Detailed information regarding physical activity from ages 12-13, 14-17, 18-22, 23-29 and 30-34 was collected by questionnaire. Multivariate logistic regression analysis was used to estimate the odds ratios (OR) and 95% confidence intervals (CI) of physical activity and breast cancer risk. Analyses were stratified by menopausal status at breast cancer diagnosis and BRCA mutation type.

Results

Moderate-intensity exercise between ages 12-17 was associated with a 36% decreased risk of premenopausal breast cancer (highest vs. lowest quartile, OR=0.64; 95% CI 0.44-0.92; P-trend=0.006) and moderate-intensity exercise from ages 18-22 was associated with a 39% decreased risk of premenopausal breast cancer (highest vs. lowest quartile, OR=0.61; 95% CI 0.41-0.90, P-trend=0.013). Strenuous physical activity from ages 23-29 was associated with a 33% decreased risk of premenopausal breast cancer (2nd highest vs. lowest quartile, OR=0.66, 95% CI 0.45-0.98, P=0.041, P-trend=0.16). Physical activity was not associated with the risk of postmenopausal breast cancer risk (P>0.09). The associations did not vary by BRCA mutation type.

Conclusion

These findings suggest that physical activity during adolescence and early adulthood is associated with a reduced risk of premenopausal breast cancer among BRCA mutation carriers. Future prospective analyses are warranted.
A PHASE IIA STUDY OF TISOTUMAB VEDOTIN ((HuMax®-TF-ADC) IN PATIENTS WITH RELAPSED, RECURRENT AND/OR METASTATIC CERVICAL CANCER: UPDATED SAFETY AND EFFICACY


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Aims

There are limited therapeutic options for patients (pts) with advanced/metastatic cervical cancer. Tisotumab vedotin (Tv) is an antibody-drug conjugate (ADC) composed of a Tissue Factor human IgG1 monoclonal antibody conjugated to a microtubule disrupting agent Monomethyl Auristatin E (MMAE), tested in the Ph I/IIa dose-escalation study (NCT02001623) in pts with locally advanced and/or metastatic solid tumors. Preliminary results from the cervical expansion cohort were presented at ESMO 2017. Updated safety and efficacy including PFS and ORR by central imaging will be presented.

Method

Key eligibility criteria include previously treated advanced/metastatic cervical cancer, adequate organ function and ECOG 0-1. Tv 2.0 mg/kg q3w was administered until progression, toxicity, or withdrawal. Efficacy and toxicity were assessed according to RECIST 1.1 and CTCAE 4.03.

Results

34 pts with advanced cervical cancer were enrolled. Median age 43 (21-73) and median prior lines 2 (0-4). Prior treatment consisted of platinum (91%), taxane (91%), bevacizumab (71%). 17 pts (50%) experienced Gr 3 TEAE(s) related to GI (7 pts), anemia (3 pts), infections (2 pts), neuropathy (3 pts), bleeding (3 pts), conjunctivitis (1 pt), other (11 pts). No Gr 4 or 5 AEs were reported. The response rate was 32%, including 9 confirmed responses. Median DOR was 8.3 months in the confirmed responders. Response by central imaging and PFS will be available at the time of presentation.

Conclusion

Preliminary data demonstrated a manageable safety profile and encouraging efficacy in previously treated, advanced/recurrent cervical cancer. These data warrant further investigation of tisotumab vedotin in previously treated recurrent/advanced cervical cancer.
RIEL3: PHASE 3, RANDOMISED, DOUBLE-BLIND STUDY OF RUCAPARIB VS PLACEBO FOLLOWING RESPONSE TO PLATINUM-BASED CHEMOTHERAPY FOR RECURRENT OVARIAN CARCINOMA (OC)


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18The University of Texas MD Anderson Cancer Center, Department of Gynecologic Oncology and Reproductive Medicine, Houston, USA

Aims

ARIEL3 (NCT01968213) evaluated rucaparib vs placebo as maintenance treatment in patients with recurrent platinum-sensitive OC.

Method

Eligibility: ≥2 prior platinum-based therapies, platinum-sensitive OC (progressive disease [PD] ≥6 months after penultimate platinum), complete (RECIST v1.1) or partial response (RECIST v1.1 or GCIG CA-125 criteria) to most recent platinum, and CA-125 less than the upper limit of normal. Patients were randomised 2:1 to oral rucaparib 600 mg BID or placebo. Investigator-assessed progression-free survival (PFS) (primary endpoint) was assessed in a step-down procedure for 3 nested groups: (1) BRCA mutant (germline or somatic BRCA mutation); (2) homologous recombination deficient (BRCA mutant or BRCA wild type/loss of heterozygosity [LOH] high); and (3) intent-to-treat (ITT) population. PFS was also assessed by blinded independent central review (key secondary endpoint) and in subgroups of the ITT population (exploratory endpoint).

Results

ARIEL3 enrolled 564 patients (375, rucaparib; 189, placebo). PFS data are summarised in the Figure. The most common grade ≥3 treatment-emergent adverse events (TEAEs) were anaemia (18.8%, rucaparib; 0.5%, placebo) and alanine/aspartate aminotransferase increase (10.5%; 0%). As of 15 Apr 2017, 13.4% (rucaparib) and 1.6% (placebo) of patients discontinued due to TEAEs (excluding PD);
1.6% and 1.1% of patients died due to AEs (including PD).

**Conclusion**

Rucaparib significantly improved PFS vs placebo in all primary analysis groups, including the ITT patient population.
CLEAR CELLS ADENOCARCINOMA OF CÉRVIX

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Aims

Cervix adenocarcinoma accounts for 10% to 20% of cervical carcinomas. Clear cell cervical adenocarcinoma (ACCC) usually occurs around age 50, and is rare in young women. Intrauterine exposure to diethylstilbestrol (DES) is one of the most frequently cited causes in the literature for the etiology of the disease in young patients (75% of cases). In early stages, it has a favorable prognosis. A notable difference between that of clear cells compared to the rest is that the vast majority are endophytic and tend to have deep infiltration of the cervix; they also tend to spread to the uterine body more frequently than other carcinomas.

Method


In surgery as a first step, the identification of 5 colored sentinel lymph nodes (2 right hypogastric and 3 left) is performed (through the use of patent blue), in addition to bilateral classic lymphadenectomy; as a second step, and with absence of lymphatic involvement in the intraoperative, abdominal radical trachelectomy is performed with preservation of uterine arteries and superior pedicles.

Results

Expectant control is decided, without adyuvancia therapy.

After 8 years of surgery, the patient is free of disease and normal menstrual cycles.

Conclusion

CONCLUSIONS: conservative surgery of fertility has become an important option to consider in cases of young patients with unsatisfied fertility.
**LATE BREAKING**

ESGO7-1470

**PHASE I EXPANSION STUDY OF MIRVETUXIMAB SORAVTANSINE, A FOLATE RECEPTOR ALPHA (FRα)-TARGETING ANTIBODY-DRUG CONJUGATE (ADC), IN PATIENTS WITH ENDOMETRIAL CANCER**

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**Aims**

Mirvetuximab soravtansine is an ADC, comprising a FRα-binding antibody linked to the tubulin-disrupting maytansinoid, DM4. Here we report on an expansion cohort of patients with advanced endometrial cancer treated with mirvetuximab soravtansine as part of a phase I monotherapy trial.

**Method**

Patients with advanced or recurrent endometrial cancer, and confirmation of tumor FRα positivity by immunohistochemistry, were eligible to enroll. Patients were administered mirvetuximab soravtansine intravenously once every three weeks at 6 mg/kg based on adjusted ideal body weight. Responses were assessed according to RECIST 1.1 and adverse events (AEs) evaluated by CTCAE v4.0.

**Results**

A total of 24 heavily pretreated (median of 3 previous systemic treatments) patients were enrolled. The most commonly reported AEs were fatigue, nausea, diarrhea, decreased appetite, hypomagnesemia, and blurred vision; the majority of which were grade 1-2. Six patients (25%) experienced drug-related grade 3 events, the most frequent of which was diarrhea (3 patients), and grade 4 thrombocytopenia occurred in one individual. Two patients (8%) discontinued for related AEs (grade 2 peripheral neuropathy or pneumonitis). Two confirmed partial responses were seen for an overall response rate of 8%. In addition, 4 patients had stable disease ≥12 weeks. A greater depth and duration of tumor reduction were observed in tumors with serous histology.

**Conclusion**

Mirvetuximab soravtansine exhibited a manageable safety profile in advanced endometrial cancer patients. In this cohort, antitumor activity was more pronounced in individuals with serous-type tumors compared to those with endometrioid histology.
LATE BREAKING

ESGO7-1509

MORTALITY REDUCTION BY OPEN ABDOMEN TO PREVENT COMPARTIMENTAL SYNDROME AFTER CYToreDUCTION SURGERY COMPLICATIONS IN PERITONEAL CARCINOMATOSIS.

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Aims

Many years ago, the idea of intentionally leaving the abdomen of a surgical patient open after laparotomy was not contemplated by most of surgeons in order to prevent intra-abdominal hypertension, an elevation of intra-abdominal pressure above 12 mmHg, which could conduced to an abdominal compartimental syndrome (ACS) and multiorgan failure. Thus Open Vacuum-Pack Abdomen technique have been used in abdominal surgery, there are no notions about its results in peritoneal carcinomatosis.

Method

We include retrospectively 28 patients who required an oncological surgery with peritoneal carcinomatosis between 2006 to 2016 at the Institut Claudius Regaud of Toulouse who required to be treated by Open Vacuum-Pack Abdomen technique caused by a intra-abdominal hypertension to avoid a compartimental syndrome.

Results

Patients were operated by ovarian, intestinal cancer, pseudomyxoma peritonei or mesotheliome. PCI was 17 and those with a high peritoneal carcinomatosis index had radical to supraradical cytoreduction including extended peritonectomy, mesenteric and intestinal vaporisation or intestinal resection. The Open Vacuum-Pack Abdomen technique was applied at a median post-operative delay of 9 days (Range: 1-73), and it was changed every 48 to 72 hours during a median of 20 days (range: 1-73). Primary fascial closure was obtained in 26 patients (92%); 6 patients presented persistent or de novo complications during the application and 14 patients (50%) were extubated on the same day of the first VAC application. Actually, ten patients are alive.

Conclusion

According to our experience, open vacuum-pack technique decreases morbi-mortality and improve results in case of postoperatory compartimental syndrome in peritoneal carcinomatosis.

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LATE BREAKING

ESG07-1517

PROSPECTIVE ASSESSMENT OF FIRST YEAR QUALITY OF LIFE AFTER PELVIC EXENTERATION FOR GYNECOLOGIC MALIGNANCY. A FRENCH MULTICENTRIC STUDY

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Aims

Aim of the study was to assess quality of life during the first year after pelvic exenteration for gynecologic malignancy performed with curative intent.

Method

A French multicentric prospective study was performed by including patients who underwent PE. Quality of life by measuring functional and symptom scales was assessed using the EORTC QLQ-C30 (version 3.0) and the EORTC QLQ-OV28 questionnaires prior to surgery, and at baseline, 1, 3, 6, and 12 months after the procedure.

Results

A total of 97 patients were included. Quality of life including physical, personal, fatigue, and anorexia reported in the QLQ-C30 were significantly reduced one month postoperatively and improved at least to baseline level one year after the procedure. Body image was also significantly reduced one month postoperatively. Global health, emotional, dyspnoea, and anorexia items were significantly improved one year after surgery compared to baseline values. Unlike younger patients, elderly patients did not regain physical and social activities after PE.

Conclusion

Deterioration of QOL was most significant during the first three months after surgery. Elderly patients were the only group of patients with permanent decreased physical and social function. Preoperative evaluation and postoperative follow-up should include health-related QOL instruments counselling by a multidisciplinary team to cover all aspects concerning stoma care, sexual function and long-term concerns after surgery.
THE ROLE OF MRI AS AN INTERVAL ASSESSMENT TOOL OF RESPONSE TO CHEMORADIATION IN LOCALLY ADVANCED CERVICAL CANCER

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Aims

Main objective was to determine the predictive value of 45 Gy MRI evaluation in LACC patients without para-aortic lymph node involvement treated with concurrent chemoradiation.

Method

Patients with locally advanced cervix cancer (LACC) treated at

Claudius Regaud Center in Toulouse, France and at Oscar Lambret Center in Lille, France,

were included. In order to specifically investigate the role of imaging on local control, only patients with no distant metastasis, and no paraaortic lymph node involvement, were included. Patients underwent pelvic external beam radiotherapy combined with platinum-based chemotherapy.

Results

185 patients were included in the study. Tumor size post chemoradiation and tumor reduction rate were statistically predictive of OS and DFS. However, MRI performed prior to brachytherapy modified treatment strategy in only 6% of patients. Patients who underwent surgery in case of poor response after chemoradiation had non-significant decreased survival compared to those treated with brachytherapy.

Conclusion

MRI assessment after 45 Gy external radiotherapy with chemosensitization showed a prognostic predictive role. Tumor reduction rate superior to 60% between pre and 45 Gy post-radiotherapy MRI were significantly associated with improved OS. Post-radiotherapy MRI modified treatment strategy in a small proportion of patients. However, enables brachytherapy optimization with dose-volume-adaptation and dose escalation with a better assessment of gross tumor volume. 60% in reduction of the maximum diameter can be considered as a prognostic cut-off.
LATE BREAKING

ESGO7-1408

RADIOLOGICAL ENDOVASCULAR EMBOLIZATION OF SMALL PEVIS ARTERIES IN PATIENTS WITH COMPLICATED UTERINE CERVIX CANCER: A SINGLE CANCER CENTER EXPERIENCE OVER 15 YEARS

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Aims

To conduct the efficacy of radiological endovascular embolization (REE) of small pelvis arteries in patients with locally advanced and recurrent uterine cervix cancer (UCC).

Method

81 patients were included: 68 (84%) primary and 13 (16%) – with UCC recurrences, who underwent REE of small pelvis arteries regarding vaginal bleeding.

Results

Distribution of primary patients according to FIGO stages was: IIB stage – in 4 (6%), IIIB – in 44 (65%), IV – in 20 (29%). In the result of the procedure hemorrhage was stopped in 76 (94%) patients.

During follow-up period, 67 (83%) patients died from the underlying disease, 4 (5%) from other reasons. The adjusted 1-year survival was 41.4% (SE 5.6%), 5-year – 17.9% (SE 4.5%), median adjusted survival – 8.4 months. Survival of 22 (32%) patients who was not treated further, and 46 (68%) patients who continued the treatment was significantly differed clinically and statistically. 1-year adjusted survival was 15.2% (SE 8.1%) and 53.5% (SE 7.4%), respectively, no patient survived to 5 years in the first subgroup, in the second subgroup a 5-adjusted survival was 24.0% (SE 6.8%), median adjusted survival for the first subgroup was 5.4 months, for the second – 12.8 months (p<0.001).

Conclusion

REE is an effective method of arrest of hemorrhage in patients with locally advanced and recurrent UCC in 94% of cases. Conduction of this procedure in primary complicated locally advanced UCC patients allowed to perform radiotherapy treatment in 68% of cases and can be used at any stage of treatment.
LATE BREAKING

ESGO7-1453

A COLLAGEN-FIBRIN PATCH FOR THE PREVENTION OF SYMPTOMATIC LYPHOCELES AFTER PELVIC LYMPHADENECTOMY IN WOMEN WITH GYNECOLOGIC MALIGNANCIES: A RANDOMIZED CLINICAL TRIAL

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Aims

To evaluate the efficacy of a collagen-fibrin patch (Tachosil®) in prevention of symptomatic lymphoceles after pelvic lymphadenectomy in women with gynecological malignancies.

Method

In the multicentre randomised trial, women with pelvic lymphadenectomy were randomized either to bilateral pelvic application of collagen-fibrin patches (Tachosil®) or no intervention. The main outcome was incidence of symptomatic lymphocele diagnosed within four weeks after surgery. Secondary outcomes included asymptomatic lymphoceles and need of medical or surgical interventions within four weeks after surgery. The study hypothesis was an absolute decrease in symptomatic lymphocele incidence with Tachosil® of at least 66%.

Results

164 women with cervical (n=64), ovarian (n=53), and endometrial cancer (n=47) were included. 75 women were randomized to Tachosil® and 89 to the control group. In total, 40 lymphoceles were observed among 164 women (24%). There was no significant difference between study groups in the primary study outcome. Symptomatic lymphoceles were observed in 7/75 (9%) women in the intervention group and 4/89 (4%) women in the control group (p=0.22). The secondary outcome was observed in 14 (18%) women in the intervention group compared to 15 (16%) in the control group (p=0.27). In a multivariate logistic regression model, study center, patient’s age, cancer type, surgical access, number of lymph nodes, and occurrence of intraoperative complications did not influence the risk of developing a symptomatic lymphocele.

Conclusion

Lymphoceles are a frequent complication of lymphadenectomy. If symptomatic, lymphocele requires intervention potentially delaying subsequent oncological treatment. Intraoperative application of Tachosil® does not reduce the incidence of symptomatic lymphoceles after pelvic lymphadenectomy.
LATE BREAKING

ESGO7-1449

OVARIAN OR APPENDIX CARCINOMA? THE CHALLENGING DIAGNOSIS

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Aims

Introduction: Carcinoma of appendix is rare, corresponding to 0.4% of gastrointestinal cancers and 1% of appendix specimens. There is no characteristic clinical presentation and often mimics acute appendicitis. Management is not consensual: besides appendectomy some defend right colectomy and in some cases adjuvant FU-based chemotherapy. In intraperitoneal disseminated disease, selected patients may benefit from aggressive surgical cytoreduction and HIPEC. Benefit of systemic chemotherapy is unknown.

Method

Case report: 60 years-old postmenopausal patient, obese and with hypertension complained of intermittent lower abdominal pain and bowel habit changes for 1 month. She referred loss of 8kg/1month, although under diet, with no other complaints. On physical examination cervix was ventrally pushed by a mass in the cul-de-sac. Ultrasound showed a cystic-solid mass occupying the small pelvis, about 15cm with increased blood flow. The CT supported its gynecological origin, with ascites and bilateral pyelocalycectasy. Mamography, thorax X-ray, colonoscopy were normal. PET-CT described “a large, but low FDG-avidity ovarian carcinoma with peritoneal carcinomatosis and suspected retroperitoneal lymph node metastases.” CA-125 and CA 72-4 were elevated. The patient was submitted to a comprehensive staging debulking laparotomy.

Results

The final pathology report revealed a “poor differentiated Adenocarcinoma of Appendix Vermiformis” with invasion of all layers and serosa perforation (pT4 pN0 i+ (0/29) pM1a (Ovar, Peritoneum) L0 V0 G3). On a multidisciplinary discussion, patient was then proposed for right colectomy and HIPEC.

Conclusion

Appendix carcinoma can represent a challenge for diagnosis and management. No standard of care is established due to its infrequency.
LATE BREAKING

ESGO7-1450

THE ROLE OF CHEMOTHERAPY IN LOW-GRADE SEROUS OVARIAN CARCINOMA: REPORT OF TWO CASES

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Aims

Low-grade serous carcinoma is an uncommon subtype of ovarian/peritoneum carcinoma. Comparing to high-grade, low-grade serous carcinoma is characterized by younger age at diagnosis, chemoresistance, prolonged overall survival and aberrations within the MAP kinase-signaling pathway. The existing data have suggested relative chemoresistance in multiple settings.

Method

Case Report

Results

Case 1: 60 years old patient was diagnosed with ovarian carcinoma FIGO IIB, submitted to maximal debulking surgery – including sigmoid resection followed by Hartmann procedure (pT2b pN0(0/28) M0 G1). The surgery was complicated by iatrogenic left ureter damage, managed with Double-J catheter insertion and followed by multiple revision laparotomies due to anastomosis insufficiency and rectal and vaginal wounds leakage, which prevented the patient from adjuvant chemotherapy beginning. Two years later, patient has no signs of disease recurrence.

Case 2: 45 years old patient diagnosed with low-grade ovarian carcinoma FIGO IIIC was submitted to tumor debulking surgery, including sigmoid resection/anastomosis and splenectomy (pT3c pN1(6/38) M0 G1). The post-operative period was complicated by anastomosis insufficiency and multiple intra-abdominal fistula formation, followed by several laparotomies, double-J catheter placement on the right ureter and nephrostomy on the left. A pulmonary embolism also occurred. Consequently, standard adjuvant chemotherapy was avoided. One year later underwent correction of recto and vesicovaginal fistulas, keeping urinary derivation and two ostomies without disease recurrence.

Conclusion

In both cases chemotherapy could not be performed due to postoperative complications and no tumor recurrence is seen after 1-2 years' follow-up. This highlights the idea of a potentially unnecessary and harming intervention in low-grade tumors, which show per se a poor response to chemotherapy.
PRETERM BIRTH FOLLOWING LLETZ: PREVIOUS OBSTETRIC HISTORY HAS A GREATER ASSOCIATION WITH GESTATION AT DELIVERY THAN DEPTH OF CERVICAL EXCISION

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Aims

To investigate the pregnancy outcomes in women who have undergone a large loop excision of the transformation zone (LLETZ) for cervical intraepithelial neoplasia.

Method

A retrospective cohort study of singleton pregnancies attending a specialist antenatal clinic (2009-2016). Data was collected on interventions (cerclage/cyclogest), obstetric history, LLETZ depth and 20-week cervical length (CL). Analysis was performed comparing: LLETZ-only (no previous preterm birth (PPTB)); LLETZ+PPTB; PPTB-only.

Results

Cerclage was inserted in 25 (4%) of all the LLETZ cases (n=631), 19 for CL<25mm. A further 23 (3.6%) women were prescribed cyclogest. The median gestation at delivery in women who did not undergo an intervention during pregnancy was 40+0 weeks in the LLETZ-only group (n=520), 38+1 weeks in the LLETZ+PPTB (n=63) and 38+3 weeks in the PPTB-only group (n=467), regression p<0.001. In the LLETZ groups (n=583) the birth gestation reduced significantly with the depth of excision (p=0.004), however the median was above 37-weeks in all the depth categories (<10mm: 40+0; 10-19mm: 39+6; 20-29mm: 39+1; >30mm: 38+6). Total LLETZ depth was not associated with 20-week CL (p=0.167). Univariate analysis of LLETZ-only and LLETZ+PPTB cases (no intervention) identified PPTB, BMI and total LLETZ depth as significant risk factors for PTB. Only PPTB and total LLETZ depth remained significant on multivariate analysis, p<0.001 and p=0.03 respectively.

Conclusion

Our results indicate that PPTB appears to be more strongly associated with gestation at delivery compared to depth of cervical excision. Further work is needed to quantify the risk in order for patients and clinicians to plan appropriate pre/antenatal care.
PLATELET-DERIVED GROWTH FACTOR RECEPTORS EXPRESSION AND ITS CORRELATION WITH ANGIOGENESIS FACTORS IN OVARIAN CANCER PATIENTS

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Aims

The aim of the study was to analyze the correlations between expression of Platelet-Derived Growth Factor Receptors alpha and beta (PDGFR-alpha and PDGFR-beta) with microvessel density (MVD) and factors of angiogenesis: VEGF, bFGF and EMMPRIN in epithelial ovarian cancers (EOCs) patients.

Method

Analysis concerned 53 samples of EOCs, 37 samples of benign ovarian tumors (BOTs), and 21 samples of normal ovaries. The study was performed in the Division of Gynecological Surgery, Poznan University of Medical Sciences.

Results

PDGFR-alpha was found in tumor cells in 17 (32%) of samples of EOCs and 7 (20%) of BOTs, while, there were no PDGFR-alpha receptor in epithelium of normal ovaries (P = 0.001). PDGFR-alpha receptor was present in the stroma of 21 (39%) EOCs, 20 (58%) BOTs and 15 (83%) normal ovaries (P = 0.004). There were no significant differences in the expression of PDGFR-beta between the studied groups. The expression of both PDGFR receptors was not related with FIGO stage, grade and histopathological type of EOCs. Neither PDGFR-alpha expression nor PDGFR-beta expression was correlated with MVD assessed with anti-CD31, anti-CD34 and anti-CD105 antibodies. The expression of PDGFR receptors did not influence VEGF, bFGF and EMMPRIN expression.

Conclusion

The expression of PDGFRs is not correlated with vascularization and the expression of VEGF, bFGF and EMMPRIN in EOCs patients.
LATE BREAKING

ESG07-1404

EXPRESSION OF CD44 (CANCER STEM CELL MARKER) AS RECURRENCE PROGNOSTIC FACTOR IN STAGE III EPITHELIAL OVARIAN CANCER

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Aims

Recent investigations have unravelled CSC (Cancer Stem Cell) role in cancer recurrence and therapeutical resistance, CD44 has been reported as a CSC marker in EOC (Epithelial Ovarian Cancer), investigator wanted to analyse CD44 as recurrence prognostic factor in stage III EOC.

Method

Hystorical Cohort, CD44 Immunohystochemistry examination performed on the pathological EOC sample diagnosed with PR (Platinum Resistant) and PS (Platinum Sensitive) recurrence. CD44 expression measured, the role as recurrence prognostic factor evaluated, influence towards earlier recurrence analysed.

Results

20 PR and 20 PS subjects were involved in the research. Mean CD44 expression in PR group was 36.80±29.54; while in the PS was 7.05±9.58; there was significant difference between 2 groups (p=0.000). There was a strong correlation between CD44 with recurrence timing (p=0.894). With the cut off 12.5; 85% PR subject had CD44>12.5; 85% PS had CD44<12.5; with 85% sensitivity and 85% specificity as a good recurrence prognostic factor. RR of CD44 is 5.667, RR of tumor residue post surgical staging is 2.513. Patient with CD44>12.50 has possibility of earlier recurrence (< 6 months) 48,487 times, patient with tumor residue of<1cm has possibility of earlier recurrence 13,013 times.

Conclusion

CD44 expression can be used as recurrence prognostic factor in stage III EOC, CD44 was significantly higher in the PR group, there was negative correlation between CD44 with the timing of recurrence. CD44 as recurrence prognostic factor was not influenced with grade and pathologic type, but influenced by stage. Expression of CD44 and tumor residue post surgical staging are good predictors for recurrence timing.
Aims

Perivascular epithelioid cell tumours (PEComas) are neoplasms of uncertain histogenesis that arise in various anatomic sites. Uterine PEComas are rare neoplasms described as being characterized by spindled and/or epithelioid cells with clear-acidophilic cytoplasm and myomelanocytic differentiation. mTOR pathway activation, mainly through TSC1/2 genetic alterations, is reported to be important in the pathogenesis of PEComas. Here, we sought to investigate the somatic genetic alterations in uterine PEComas.

Method

Eighteen tumours were diagnosed as PEComas (12/18 as malignant PEComas) by specialist gynaecological pathologists based on routine histological sections and immunohistochemistry. DNA extracted from tumours and matched normal tissue (n=15), and from tumour only (n=3), was subjected to massively parallel sequencing targeting all exons of 410 cancer genes. Somatic single nucleotide variants, small insertions/deletions and copy number alterations were defined using state-of-the-art bioinformatics algorithms.

Results

Tumours were sequenced at a median coverage of 794x (306x-1326x). Six PEComas did not harbor any non-synonymous mutations in the analyzed genes. In the remaining 12 tumours, the genes most frequently affected by non-synonymous somatic mutations were TP53 (4/18, 22%); ATRX, KDM6A, ATM, BRD4 (each 2/18, 11%); MED12 (hotspot) and DICE1R1 (each 1/18, 6%). Only two PEComas harbored TSC2 mutations (2/18, 11%). At the copy number level, homozygous deletions of BRCA2 (3/18, 17%), RB1, FOXO1 and a histone gene cluster on chromosome 6p22 (each 2/18; 11%) were most common.

Conclusion

Uterine PEComas histologically diagnosed as PEComas harbor a diverse repertoire of somatic genetic alterations, which suggests that these tumours may represent a heterogeneous group of neoplasms rather than a genetically distinct entity.
LATE BREAKING

ESGO7-1421

METHYLATION ANALYSIS OF SELECTED GENES IN ENDOMETRIAL CARCINOGENESIS

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Aims

Initiation, progression and metastasis of the endometrial carcinoma are controlled by genetic and epigenetic events. The most common epigenetic modification is methylation of DNA that is involved in the activation and deactivation of genes and such can impact their biological activity. The aim of this study was evaluation of the methylation changes in genes HTR1B, HS3ST2 and MME in particular groups of patients with endometrial carcinoma, atypical hyperplasia and benign endometrium and determination of their sensitivity, specificity and ability to differentiate carcinomas from healthy endometrial tissue.

Method

Analysis conducted at the Department of Obstetrics and Gynecology of the Jessenius Faculty of Medicine and University Hospital in Martin in collaboration with the Department of Pathology, Division of Oncology and Molecular Medicine.

Results

ROC curves and AUC were analyzed for individual genes to discriminate carcinoma from benign endometrium. HTR1B gene showed 90.6% sensitivity and 100% specificity, AUC = 0.955, p<0.0001, HS3ST2 showed 81.2% sensitivity and 100% specificity, AUC = 0.924, and p<0.0001 and gene MME showed 62.5% sensitivity and 72.5% specificity, AUC = 0.716, p<0.0001. The risk of endometrial carcinoma was determined as follows: HTR1B (OR 420.4, 95% CI 23.9-7386.1, p<0.0001), HS3ST2 (OR 40, 95% CI 2.3-682.7, p<0.01) and MME (OR 9.6, 95% CI 0.23-91.6, p=NS).

Conclusion

There were significantly higher methylation levels in cancer tissue compared to a healthy endometrium for individual genes. The study demonstrated that these genes can be used as methylation biomarkers in differentiation of women with endometrial cancer from women without malignancy.
LATE BREAKING

ESG07-1484

POST-OPERATIVE RECOVERY ASSESSMENT OF URINARY TRACT DYSFUNCTION FOLLOWING RADICAL HYSTERECTOMY FOR CERVICAL CANCER PATIENTS

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Aims

To assess the length of recovery phase in urinary tract dysfunction following radical hysterectomy for cervical cancer patients in Cipto Mangunkusumo Hospital.

Method

This survey study was conducted in Cipto Mangunkusumo Hospital from September 2016 to May 2017. Subjects were cervical cancer patients from stage IA2 to IIA2 who underwent radical hysterectomy. Suprapubic catheter (SPC) was inserted to observe the urine production after procedure. Patients were then directed for bladder training protocol involving clamping and opening SPC. Sensation of bladder fullness followed by spontaneous micturition were recorded. Measurement of post voiding residual (PVR) urine volume after spontaneous micturition until less than 100 ml was considered as resolution of urinary tract dysfunction. The average days of every achieved phase were then calculated.

Results

Twenty-nine subjects underwent radical hysterectomy during observation period. But only 21 subjects continued the bladder training protocol and recorded for the recovery phases. The average time needed to obtain sensation of bladder fullness and spontaneous micturition were 7.57 ±4.78 days (median 5 days, minimum 3 days, maximum 22 days) and 8±5.21 days (median 6 days, minimum 3 days, maximum 23 days). The objective PVR urine became less than 100ml was obtained after 21.42±18 days (median 18 days, minimum 7 days, maximum 74 days).

Conclusion

Following radical hysterectomy, recording the recovery phase of urinary tract dysfunction is essential to ensure complete resolution. Complete resolution of the urinary dysfunction is achieved after 21.42±18 days in average (median 18 days, minimum 7 days, maximum 74 days).
LATE BREAKING

ESGO7-1521

THE FEASIBILITY AND THE VALUE OF THE IDEAL AMBULATORY SETTING OF ONE STOP CLINIC FOR POSTMENOPAUSAL BLEEDING (PMB) IN CUMBRIA THE ARGUMENT; HYSTEROSCOPY REPLACING PIPELLE

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Aims

• To analyse the PMB one year referrals (2015) in West Cumbria to assess the potential of creating a continuous integrated pathway

Method

212 PMB new fast tract referrals in Whitehaven in 2015 were analysed. The data input included, trigger symptoms, clinical assessment, investigations and clinic output. Later the information about results and interventions were coded into the database.

Results

26 cancers were diagnosed investigating PMB including; 3 urinary system, 2 cervical and the rest was endometrial cancer. There were 13 cases of endometrial hyperplasia. There was also one case of fistula and 9 cases of endometritis.

The pickup rate of any cancer by investigating PMB was 26/212 (12.26%). The pickup rate of endometrial cancer was 21/212 (9.9%). The ultrasound picked 7 adnexal cysts and three were complex and one of them was an ovarian cancer associated with an endometrial cancer. Endometrial sampling was attempted in 138 cases (65.1%) and the attempt was abandoned in 20. In this abandoned cases follow hysteroscopy picked up an endometrial cancer and one case of hyperplasia. Follow up hysteroscopy pick up six endometrial cancers in the group where pipelle was not even attempted. In the successful attempts of 118 cases it picked up 12 endometrial cancers. The pipelle missed two cancers diagnosed later by outpatient hysteroscopy.

Hysteroscopy diagnosed the 9 of the 21 endometrial cancers and three were under GA. There were no cases of failed outpatient hysteroscopy.

Conclusion

The presented data will support the argument in setting a service where hysteroscopy replaces the pipelle after ultrasound risk assessment of the case.
LATE BREAKING

ESGO7-1528

RARE CASE OF INVERTED PAPILLOMA OF THE CERVIX

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Aims

To demonstrate the clinicopathological features of a case of inverted papilloma of the cervix with review of the literature.

Method

52 year postmenopausal nulliparous woman referred to the fast tract gynaecology clinic in Whitahaven, UK with history of postmenopausal bleeding and dysparunia. Past history included conservative treatment for CIN1 three years ago, anxiety and hernia repair. Clinical examination indicated thick elevated vascular lesion involving the anterior lip of the cervix. Biopsy was taken under local anaesthesia after photodocumentation of the lesion. Given the suspicious features MRI was requested and was discussed in the regional cancer network meeting. The recommendation was for loop biopsy which was done under GA.

Results

MRI indicated a suspicious lesion confined to the cervix very suggestive of early stage cervical cancer. Histology indicated completely excised exophytic squamoproliferative lesion with PSA negative and exhibiting wild type p53 immuoreactivity with focal staining with EMA. These features could represent association with HPV42. There are no features of invasion or significant atypia and specimens were discussed and reviewed by many pathologists. Clinically the lesion disappeared and frequent follow up over two years confirmed no residual abnormality.

Conclusion

This is a benign case with rare reporting in the literature. Inverted papilloma in the lower female genital tract is extremely rare. This may be associated with low risk HPV. So far there is no indication from the limited literature of progression into cancer and no consensus on follow up. This case created clinical suspicion of cancer and MRI features identical to malignancy. Photodocumentation and case sharing and reporting contribute to further knowledge.
SETTING THE STANDARDS FOR FAST TRACT REFERRAL WITH SUSPECTED GYNAECOLOGIC CANCERS

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Aims

Method

Results

Conclusion
LATE BREAKING

ESG07-1477

INGUINO-FEMORAL RADIOTHERAPY IN VULVAR SQUAMOUS CELL CARCINOMA: WHAT ABOUT SINGLE INTRACAPSULAR LYMPH NODE METASTASE?

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Aims

The impact of a single intracapsular lymph node metastasis is unclear and the potential role of inguino femoral radiotherapy in women with vulvar squamous cell carcinoma (VSCC) is currently of unclear significance.

The purpose of this study was thus to review the clinical impact of groin metastatic nodal disease within a French multicentre cohort of women with VSCC.

Method

Data of women with surgically treated VSCC treated between January 2005 and December 2015 were retrospectively abstracted from five French institutions with prospectively maintained databases.

Results

During the study period, 636 were documented as having received primary surgical treatment for VSCC of whom, 508 underwent surgical groin nodal staging. 176 (34.6%) had at least one positive LN.

Five-year OS rates were 65.8% in women with one intracapsular, 58.3% in women with one extracapsular, 60.6% in women with two, 33.6% and 28.6% in women with more than three positive lymph nodes.

5-year RFS rates were 54.9% in women with one intracapsular, 44.2% in women with one extracapsular, 35.5% in women with two, 24.5% and 0% in women with more than 3 positive lymph nodes.

Looking at the impact of radiation adjuvant therapy in 1) women with one intracapsular positive node, a benefit could not be identified 2) women with LVSI, RFS and groin LN RFS rates were statistically significantly higher for women with adjuvant inguino-femoral radiotherapy regardless to the number of affected nodes.

Conclusion

inguino femoral radiation seems to have a role in women with VSCC having one intracapsular groin metastases and LVSI
LATE BREAKING

ESGO7-1478

PREDICTIVE FACTORS OF DISCORDANCE (>20MM) BETWEEN MRI AND HISTOLOGICAL SIZES OF INVASIVE LOBULAR BREAST CARCINOMA

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Aims

the aim of this study was to determine whether there is predictive factors of discordance between MRI and histological sizes of invasive lobular breast carcinoma

Method

we included all women managed in our institution for an invasive breast lobular carcinoma between January 2007 and December 2016. univariate and multivariate analyses were performed to evaluate the association between demographic and pathological factors and discordance

Results

During the study period, 384 women were included. we had all MRI data for 246 of them. when evaluating concordance with a level of 20mm, significant factors in univariate analysis were: statut menopausal status (OR 2,34 [1,06 – 5,17], p=0,04), histological size (OR 0,98 [0,96 – 0,99], p=0,01), the histological size of associated inset component (OR 0,94 [0,87 – 1,01], p=0,03), a neoadjuvant chemotherapy (OR 0,14 [0,06 – 0,37] p<0,001) and hormone receptor status (p=0,06). in multivariate analysis, histological size and neoadjuvant chemotherapy were independent predictive factor of a discordance >20mm

Conclusion

this work permitted to identify independent predictive factors of discordance > 20 mm between MRI and histological sizes of invasive lobular breast carcinoma
LATE BREAKING

ESGO7-1479

PATTERNS OF RECURRENCE AND RECURRENCE HAZARD-RATE ANALYSIS IN WOMEN WITH ENDOMETRIAL CANCER: AN AGE STRATIFIED MULTICENTRE STUDY FROM THE FRANCOGYN GROUP

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Aims

Predicting the pattern of recurrence can aid in the development of targeted surveillance and treatment strategies. The objectives of this study were to identify patterns of recurrence in women with operable endometrial cancer (EC) and to identify high-risk periods for recurrence in function of age.

Method

The data of 1153 women who received primary surgical treatment for stage I-III EC between January 2001 and December 2013 were abstracted from a prospectively maintained multicentre database. The time to first recurrence was calculated from the date of diagnosis, and the associated hazard function was examined to determine the peak risk period of recurrence. We categorized age at diagnosis as <65 and ≥65 years old and analysed the hazard ratio (HR) by stratifying age groups.

Results

Women with EC aged ≥65 years maintain a significant recurrence rate during follow-up whatever the stratification (locoregional recurrence, distant recurrence, ESMO/ESGO/ESTRO subgroup).

Multivariable Cox proportional hazard regression showed that the increased risk of recurrence of EC was associated with advanced age, advanced disease ESMO/ESGO/ESTRO subgroup but not with initial treatment received.

Conclusion

The annual HR of recurrence is not uniformly distributed over time but is dynamic and markedly determined by prognostic factors at diagnosis.
LATE BREAKING

ESGO7-1512

PATTERNS OF DISTANT RECURRENCE AND OUTCOMES IN SURGICALLY TREATED ENDOMETRIAL CANCER: RESULTS FROM THE FRANCOGYN STUDY GROUP

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Aims

Patterns of distant metastatic failure of endometrial cancer (EC) by specific anatomic site are not well described in the literature. In this work, we evaluated the metastatic patterns of EC cancer and analysed the potential distribution of metastatic disease.

Method

A total of 1444 women with EC treated between 2000 and 2013 were identified. Of which we extracted women with locoregional and distant recurrence or with distant recurrence alone. Women were scored based on first site of metastasis: multiple versus one site: bone, brain, lung, liver or sus diaphragmatic lymph nodes.

Results

110 women developed distant metastatic disease with (n=37(33.6%)) or without (n=73(66.4%)) locoregional recurrence after definitive treatment, including 39 women with exclusive first site of metastatic disease and 34 with multiple sites of metastatic disease. When considering all women, the most common exclusive first site of metastasis was lung (42.8%), bone (15.9%), liver (14.3%), brain (9.5%), sus diaphragmatic lymph nodes (14.3%) and other (3.2%). The median time to develop distant metastases was shorter after the completion of treatment for exclusive brain metastatic disease compared with other sites of metastatic disease (7 months vs, 9 for lung, 10 for liver, 19 for bone and 27 months for sus diaphragmatic LN; P=0.004). The rate of 3-year overall survival was higher in the sus diaphragmatic LN metastase group (83.3% vs 50.6% for lung, 37.3% for bone, 16.7% for brain and 0% for liver; P=0.0059), but there was no significant difference in the median survival after the occurrence of distant metastases regardless of additional treatment (P=0.34).

Conclusion

The present study has demonstrated the site-specific patterns of metastases.
LATE BREAKING

ESGO7-1510

CENTRALIZATION of MAMOGRAPHY REPORTING WITH MOBILE TRUCKS: TURKISH EXPERIENCE
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Aims

To report the initial results and the effectiveness of new Turkish population breast cancer screening program including the females aged 40-49; out-sourcing mobile trucks and national central report center.

Method

The study is conducted prospectively for one year (March 2016-March 2017) in all 81 provinces of Turkey. Mammography images were transferred via internet to central report unit and are evaluated in a double blind manner.

Results

Totally, images of 414,802 patients were transferred from 155 KETEMs. Of these patients; 95,872 (23.1%) were aged between 40-44; while 84,851 (20.5%) were 45-49, 157,901 (38.1%) were 50-59 and remaining 76,178 (18.3%) were between 60-69 years of age. Among all images, 21,999 (5.3%) were BI-RADS 0-4-5, 391,123 (94.35%) were BI-RADS 1-2 while remaining 1,680 (0.4%) had insufficient views for BI-RADS scoring. Totally recall rate of the national center was 5.7%. BI-RADS scores did not show a significant correlation with respect to age, NUTS regions, KETEM type, mammography device except for breast patterns. daily number of screened patients was significantly higher in out-sourcing mobile trucks compared to stationary KETEMs (38.2 vs. 8.9; P<0.05).

Conclusion

This is the first and largest breast cancer screening study from a developing country evaluating a central report center, mobile trucks and screening for ages 40-49. Initial results show the feasibility and effectiveness of these strategies for similar countries having difficulties in breast cancer screening programs. However, final validation and follow up data should be seen for final conclusions.
LATE BREAKING

ESGO7-1418

UTERINE SARCOMAS: REVIEW OF THE INCIDENCE

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Aims

To review the incidence and characteristics of uterine sarcomas in our population.

Method

We analyzed the incidence of uterine sarcomas at the Hospital de Torrejón in a population of 140,000 habitants since 2011 to date.

Results

Until May 2017, we diagnosed 72 cancers of the uterine body, of which 13.8% were uterine sarcomas (10 cases). Of the uterine sarcomas, 4 were leiomyosarcomas, 3 carcinosarcomas, 2 endometrial stromal sarcoma and 1 adenosarcoma.

According to the classification of FIGO 2009 and by histological grade, the stages were: 60% IBG3, 10% IAG1, 10% IIIC1G2 and 20% IVB both high-grade sarcoma.

Hysterectomy and double annexectomy were performed in all patients. Lymphadenectomies were performed prior to 2014 when a protocol was published by the Spanish Society of Gynecology and Obstetrics in which only hysterectomy and double-annexectomy were sufficient for the treatment of these tumors. Complete surgery was performed on the carcinosarcomas. The 2 patients with high-grade stage IVB sarcomas had to have an emergency hysterectomy due to uncontrollable acute bleeding. The surgeries were performed via laparoscopy and had to be reconverted to laparotomy. In six patients, laparotomy was performed due to uterine size.

One patient presented a bilateral ureteral lesion as an intraoperative complication, it was an emergency surgery for acute bleeding without specialized equipment. We had another case of postoperative surgical wound infection.

Conclusion

Despite the limited series, it is striking that sarcomas account for 13.8% of all malignant uterine tumors in our population, and therefore we should study possible risk factors and the appearance of new cases.
COMPLETE CYTOREDUCTION AFTER SIX CYCLES OF NEO-ADJUVANT CHEMOTHERAPY CONFERS A SURVIVAL BENEFIT IN ADVANCED OVARIAN CANCER.


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Aims

To assess the impact of neoadjuvant chemotherapy (NACT) and cytoreductive outcomes on overall survival (OS) in patients undergoing interval debulking surgery (IDS) for advanced ovarian cancer.

Method

We undertook a retrospective review of patients receiving NACT followed by IDS between 2007-2017. Patients were analysed according to number of NACT cycles received: group 1 consisted of patients receiving ≤4 cycles and group 2 consisted of those receiving ≥5 cycles. Outcomes were stratified by cytoreductive outcome, surgical complexity, stage and chemotherapy exposure.

Results

231 patients in group 1 and 167 in group 2 were identified. In group 1, the OS for those achieving R0, R1 and R2 was 51.1, 36.1, and 34.3 months respectively. Statistically significant differences in survival were seen in patients achieving R0vR2 (p<0.019) but not in R0vR1 (p=0.125) or R1vR2 (p=0.358). In group 2, the OS for those achieving R0, R1 and R2 was 53.0, 24.7, and 22.1 months respectively. Statistically significant differences were seen between R0vR1 and R0vR2 (p<0.00001) but not between R1vR2 (p=0.917). No difference in OS was seen between groups 1 and 2. In patients achieving R1, there was a trend towards decreasing OS with increasing exposure to NACT from 36.1(95%CI 32.0-40.2) months with 3 cycles to 24.3(95%CI 14.4-34.2) months with ≥6 cycles.

Conclusion

Surgery with utilisation of cytoreductive procedures to achieve complete clearance should be offered to all patients irrespective of NACT exposure if R0 can be achieved. R1 cytoreduction has questionable value in those receiving ≤4 cycles and no value in those receiving ≥5 cycles.
LATE BREAKING

ESGO7-1431

CLINICAL PATHWAYS OF RECOVERY AFTER SURGERY FOR ADVANCED OVARIAN/TUBAL/PERITONEAL CANCER – A NSGO-MANGO INTERNATIONAL SURVEY IN COLLABORATION WITH AGO AUSTRIA. A FOCUS ON SURGICAL ASPECTS

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Aims

ERAS (Enhanced Recovery After Surgery) principles are gaining ground in gynae-oncology. Patients undergoing surgery for advanced ovarian cancer may in particular benefit from a standardized, multidisciplinary perioperative management. This survey aimed at assessing current practice in Scandinavia, Italy and Austria to understand to what extent ERAS principles have been implemented.

Method

In July 2017, a web-based questionnaire (SurveyMonkey Inc. Palo Alto, CA, USA) was sent to centres conducting surgery for advanced ovarian cancer within NSGO-MaNGO and other Italian institutions-AGO Austria (n=100). Descriptive statistics were used.

Results

Overall response rate was 61%. Only a third of the centres in Italy and Austria follow a written ERAS protocol compared to 60% of the Scandinavian centres. Only a minority of centres have completely abandoned bowel preparation, with the highest proportion in Scandinavia (36%). Prolonged fasting for fluids of ≥6 hours prior to surgery is routinely practiced in Italy (79.5%), less frequent in Scandinavia and Austria (27% and 29%, respectively). Carbohydrate loading is only inconsistently administered, ranging from 10% in Italy to 67% in Scandinavia. Peritoneal drainage is used by 22% routinely, by 61% in case of bowel resection/lymphadenectomy or peritonectomy. Early feeding with a light diet on day 0 or 1 is standard of care in Scandinavia and Austria, but not in Italy.

Conclusion

The degree of implementation of ERAS protocols varies across cooperative groups. Centralization of care seems to facilitate standardization of perioperative protocols. The high heterogeneity may challenge a multicentre, international approach to generate procedure specific evidence for ERAS protocols in ovarian cancer.
This survey assessed current perioperative practice to understand to what extent ERAS (Enhanced Recovery After Surgery) principles have been implemented in advanced ovarian cancer (OC) surgery. Here, we present the results on anesthesiologic aspects of ERAS.

Method

In July 2017, a web-based questionnaire (SurveyMonkey Inc. Palo Alto, CA, USA) was sent to centres conducting surgery for advanced OC within NSGO-MaNGO, other Italian institutions and AGO Austria (n=100). Descriptive statistics were used.

Results

The most common premedication in Italy (77%) and Austria (100%) are benzodiazepines. The vast majority of institutions (89%) utilize intraoperative warming devices. Fluid management, analgesia and anesthesia varies, between and within countries. Only 52% of the institutions follow a written protocol for perioperative fluid management. Liberal (22%), restricted (22%) and zero-balance (38%) regimens are used. Total IV anesthesia (TIVA) with target-controlled infusions of propofol and/or remifentanil is used in the majority of centres in Italy and Austria, while less than half of the NSGO centres use TIVA. Epidural is the predominant opioid sparing analgesia in Scandinavia (78.5%) and Austria (83%), but is less frequently used in Italy (53%). Postoperative nausea and vomiting prophylaxis is often prescribed (83%), but is rarely multimodal.

Conclusion

Key elements of ERAS are managed by anaesthetists. These showed a high grade of heterogeneity in clinical practice in our survey. This may reduce the full benefit of ERAS despite otherwise standardized pathways. Close collaboration with anaesthetists in research and clinical practice is crucial to establish and implement an optimal ERAS pathway for OC patients.
LATE BREAKING

ESGO7-1464

LOCAL RECURRENCE IN VULVAR CARCINOMA; INCIDENCE AND PROGNOSTIC IMPACT OF PATHOLOGICAL MARGIN DISTANCE AND LICHEN SCLEROSUS

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Aims

To determine the incidence of local recurrence of vulvar squamous cell carcinoma (SCC) and the prognostic significance of pathological margin distance and lichen sclerosis.

Method

Patients, surgically treated in our two centers for primary vulvar SCC between 2000 and 2010, were eligible for this study. All pathological slides were reviewed in a standardised way by two expert gynaecopathologists. Local recurrence was defined as any recurrent disease located on the vulva. Time to first local recurrence was compared for different subgroups.

Results

Preliminary results: Data were analysed from 163 patients with a median follow-up time of 77 months (range 0-202). The actuarial local recurrence rate for all patients at 10 years was 40%, see Figure 1. Pathological margin distance did not influence the risk on recurrence (HR 1.02 (95%CI 0.96-1.09), neither using a cutoff of eight millimeters (HR 0.93 (95%CI 0.52-1.77) or five millimeters (HR 1.05 (95%CI 0.49-2.26). Ninety-eight patients were treated with wide local excision (WLE) and 65 were treated with a (partial) vulvectomy; no difference in local recurrence rate was observed (HR 0.70 (95%CI 0.40-1.25). Only in the WLE group, patients with histologically confirmed lichen sclerosus had significant more local recurrences compared to patients without (HR 3.30 (95%CI 1.43-7.60)), see Figure 2.

Conclusion

Local recurrences frequently occur in patients with primary vulvar SCC (40% after 10 years) and are associated with lichen sclerosus, especially in patients treated with WLE.

LATE BREAKING

ESGO7-1460
MODIFIED CERVICOGRAPHY AND VISUAL ACETOACID INSPECTION AS AN ALTERNATIVE SCREENING FOR CERVICAL PRE-CANCER LESION
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Aims
To compare the diagnostic accuracy between visual inspection with acetic acid (VIA) and modified cervicography as an alternative screening for cervical cancer lesion.

Method
We performed a diagnostic cross-sectional study carried out at Dr. Cipto Mangunkusumo National Referral Hospital from February until April 2015. We collected samples from the Gynecologic Outpatient Clinic who sequentially underwent VIA examination, modified cervicography, and colposcopy.

Results
A total of 185 patients were included in this study. From VIA examination, we obtained positive VIA result of 7%, while modified cervicography had 7.6% positive results. On the other hand, there was 5.4% of patients who were found to have abnormal colposcopy results. From those results, we obtained that sensitivity and specificity of VIA were 96% and 90.9%. Meanwhile, sensitivity and specificity of modified cervicography were 97.7% and 90.9%, respectively, compared to colposcopy as a gold standard.

Conclusion
Modified cervicography and VIA are reliable tools for cervical cancer screening, with comparable sensitivity and specificity. Modified cervicography can be used as a supplementary tool to improve the documentation of VIA, as an alternative to VIA.
LYNCH SYNDROME ASSOCIATED ENDOMETRIAL CARCINOMAS: PRIMED FOR IMMUNE STIMULATION

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Aims

Lynch syndrome-associated endometrial carcinomas (LSAECs) are hyper-mutated tumours caused by inherited DNA mismatch repair (MMR) deficiency. They are characterised by an abundance of immunogenic neoantigens. We hypothesised that LSAECs have more tumour infiltrating lymphocytes (TILs) than sporadic MMR intact cancers. Furthermore, we hypothesised that high densities of regulatory T-cells, PD-1+ immune cells, and intra-tumoural PD-L1-expressing cells impede anti-tumour cytotoxicity in this cohort.

Method

LSAECs (n=22) were histology, stage and grade matched with sporadic MMR intact endometrial carcinomas (n=29). CD3+ and CD8+ T-cells, FoxP3+ regulatory T-cells, PD-1+ immune cells, and intra-tumoural expression of PD-L1 at the tumour centre (CT) and invasive margin (IM) were quantified. CD3+ and CD8+ T-cell densities were used to generate an immunoscore for each tumour.

Results

A significantly higher proportion of LSAECs had high immunoscores than sporadic tumours (72% vs. 18%, p<0.001). CD3+ and CD8+ T-cell densities correlated strongly with PD-1+ (both p<0.0001), and FoxP3+ expression (both p<0.001). FoxP3+ (p=0.02) and PD-1+ (p=0.0001) expression was significantly higher in LSAEC compared to MMR intact tumours. There was a trend towards higher PD-L1 expression in LSAECs compared to MMR intact tumours (39% vs. 24%, p=0.2). High PD-L1 expression was correlated with high IM CD3+ and CD8+ T-cell densities (both p<0.01), and PD-L1 expression was associated with high histological grade (p=0.03).

Conclusion

LSAECs are characterised by high TIL densities, however FoxP3+ regulatory T-cells and the PD-1/PD-L1 axis likely facilitate immune evasion. Reversal of immune evasion with immune-checkpoint inhibition may thus be especially relevant to this cohort.
LATE BREAKING

ESGO7-1395

BOTRYOID Rhabdomyosarcoma: A Case Report

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Aims

According to The International Rhabdomyosarcoma Study Group’s, tumor staging criteria includes tumor of 5 cm or more, invasion to tissues nearby, lymph nodes, or metastasis. Better prognosis has been found on early stage, young age, embryonic type, and exoffitc.

Method

Results

Considering that the patient is still in the reproductive age and have plans of getting married next month, radical surgery, the classic treatment of rhadomyosarcoma, has to be avoided, and replaced with fertility-sparing surgery as an alternative, with further treatment of lasso ligation to stop the bleeding followed by debulking of the tumor mass. An incomplete resection would leave out tumor at local or surrounding tissues. A treatment plan will be to conduct chemotherapy. Referring to study guidelines by the IRS, the patient is in the Group III Stage 1 so that the appropriate therapy recommendation is 3 chemotherapy regimens: Vincristine + dactinomycin + cyclophosphamide (VAC) and radiotherapy.

Standard regimens for treating rhabdomyosarcoma are:

Vincristine + actinomycin-D + cyclophosphamide (VAC)

Ifosfamide + vincristine + actinomycin-D (IVA)

According to IRSG, patient with gross residual after initial surgery (group III) have 5-years survival rate of 70% compared to group I that have 5-years survival rate of 90% and group II of 80%.

Conclusion

Rhabdomyosarcoma, one of a kind of soft tissue sarcoma, is a rare malignancy that comes from mesenchyme or mesoderm tissue. This patient undergone fertility-sparing surgery as an alternative treatment, and then continued with chemotherapy. Prognosis for this patient as mentioned in five-years survival rate is 70%.
BOTRYOID RHABDOXYOSARCOMA: A CASE REPORT

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Aims

About 1% case of malignancy in adults is sarcoma whereas in this age group less than 5% of them is rhabdomyosarcoma. Rhabdomyosarcoma is a rare tumor found in humans, with incidence rate of around 1% in adult and 6-7% in children. Better prognosis has been found on early stage, young age, embryonic type, and exofitic.

Method

case study

Results

A 28 years old unmarried woman with a mass protruding from her vagina, causing urinating difficulty since 5 hours prior admission. On physical examination, we found a 9 x 5 x 8 cm dense lump, blackish-brown colored, spongy, smooth surfaced with no tenderness. The histopathologic test result is botryoid type embryonic rhabdomyosarcoma.

Considering that the patient is still in the reproductive age and have plans of getting married next month, the further treatment of lasso ligation to stop the bleeding followed by debulking of the tumor mass. An incomplete resection would leave out tumor at local or surrounding tissues. A treatment plan will be to conduct chemotherapy. Referring to study guidelines by the IRS, the patient is in the Group III Stage 1 so that the appropriate therapy recommendation is 3 chemotherapy regimens: Vincristine + dactinomycin + cyclophosphamide (VAC) and radiotherapy.

Conclusion

Rhabdomyosarcoma, one of a kind of soft tissue sarcoma, is a rare malignancy that comes from mesenchyme or mesoderm tissue. This patient undergone fertility-sparing surgery as an alternative treatment, and then continued with chemotherapy. Prognosis for this patient as mentioned in five-years survival rate is 70%.
LATE BREAKING

ESG07-1458

INTENSITY MODULATED RADIATION THERAPY BOOST IN LOCALLY ADVANCED CERVICAL CANCER: IS IT A SAFE AND FEASIBLE ALTERNATIVE WHEN BRACHYTHERAPY IS NOT PRACTICABLE?

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Aims

Standard treatment in locally advanced cervical cancer is External Beam Radiotherapy (EBRT) concomitant to platinum based chemotherapy, followed by intracavitary/interstitial brachytherapy. We questioned whether an Intensity Modulated Radiation Therapy (IMRT) boost is safe and feasible in patients clinically or radiologically unfit for brachytherapy boost.

Method

We retrospectively analyzed 22 patients with cervical cancer who underwent IMRT boost with BrainLabVERO® between 7/2014 and 12/2016. Toxicity, local control (LC), progression free survival (PFS) and overall survival (OS) were assessed. Acute and late toxicity were evaluated by CTCAE Version 4.1. Pre boost MRI was performed in all but one patients. Clinical Target Volume (CTV) drawn considering the initial extent of the disease and Planning Target Volume achieved adding 3-5 mm to CTV. Constraints to organs at risk were borrowed from the brachytherapy ones. Image Guided Radiotherapy (IGRT) was performed at every fraction.

Results

Patients’ characteristics are listed in table 1. All patients underwent EBRT to pelvis+lumbo-aortic lymph-nodes with a median dose of 50.4 Gy (range 43.2-50.4), all but one received concomitant chemotherapy. Contraindications to BRT were technical limitations, comorbidity or claustrophobia. Boost treatment was homogeneously performed to a total dose of 25 Gy in 5 fractions (alternating days). Median follow-up was 21 months (range 4–58.2). Results are shown in table 2.

Conclusion

Table 1: Patients’ characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number patients</td>
<td>22</td>
</tr>
<tr>
<td>Median patient age, years</td>
<td>54.9 (30.3-81.6 range)</td>
</tr>
<tr>
<td>FIGO Stages</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>9%</td>
</tr>
<tr>
<td>II</td>
<td>30%</td>
</tr>
<tr>
<td>III</td>
<td>13%</td>
</tr>
<tr>
<td>IV</td>
<td>48%</td>
</tr>
<tr>
<td>Histology</td>
<td></td>
</tr>
<tr>
<td>SCC</td>
<td>22</td>
</tr>
<tr>
<td>Others</td>
<td>0</td>
</tr>
</tbody>
</table>


Table 2: Results

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median follow-up, months</td>
<td>21 (4–58.2 range)</td>
</tr>
<tr>
<td>Acute toxicity, patients</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Late toxicity, patients</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Local relapse rate</td>
<td>23%</td>
</tr>
<tr>
<td>Distant progression rate</td>
<td>32%</td>
</tr>
<tr>
<td>2-years local control</td>
<td>74%</td>
</tr>
<tr>
<td>2-years overall survival</td>
<td>75%</td>
</tr>
<tr>
<td>2-years progression free survival</td>
<td>33%</td>
</tr>
</tbody>
</table>

Conclusion
Our preliminary data show the safety and feasibility of IMRT boost in terms of toxicity. LC, OS and PFS are coherent to the cohort of patients (48% stage IV disease). IMRT boost seems to be reasonable alternative when brachytherapy is not practicable.
PREOPERATIVE ASSESSMENT OF MYOMETRIAL INVASION IN LOW-RISK ENDOMETRIAL CANCER BY 3D ULTRASOUND AND DIFFUSION-WEIGHTED MAGNETIC RESONANCE IMAGING

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¹Hospital Clinic de Barcelona, Gynecology Oncology, Barcelona, Spain
²Hospital Clinic de Barcelona, Gynecology Oncology, Barcelona, Spain

Aims

To compare the usefulness of 3-dimensional (3D) ultrasound and diffusion-weighted magnetic resonance imaging (DW-MRI) in the preoperative assessment of myometrial invasion in patients with low-risk endometrial cancer.

Method

Retrospective study performed in patients with proven endometrioid adenocarcinomas FIGO grade 1 or 2 who underwent surgery at the Hospital Clinic of Barcelona between January 2012 and March 2017. We compared the assessment of myometrial invasion (<50% or ≥50%) by 3D ultrasound by the subjective impression of the examiner and DWI-MRI with final pathologic evaluation on hysterectomy specimens.

Results

A total of 111 patients were included in the study. Evaluation of the depth of myometrial invasion with 3D ultrasound had a sensitivity, specificity and accuracy of 71.9% (95% CI 54.6%-84.4%), 86.1% (95% CI 76.8%-92%) and 82% (95% CI 73.8%-88%), respectively. Evaluation of the depth of myometrial invasion with DW-MRI had a sensitivity, specificity and accuracy of 71.9% (95% CI 54.6%-84.4%), 88.6% (95% CI 79.7%-93.9%) and 83.8% (95% CI 75.8%-89.5%), respectively. Association of both techniques reached 84.4% (95% CI 68.2%-93.1%) sensitivity, and decreased specificity and accuracy to 79.7% (95% CI 69.6%-87.1%) and 81.1% (95% CI 72.8%-87.3%), respectively.

Conclusion

Association of 3D ultrasound and DW-MRI had the highest sensitivity to assess myometrial invasion in low-risk endometrial cancer, decreasing false negative rate. These two techniques combined allow the clinicians to consider more patients at high risk of metastatic lymph node. This preoperative assessment could help to plan more accurate the surgery, thus these patients would benefit of a staging lymphadenectomy.
LATE BREAKING

ESGO7-1515

ASSESSMENT OF MYOMETRIAL INVASION IN LOW-RISK ENDOMETRIAL CANCER BY INTRAOPERATIVE BIOPSY WHEN 3D ULTRASOUND AND DIFFUSION-WEIGHTED MAGNETIC RESONANCE IMAGING HAVE DISCORDANT RESULTS

A. Rodriguez Trujillo1, M. Munmany1, C. Martí1, D.P. Marta1, B. Gil Ibañez1, P. Fusté1, A. Glickman1, I. Nicolás1, A. Torné1

1Hospital Clinic de Barcelona, Gynecology Oncology, Barcelona, Spain

Aims

To describe the diagnostic efficacy of intraoperative biopsy in the assessment of myometrial invasion in patients with low-risk endometrial cancer when 3-dimensional (3D) ultrasound and diffusion-weighted magnetic resonance imaging (DW-MRI) have discordant results.

Method

Retrospective study performed in patients with proven endometrioid adenocarcinomas FIGO grade 1 or 2 who underwent surgery at the Hospital Clinic of Barcelona between January 2012 and March 2017. 3D ultrasound and DW-MRI were routinely performed before the surgery and if the two imaging studies were discordant in the assessment of myometrial invasion, intraoperative biopsy was carried out. Intraoperative biopsy was performed by frozen section and 3D ultrasound by the subjective impression of the examiner. The results were compared with final pathologic evaluation of histerectomy specimens.

Results

A total of 58 patients were included in the study. Intraoperative biopsy had a sensitivity, specificity and accuracy of 75% (95% CI 40.9%-92.8%), 98% (95% CI 89.5%-99.6%) and 94.8% (95% CI 85.9%-98.2%), respectively. 3D ultrasound had a sensitivity, specificity and accuracy of 62.5% (95% CI 30.6%-86.3%), 92% (95% CI 81.2%-96.8%) and 87.9% (95% CI 77.1%-94%), respectively. DWI-MRI had a sensitivity, specificity and accuracy of 50% (95% CI 21.5%-78.5%), 90% (95% CI 78.6%-95.6%) and 84.5% (95% CI 73.1%-91.6%), respectively.

Conclusion

Intraoperative biopsy had a good diagnostic efficacy to the assessment of myometrial invasion in low-risk endometrial cancer. In cases of disagreement of the imaging techniques in the preoperative assessment, the intraoperative pathological evaluation of the hysterectomy specimen seems to be a good tool for a correct staging.
LATE BREAKING

ESGO7-1441

COMPARATIVE RESULTS OF PROLONGED LYMPHORRHEA AND LYMPHOCELE FORMATION AFTER LAPAROSCOPIC PELVIC LYMPHADENECTOMY IN EARLY CERVICAL AND ENDOMETRIAL CANCER

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Aims

The aim of this study was to compare the results for preventing prolonged lymphorrhea and lymphocele formation by using laparoscopic ultrasonic and electrocautery technique of radical hysterectomy with pelvic lymphadenectomy in early stages of cervical and endometrial cancer.

Method

Study represents a retrospective review of 64 patients with laparoscopically managed preoperative clinical stage IA-IB endometrial cancer (endometrioid adenocarcinoma) and IA-IB1 cervical cancer (squamous cell carcinoma). Patients were randomly assigned for lymphadenectomy in 1 side of the pelvis using the ultrasonic scalpel (Bowa, Germany), whereas, in the other side, the bipolar coagulation (Karl Storz, Germany) to seal lymphatic vessels was used.

Results

There were no differences in age, clinical stage, histologic type, body mass index in two groups. Operation time (160,2±18,4) min and (147,7±15,2) min, number of removed lymph nodes (from 6 till 11), rate of complications (1 case in each group), were similar in both groups. Positive pelvic lymph nodes were detected in 4 cases in 1st group and 3 cases in 2nd group. We used postoperative drainage after lymphadenectomy during 5-7 days until the amount of lymphorrea had markedly diminished (less than 50 ml). Prolonged lymphorrhea (after 7-8 postoperative days) was detected in every third patients of each group, lymphocele formation - in about 10 % cases in each group. There were also no differences for disease recurrence and survival rate in two groups.

Conclusion

There were no significal differences in prolonged lymphorrhea and lymphocele formations after laparoscopic ultrasonic and bipolar electrosurgical pelvic lymphadenectomy in early endometrial and cervical cancer.
SUPRARENAL PARAORTIC LYMPH NODE INVOLVEMENT IN ADVANCED CERVICAL CANCER AND THE IMPACT OF REMOVAL ON SURVIVAL

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Aims

Lymph node involvement is an important prognosticator in cervical cancer. The resection of metastatic infrarenal paraaortic lymphnodes has been demonstrated to be of therapeutic value. This study investigates the frequency of involvement and the impact of the removal proximal to infrarenal nodes on survival.

Method

Patients with locally advanced cervical cancer (n=) were treated by radical hysterectomy with pelvic and infrarenal paraaortic lymphadenectomy between 2006 and 2013 in the ESGO training center at the Jena University Women’s Hospital by the same surgical team, 44 of which received in addition a suprarenal node dissection around the renal vessels, the coeliac truncus, the superior mesenteric artery and the hepatoduodenal ligament. The other 43 matched patients served as controls.

Results

The median number of removed nodes was 85 (103 vs 72), 65% of the 44 patients had suprarenal lymph node metastases. Median FU was 14 vs 21 months in the control group. Chylus ascites was observed 50% in the suprarenal group (25% infrarenal). Patients after suprarenal dissection needed more blood transfusion. Suprarenal lymph node metastases were found when at least 25% of the paraaortic infrarenal nodes were positive. Median overall survival was increased after suprarenal node dissection (28 vs 42 months), not statistically significant. Patients with suprarenal lymph node metastases had worst overall survival.

Conclusion

Suprarenal lymph node dissection was feasible and detected a high rate of involvement. Removal of involved nodes may be beneficial for the survival of cervical cancer patients. Strength: First study on suprarenal LND with a large patient number. Limitation: Retrospective design.
TEN YEARS REVIEW OF GESTATIONAL TROPHOBlastic DISEASE (GTD) IN BANGABANDHU SHEIKH MUJIB MEDICAL UNIVERSITY OF BANGLADESH

K. Sabera
Bangabandhu Sheikh Mujib Medical University, Obstetrics & Gynaecology, Dhaka, Bangladesh

Aims

Gestational Trophoblastic Disease (GTD) comprises a spectrum of disorders from the pre-malignant conditions of complete (CHM) and partial (PHM) hydatidiform moles through to the malignant invasive mole, choriocarcinoma (CC) and very rare placental site trophoblastic tumour (PSTT/ETT). The incidence of GTD in South Asian region is 200-500/lac pregnancies (0.3%). Bangladesh is a low income country of this region. There is a specialized GTD centre in BSMMU. GTD cases from all over the country are referred in this centre. Two MOLAR CARDS are filled up at 1st visit. One is kept at the centre and another is given to the patient. During follow-up, Persistent Gestational Trophoblastic Neoplasia (PGTN) cases are diagnosed on the basis of weekly or monthly serum β-hCG level.

To register and to give effective management of Gestational Trophoblastic Disease (GTD) in BSMMU

Method

This retrospective analysis done at the Gynaecologic Oncology Division of BSMMU from the records of "MOLOR CARD" from 2007 to 2016 among 500 cases. Following variables were studied

Results

Prevalence of GTD was 2%, age group 21-25 years (33%), 39.32% nil parity, primigravida 31.58%, income <100$/month in 53% cases, amenorrhoea >8 weeks in 67.24% cases, 64.56% were from outside city. Pre-evacuation β-hCG was estimated in 75.73% cases. Diagnosis by USG in 84.84%. Evacuation done within <1 month in 87.59%. Histopathology was available in 57.25%. 48 hours post evacuation β-hCG was available in 28.08%. Post-evacuation USG done in 37.70%. Mortality was nil.

Conclusion

A "MOLOR CARD" is an essential tool for follow-up of GTD cases.
LATE BREAKING
ESGO7-1485

TEN YEARS REVIEW OF GESTATIONAL TROPHOBLASTIC DISEASE (GTD) IN BANGABANDHU SHEIKH MUJIB MEDICAL UNIVERSITY OF BANGLADESH

K. Sabera

Bangabandhu Sheikh Mujib Medical University, Obstetrics & Gynaecology, Dhaka, Bangladesh

Aims

Gestational Trophoblastic Disease (GTD) comprises a spectrum of disorders from the pre-malignant conditions of complete (CHM) and partial (PHM) hydatidiform moles through to the malignant invasive mole, choriocarcinoma (CC) and very rare placental site trophoblastic tumour (PSTT/ETT). The incidence of GTD in South Asian region is 200-500/lac pregnancies (0.3%). Bangladesh is a low income country of this region. There is a specialized GTD centre in BSMMU. GTD cases from all over the country are referred in this centre. Two MOLAR CARDs are filled up at 1st visit. One is kept at the centre and another is given to the patient. During follow-up, Persistent Gestational Trophoblastic Neoplasia (PGTN) cases are diagnosed on the basis of weekly or monthly serum β-hCG level.

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Method

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Conclusion

A "MOLOR CARD" is an essential tool for follow-up of GTD cases.
LATE BREAKING
ESGO7-1508

ACHIEVEMENTS AND FURTHER GOALS OF PATIENTS’ ADVOCACY TO DEVELOP CANCER CARE IN THE COUNTRY OF GEORGIA

E. Sanikidze1
1Georgia Patients’ Union, Oncology Group, Tbilisi, Georgia

Aims

To evaluate achievements of GPU advocacy, communication and social mobilization (ACSM) activities to improve oncology patients’ diagnosis, treatment, prevention, support and care in Georgia.

Method

1. Study and assessment of Cancer care challenges and gaps via analysis of statistical data, official reports and questionnaires/interviews
2. Collaborate with medical facilities, medical staff, managers, psychologists and social workers, patients and their family members, various NGOs, especial women organizations, famous persons etc. via communication and social mobilization methods to elaborate and implement advocacy plan
3. Conduct advocacy activities to achieve changes in the gynecological oncology (GO), Cancer Care strategy (CCS) development and fundraising for needed services.
4. Elaborate concrete recommendations and models on base of own results and experience of other countries in the field of Cancer Care in general and GO concretely.

Results

In collaboration with Tbilisi Cancer Center, NCDC, MoH, Tbilisi State Medical University, “Rights to health” organization, Roche and others, gaps were identified in the following areas: low referral to screening programs, lack of timely detection tests and activities, including genetic tests, lack of target- and immunotherapy, palliative care, psycho-social support programs and hospices in our country. On base of ACSM activities, problems description and special interventions were added to National Cancer Strategy.

Conclusion

For timely implementation of strategy in patients’ life, development of human and financial resources, some legislative and regulatory changes should be provided (Like organizational vaccination, obligatory screening, distress screening,. pre cancer conditions control, education, implementation of special approaches for timely detection and modern diagnostic methods, including genetic testing e.t.c)
ASSESSMENT OF QUALITY OF LIFE, URINARY AND SEXUAL FUNCTION AFTER RADICAL HYSTERECTOMY IN LONG TERM CERVICAL CANCER SURVIVORS

F. Plotti¹, G. Scaletta¹, C. Terranova¹, S. Capriglione¹, S. Crispino¹, A. Li Pomi², A. Miranda¹, D. Luvero¹, C. De Cicco¹, R. Montera¹, R. Angioli²
¹Campus Bio-Medico University of Rome, Obstetric and Gynecology, Rome, Italy

Aims

The aim of this study was to evaluate long-term quality of life, urinary and sexual function in long-term cervical cancer survivors previously treated with radical hysterectomy (RH) type C2/type III.

Method

All patients submitted at Campus Bio-Medico of Rome to radical hysterectomy type C2/type III for cervical cancer were considered eligible for this retrospective study protocol. We included exclusively patients with complete response to primary treatment with at least 36 months of follow up. Included subjects were interviewed with the European Organization for Research and Treatment of Cancer (EORTC) QLQ-CX24 Questionnaire, EORTC QLQ30 and an Incontinence Impact Questionaire-7 (IIQ-7).

Results

From January 2004 to June 2014, 251 patients affected by locally advocated cervical cancer were treated at Campus Bio-Medico of Rome treated with type C2/ type III RH. At time point of March 2017, 90 patients were included with a median follow-up of 49 months. The symptoms of fatigue, nausea and vomiting, appetite loss, pain, insomnia, and dyspnea as well as a negative financial impact were reported as not frequent and rarely disabling.

On the contrary, patients frequently reported gastrointestinal complaints. Concerning sexual activity, data indicated a good level of sexual enjoyment with a slight worsening of sexual activity. Incontinence was reported in 28% of cases and appeared to be mild and rarely disabling.

Conclusion

Waiting for ongoing RCTs, this study confirmed that RH may be considered as an useful treatment plan, according to its negligible long-term impact on QoL, urinary disfunctions and sexual function.
LATE BREAKING

ESGO7-1502

EPIDEMIOLOGY OF THE VAGINAL CANCER IN BELARUS. STATISTIC REPORT FOR 2006-2015 YEARS.
A. Shushkevich¹, A. Evmenenko¹, A. Pletnev¹, S. Maevrichev¹
¹Belarus National Cancer centre of Belarus, Onco gynecology, Minsk, Belarus

Aims

The aim of the study is to evaluate morbidity and mortality of vaginal cancer in Belarus for the period 2006-2015.

Method

Cases of vaginal cancer between 2006-2015 were analyzed using Belarusian cancer register database.

Results

For this period 371 cases of vaginal cancer were detected in Belarus. 270 (72.8 %) cases were detected among urban population, 101 (27.2 %) cases were detected among rural population. On average in the Republic of Belarus 37 new cases of vaginal cancer are detected per a year. 33.24 % cases of vaginal cancer were detected in stage I, 35.43 % in stage II, 15.65 % in stage III and 12.36 in stage IV. Five-year overall survival rate for the period 2010-2015 was 94.5 % in stage I, 54 % in stage II, 54 % in stage III, 0 % in stage IV.

Conclusion

The morbidity of vaginal cancer in Belarus is only 3 % from all diagnosed cases of malignant neoplasms of the female reproductive system and most of them 68.67 % of vaginal cancer were diagnosed in early stage. On average in Belarus 37 new cases of vaginal cancer are detected per a year.
LATE BREAKING
ESGO7-1445

CONTRAST-ENHANCED ECHOGRAPHY IN THE DIAGNOSTICS OF CERVICAL CANCER AND EVALUATION OF THE EFFICIENCY OF NEOADJUVANT CHEMOTHERAPY

I. Meshkova1, I. Berlev1, A. Petrova1, A. Sidoruk1
1Petrov Research Institute of Oncology, Gynaecological Oncology Department, Saint-Petersburg, Russia

Aims

To study the possibilities of contrast echography in the diagnostics of the primary tumor of cervix and the prospects for its application in assessing the effectiveness of neoadjuvant chemotherapy.

Method

The results of contrast echography with bolus administration of contrast Sonovju, data of 30 patients with cervical cancer 1b-2a stages were studied. The features of the accumulation of the contrast by neoplasm before and after the treatment were evaluated. The control group-5 patients with histologically verified uterine myoma.

Results

In 27 patients (90%) a rapid accumulation of contrast with a tumor was recorded (the time of accumulation of contrasts (RI) was 19.2 sec), the average time of passage of contrast (MTT) was 12 with the formation of washout effect - type 3 of the curve. The maximum intensity of accumulation of contrast (Imax) was 95. Benign nodes in all patients accumulated contrast slowly from the periphery to the center without forming the washout effect - type 1 curve. Changes in the features of accumulation of contrast after chemotherapy were detected in 23 (76,7%) patients and showed an increase in RI to 32.3 and a decrease in Imax to 48.2, the washout effect in these observations was absent.

Conclusion

The use of the contrast-enhanced echography method increases its specificity in the differential diagnosis of malignant and benign cervical lesions. The change in the features of the tumor time-intensity curves, increase from RI and MTT, disappearance of the contrast washout effect, decrease in Imax are important additional characteristics for evaluating the effectiveness of neoadjuvant chemotherapy.
LATE BREAKING

ESGO7-1489

SENTINEL LYMPHADENECTOMY IN CERVICAL CANCER USING NEAR INFRARED FLUORESCENCE FROM INDOCYANINE GREEN COMPARED TO TECHNETIUM-99M-NANOCOLLOID

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²Hannover Medical School, Department of Nuclear Medicine, Hannover, Germany

Aims

In the last years, indocyanine green (ICG) has been evaluated for sentinel diagnostic in different tumor entities. ICG is a fluorescent molecule which emits a light signal in the near infrared band after excitation. Our study aims to evaluate ICG compared to the gold standard Tc-99m-nanocolloid.

Method

Between 5/2015 – 3/2017, we included patients with primary cervical cancer FIGO IA – IIA with the indication for sentinel lymphadenectomy in this prospective trial. Sentinel diagnostic was carried out using Tc-99m-nanocolloid, ICG and patent blue. We examined each pelvic site for near infrared light signals using the Storz ICG System, for radioactivity and blue staining. All sentinel lymph nodes, defined as being Tc-99m-nanocolloide positive, and all fluorescent lymph nodes were excised and tested; then sent to histologic examination. All additional pelvic lymph nodes were excised and examined, too.

Results

33 patients were included in this study. We dissected 996 pelvic lymph nodes, 211 of them being sentinel lymph nodes (Tc99m-positive). Only four of them showed no ICG fluorescence, so that the sensitivity of ICG for detecting a Tc99m-positive lymph node was 98.1% (CI95% 94.9-99.4%). As one pelvic site was detected being tumor infiltrated in a lymph node that was ICG positive, but Tc99m negative, ICG identified even more pelvic sites with nodal infiltration than Tc99m. Of the 785 Tc99m-negative pelvic lymph nodes, 160 showed ICG fluorescence, so that the specificity of ICG was 79.6% (CI95% 76.8-82.3%).

Conclusion

ICG is a promising approach for pelvic sentinel identification in cervical cancer with a similar sensitivity as Tc-99m-nanocolloid.
LATE BREAKING

ESGO7-1525

BE AWARE OF INCOMPLETE EXCISION OF ENDOCERVICAL MARGINS

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Aims

Large Loop Excision of the Transformation Zone (LLETZ) is currently the most common treatment of cervical high grade dyskaryosis. The purpose of this procedure is to remove the abnormal cervical cells with minimal damage to healthy tissue, facilitating accurate histological diagnosis of the excision margins. It is known to reduce the risk of invasive cancer of the cervix, but often positive CIN margins are followed up only by surveillance with repeated cervical smear and colposcopy.

Method

From June 2016 to June 2017 we had 353 LLETZ procedures within our trust. In four cases the endocervical excision margins were positive for CIN3 and follow up smear test showed persistent abnormal cells. Three of the patients have repeated LLETZ procedures and one had LAVH.

Results

Two specimens were reported as invasive squamous cells cervical cancer 1A1, one was 1B and another one was 2B.

Conclusion

Patients with a background of cervical dysplasia have an increased risk of developing invasive cancer. Intensive follow up picked up the residual disease and prompt treatment assured complete excision of the invasive cancer with accurate staging. Consideration should be given to repeat surgical excisional treatment rather than routine smear follow up for all incomplete endocervical excisions.
LATE BREAKING

ESGO7-1465

DECISION MAKING FOR RISK-REDUCING SURGERY IN BRCA1/2 MUTATION CARRIERS IN THE PROSPECTIVE MULTICENTRE TUBA STUDY


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2Radboud University Medical Center, Human Genetics, Nijmegen, The Netherlands
3Radboud University Medical Center, Cardiology, Nijmegen, The Netherlands
4Radboud University Medical Center, Medical Psychology, Nijmegen, The Netherlands
5Radboud University Medical Center, Pathology, Nijmegen, The Netherlands
6Radboud University Medical Center, Health Evidence, Nijmegen, The Netherlands
7Catharina Hospital, Obstetrics & Gynaecology, Eindhoven, The Netherlands
8Erasmus MC Cancer Clinic, Gynaecology, Rotterdam, The Netherlands
9Netherlands Cancer Institute/Antoni van Leeuwenhoek Hospital, Center for Gynaecological Oncology Amsterdam CGOA, Amsterdam, The Netherlands
10University Medical Center Groningen, Gynaecology, Groningen, The Netherlands
11UMC Utrecht Cancer Centre, Gynaecological Oncology, Utrecht, The Netherlands
12Leiden University Medical Centre, Obstetrics and Gynaecology, Leiden, The Netherlands
13Maastricht University Medical Centre, Obstetrics and Gynaecology, Maastricht, The Netherlands
14Elisabeth-Tweesteden Hospital, Gynaecologic Oncologic Center South, Tilburg, The Netherlands
15AMC, Gynaecological Oncology Amsterdam CGOA, Amsterdam, The Netherlands
16Radboud University Medical Center, Scientific Institute for Quality of Healthcare, Nijmegen, The Netherlands

Aims

Risk-reducing salpingo-oophorectomy (RRSO) around the age of 40 is currently recommended to BRCA1/2 mutation carriers resulting in premature menopause. The TUBA-study (NCT02321228) investigates Quality of life between standard RRSO and early risk-reducing salpingectomy (RRS) with delayed oophorectomy (RRO). In this abstract we focus on patient decision making.

Method

A multicentre non-randomised trial in 10 oncology centres. Premenopausal BRCA1/2 mutation carriers choose between RRSO at age (35-40 (BRCA1) or 40-45 (BRCA2)) and the innovative strategy (RRS after completion of childbearing and RRO at age 40-45 (BRCA1) or 45-50 (BRCA2)).

Results

Of the first 200 participants, 95 (47.5%) chose RRSO and 105 (52.5%) to delay RRO. Women choosing for delayed RRO were more likely to be conjoined in a relationship and to have their BRCA mutation diagnosed longer ago. Most important reasons to delay RRO: the opportunity to delay premature menopause, the trust in the TUBA-hypothesis and the willingness to participate in research for the next generation. For choosing RRSO the known safety of RRSO and fear of ovarian cancer are defining factors.

Conclusion

More understanding of key factors in the process of decision making between RRSO and RRS with delayed RRO can enhance patient satisfaction. We invite more countries to take an initiative such as the TUBA-study; pooled data will eventually learn us not only about quality of life and decision making of BRCA1/2 carriers, but also about the safety of salpingectomy with delayed RRO in cancer prevention.
FIRST EVIDENCE FOR INCREASED NECRPTOTIC CELL DEATH AFTER HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY (HIPEC) IN OVARIAN (CANCER) CELL LINES

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Aims

Serous ovarian cancer is difficult to treat with highest mortality of all gynecologic malignances. Peritoneal tumor spread is the major challenge and most patients die on local – mostly chemotherapy resistant – recurrences. To improve outcome, aggressive therapies are discussed, e.g. hyperthermic intraperitoneal chemotherapy: Local chemotherapy can be tolerated at higher concentrations and hyperthermia could increase tissue penetration and toxicity. Nevertheless, the concrete mode of action is unknown, therefore we merged recent findings of different cell death and stress mechanisms to a hypothesis (Fig.1): Heat induced stress reactions, including tRNA fragment synthesis – known to inhibit apoptosis – could shift cells from the non-immunogenic apoptosis to the immunogenic necroptosis and therefore increases patients’ survival.

Method

We treated ovarian (cancer) cell lines with hyperthermic or normothermic chemotherapy and stained immunofluorescently for necroptotic (pMLKL, RIPK3), apoptotic (M30), and stress markers (hsp90), scanned and quantified stainings with CellProfiler. Colocalization of pMLKL/RIPK3 – and interestingly Hsp90 in cells at 42°C – at cell borders was shown by confocal microscopy and judged as sign for necroptosis.

Results

In some cell lines, ES2 (Fig.2) and IOSE 364, an increase of double stained cells in the 42°C compared to the 37°C condition was seen, whereas in other cell lines no (CaOV3) or only little (TYK-nu) increase was seen.
Conclusion

We show first evidence for increased necroptosis (defined as high colocalized pMLKL/RIPK3 abundance) after hyperthermic compared to normothermic chemotherapy in some ovarian (cancer) cell lines.
Aims

Ovarian cancer remains an important health issue in gynecologic oncology. Cancer recurrence is present in 75% of patients after initial treatment. Studies show that elevated HE4 protein is a sensitive marker of ovarian cancer recurrence and it precedes elevation of CA125 by 5-8 months. The aim of this study is to evaluate the use of HE4 marker in prediction of the course of the disease in female patients with ovarian cancer who have finished the first line chemotherapy.

Method

The study is retrospective. The studied group will comprise 50 female patients with recurrent ovarian cancer. For each patient, test results for CA125 and HE4 will be analyzed retrospectively, the tests being performed at the time of diagnosis, during and after finishing chemotherapy, as well as during follow-up visits.

Results

We found significantly higher serum concentrations of HE4 and CA125 after the first-line chemotherapy in platinum-resistant patients. The area under the curve for CA125 and HE4 depending on the platinum-sensitivity are AUC=0.87 and AUC=0.7 respectively. HE4 and CA125 levels are elevated during the time of diagnosis of the first and the second recurrence. HE4 was elevated respectively at a frequency of 77% and 95% for the first and the second recurrence. CA125 was elevated at a frequency of 77% and 84% respectively for the first and the second recurrence. We found shorter disease-free survival in patients with elevated levels of HE4 and CA125.

Conclusion

It seems that HE4 protein may constitute a useful biomarker in prediction of therapeutic outcomes in patients with advanced recurrent ovarian cancer. Its greater specificity and high sensitivity may result in HE4 being more useful than currently used CA125.
Ki67 AND CD44 INDICES DEPENDS ON P16 STATUS OF VULVAR CANCER TISSUE. HIGH INDEX OF CD44 POSITIVE CANCER CELLS PREDICTS WORSE OUTCOME OF PATIENTS

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Aims

To evaluate proliferative power and metastatic potential of vulvar squamous cell carcinoma as represented by Ki67 and CD44 indices respectively, to extend the biological characteristics of the primary tumor microenvironment related to p16INK4a and high-risk HPV-DNA statuses.

Method

Data on p16INK4a and high-risk HPV-DNA statuses, were retrieved from our previous studies on cohort of 85 vulvar cancer patients. Expression of Ki67 and CD44 were evaluated by immunohistochemistry and percentage of positively stained cancer cells was calculated for each case. Indices of Ki67 and CD44 were compared between tumors with different p16INK4a and high-risk HPV-DNA status. Survival analyses included the Kaplan–Meier method, log-rank test and Cox proportional hazards model.

Results

Higher indices of CD44 were observed among p16INK4a-negative tumors (p<0.001) while high risk HPV-DNA status did not influenced on percentage of CD44 positive cancer cells (p=0.082). Higher indices of Ki67 were observed among p16INK4a and high-risk HPV-DNA positive tumors (p<0.001 and p<0.001, respectively). CD44 index was found to be independent negative prognostic factor for overall survival of vulvar cancer patients (p=0.004, 2.72 HR 95%CI 1.38-5.33).

Conclusion

This study highlights the importance of comprehensive assessment of all biomarkers both in p16INK4a-negative and positive vulvar cancer tumors regardless to high risk (hr)HPV-DNA-status. Widespread incorporation of CD44 index into pathological examination could be used in future studies for calculation of cut-off value indicating patients requiring more extensive management.
BENCHMARKING OF UTILIZATION RATES OF BREAST CANCER TREATMENT MODALITIES INDICATES LACK OF ADHERENCE TO TREATMENT GUIDELINES IN POMERANIAN VOIVODESHIP (POLAND).

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Aims

To calculate utilization rates of surgery, chemotherapy and radiotherapy within population of breast cancer patients living in Pomeranian Voivodeship, Poland (2 million people reflecting polish demography) and to compare with evidence based estimated (appropriate) rates.

Method

Utilization rate of treatment modality was defined as proportion of new cases treated with particular method at least once during the course of their illness. Data for 2013 were extracted from National Health Fund. An appropriate utilization rates for breast cancer (reflecting current guidelines) were extracted from available publications.

Results

1065 patients underwent oncological treatment for breast cancer in 2013 in Pomeranian Voivodeship. The 5-year relative survival rate for this cohort was 68%. Overproduction of surgery and chemotherapy (15.9% and 29.9% respectively) was notified. Utilization of radiotherapy was found to be 36.5% below appropriate one.

Conclusion

Benchmarking of utilization rates could serve as useful tool for prediction of quality of treatment. Significant differences between current and appropriate utilization rates in Pomeranian Voivodeship may explain, worse long-term results of breast cancer treatment. The identification of reasons for which differences occur and the improvement in adherence to the guidelines would ensure better patients outcomes.
SURGICOPATHOLOGIC OUTCOME OF LAPAROSCOPIC RADICAL HYSTERECTOMY AND PELVIC LYMPHADENECTOMY, FIRST YEAR EXPERIENCE IN FATMAWATI HOSPITAL JAKARTA

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Aims

Radical hysterectomy (type III) and pelvic lymphadenectomy for early stage invasive cervical cancer can be performed both by minimally invasive or open technique. The aim of this study was to describe surgicopathologic outcome of our first year experience in laparoscopic radical hysterectomy for treatment of early-stage cervical cancer in Fatmawati Hospital Jakarta.

Method

All specimens of laparoscopic radical hysterectomy were measured manually and examined in pathological anatomy department. Size of tumor, parametrial length, number of lymph node, tumor border in vagina was measured manually by one examiner.

Results

This study describes surgicopathologic outcome of 17 patients underwent laparoscopic radical hysterectomy and pelvic lymphadenectomy. Patient’s age was 35 until 59 years old, (median 46 years old). Body mass index was 16.4 until 32.4 kg/m² (median 24.5 kg/m²). Cancer stage was evenly distributed in our patients, the lowest stage was stage IB1 and the highest stage is IIA2. Most of histologic type of cervical cancer is squamous cell carcinoma (62.5%). The median of tumor size 4 cm (1-7 ). Left parametrium width was 6 cm (3-8) and right parametrium width was 5 cm (3-6). Number of left lymph node yield was 8 (5-12) and right lymph node was 8 (5-12). Most of vaginal border was free of tumor (56.3%).

Conclusion

The characteristic of cervical cancer in our study is not differ from other studies. Laparoscopic approach for early stage cervical cancer is new experience in our center. We need more cases to be able to analyze the outcome of laparoscopic radical hysterectomy in our center.
NERVE-SPARING RADICAL HYSTERECTOMY IN PATIENTS WITH INFILTRATIVE CERVICAL CANCER

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**Aims**

The study was aimed on improvement of treatment effectiveness and quality of life of the patients with infiltrative cervical cancer (ICC) by improving radical hysterectomy via using nerve-sparing method.

**Method**

The dissertation is based on analysis of retrospective data on 120 patients with ICC cured during the last 10 years by combined method in accordance with the standards and prospective data on clinical observation and treatment results of 90 patients with ICC treated in the Department of Oncogynecology of National Cancer Institute in 2012–2016 by nerve-sparing radical hysterectomy (NSRE, the main group, n = 45), and radical hysterectomy III (RHE III, the control group, n = 45).

**Results**

It has been shown that 3-year survival index in the group with NSRE was (81.0 ± 10.6) % versus (73.7 ± 16.2) % in the group with RHE III. The conduction of NSRE in the patients with ICC has allowed to decrease significantly the rate of complications of genitourinary system which usually develop after convenient RHE III: difficulty with urinary bladder emptying in RHE III group was significantly increased compared with NSRE group (3.93 ± 0.06) and (1.09 ± 0.04) (p < 0.05); dyspareunia – (4.69 ± 0.07) and (2.87 ± 0.07) (p < 0.05) respectively.

**Conclusion**

After conduction of NSRE there were observed no changes in the degree of bladder wall compliance and its volume, the changes of detrusor pressure were not registered that allowed to provide an adequate urination and continence, and did not worsen the quality of life of the patients.
To evaluate the concordance of Pap smear, colposcopy and histopathology in patients with cervical intraepithelial neoplasia established during cervical screening in a tertiary care hospital.

Method

It was a retrospective study conducted in Department of Gynecology I. Patients with abnormal Pap smear, undergoing Large Loop Excision of Transformation Zone (LLETZ) or conisation during the period from January 2013 to July 2017 were included in the study. Case records were reviewed regarding demographic and clinical data, Pap smear reports, colposcopy findings and histopathology reports (HPR) following cervical excision. Conventional and liquid-based cytology were reported adopting Bethesda system and biopsies routinely processed and stained with H&E.

Results

Total number of cases analysed were 352. The mean age of patients was 40.875 years (range of 21 to 71 years). Concordance rate with Pap smear for CINI was 65.4% and for CINII and CINIII was 56%. Concordance rate with colposcopy for CINI was 64.9% and for CINIII was 53.6%. For cases with ASC-H we had at histopathological exam CINI 4 cases, CINII 16 cases, CINIII 9 cases, and cervical cancer 3 cases. Detection rate for cancer at patients with ASC-H was good for colposcopy (P value 0.001).

Conclusion

In our study agreement between colposcopy and HPR was higher than Pap smear and HPR. 7,082 women with cervical intraepithelial neoplasia at Pap smears had normal biopsies. For HSIL we had 26 cases with underrated CIS diagnosis and 4 with invasive cancer at excision.
AN ULTRASOUND STUDY FOR PREDICTION OF ENDOMETRIAL CANCER USING IETA TERMINOLOGY

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Aims

To use terms and definitions described by the International Endometrial Tumor Analysis group (IETA) in evaluating the endometrium on gray scale ultrasound and Doppler imaging for testing the validity of these ultrasound variables in addition to patients clinical variables to identify the best predictors of endometrial cancer.

Method

A prospective study was done on 58 patients with abnormal uterine bleeding and diagnosis at histopathological exam of endometrial cancer. TVS and color Doppler were used. Myometrial invasion was evaluated by subjective assessment (<50% or ≥50%).

Results

The mean age of patients was 61.52±2.3 years (range of 40 to 78 years). The best predictors for endometrial cancer were endometrial thickness 24.75 +/- 4.403mm, heterogeneous endometrium echogenicity 100% sensitivity (Se) (95% CI: 0.6756 to 1) and 38.60% specificity (Sp) (95% CI: 0.2706 to 0.5157), irregular endometrial midline 100% Se and 47.37% Sp, hyperchogenicity of endometrium 50% Se and 50.88% Sp, ill-defined endometrium-myometrium interface 100% Se and 98.25% Sp, multiple global vessels 50% Se and 94.74% Sp, Doppler score >2. The ability of the colour score to discriminate between benign and malignant changes was assessed by the ROC curve analysis. The AUC was 0.899 (95%CI 0.809 to 0.996) giving the best cut-off value for malignancy of ≥ to 1.5, with 87.5% Se and 79% Sp.

Conclusion

Terms used by IETA group were clinically valuable and reasonable in assessment of preoperative endometrial malignancy. The subjective ultrasound evaluation of myometrial invasion had a good accuracy in our study.
LATE BREAKING

ESGO7-1444

RELATIONSHIPS OF NUCLEAR, ARCHITECTURAL AND FIGO GRADING SYSTEMS IN ENDOMETRIAL CANCER

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Aims

To examine correlations among nuclear, architectural and FIGO grading systems, and their relationships with lymph node (LN) involvement in endometrioid endometrial cancer.

Method

Histopathology slides of 135 patients were reviewed with respect to grade and LN metastasis. Notable nuclear atypia was defined as grade 3 nuclei. FIGO grade was established by raising architectural grade (AG) by one when tumor is composed of cells with nuclear grade (NG) 3. Correlations between the grading systems were analyzed by Spearman’s rank correlation coefficients, and relationships of grading systems with LN involvement were assessed using logistic regression analysis.

Results

Correlation analysis revealed a significant and strongly positive relationship between FIGO and architectural grading systems ($r=0.885$, $P=0.001$); however, correlations of nuclear grading with architectural ($r=0.535$, $P=0.165$) and with FIGO grading systems ($r=0.589$, $P=0.082$) were moderate and statistically non-significant. LN involvement rates differed significantly between tumors with AG1 and those with AG2, and tumors with FIGO grade 1 and those with FIGO grade 2. In contrast, while the difference in LN involvement rates failed to reach significance between tumors with NG1 and those with NG2, it was significant between NG2 and NG3 ($P=0.042$). An independent relationship between the grading systems and LN involvement could not be established in multivariate analysis.
Conclusion

Nuclear grading is correlated neither with architectural nor with FIGO grading systems. On the other hand, none of the grading systems is an independent predictor of LN involvement.
LATE BREAKING

ESG07-1491

PREDICTION OF SHORT-TERM SURGICAL COMPLICATIONS IN WOMEN UNDERGOING PELVIC EXENTERATION FOR GYNECOLOGICAL MALIGNANCIES

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Aims

Pelvic exenteration (PEx) is an extensive surgery associated with high postoperative morbidity and mortality rates. The absence of well-defined preoperative selection criteria to identify patients eligible for PEx prompted the assessment of predictors of 30-day major surgical complications.

Method

Demographics and surgical characteristics of 138 patients undergoing PEx in a single institution between 01/2004-12/2016 were reviewed. Postoperative complications were graded using the Accordion grading system. Logistic regression was used to analyze potential risk factors for grade 3/4 complications. Major complications were defined as Accordion grade 3.

Results

A total of 138 patients were included in the analysis. The median age was 62.7 years, 31.1% of patients were obese, and 54.6% had an ASA score > 3. Forty-five patients underwent total PEx, 52 anterior PEx, and 41 posterior PEx. Accordion Grade 3-4 complication was experienced by 37/138 patients (40.2%), and 3 patients (2.2%) experienced death within 90 days. The most frequent Grade 3 complications were: complications of urinary reconstruction (n=15, 41.7%), wound dehiscence (n=9, 25%), and abdominal abscess (n=6, 16.7%). On univariate analysis, the following were associated with Grade 3/4 complication: pre-operative hemoglobin < 10 mg/dl, presence of 3+ comorbidities, BMI>35, type of exenteration, infralevator versus supralevator PEx, pelvic floor reconstruction, estimated blood loss (EBL) > 750ml. On multivariable analysis, independent predictors of early complications were type of exenteration and EBL>750ml. (Figure 1)

Conclusion

Major complications after exenteration are common, and the complexity of surgery plays a considerable role in predicting complication. These data can be used to better risk stratify patients undergoing PEx.
LATE BREAKING

ESGO7-1492

SENTINEL LYMPH NODE (SLN) BIOPSY WITH CERVICAL INJECTION OF INDOCYANINE GREEN (ICG) IN APPARENT EARLY STAGE ENDOMETRIAL CANCER (EC): PREDICTORS OF UNSUCCESSFUL MAPPING

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Aims

To identify predictors of unsuccessful SLN mapping in patients with apparent early stage EC undergoing surgical staging with SLN biopsy and cervical injection of ICG

Method

Consecutive patients with attempted SLN biopsy between June 2014 and June 2016 were analyzed. Successful procedure (SP) was defined as the bilateral identification of SLN, while unsuccessful procedure (UP) included unilateral or no SLN mapping. The association between patient’s disease characteristics and having a UP were evaluated using logistic regression

Results

Among 328 patients included in the analysis, 257 (78.4%) had a SP while 71 (21.6%) had an UP (14.9% with unilateral SLN mapping and 6.7% no mapping). An increase in the rate of SP was observed over the 8 calendar year quarters, as representing the learning curve (p=0.06), increasing from 57.7% to 83.3% in the first and last quarters. Independent predictors of UP were volume of dye injected <3 mL, longer operative time, lysis of adhesions at the beginning of surgery, and presence of enlarged lymph nodes. The presence of lymph node metastases was not associated with UP (8.2% in SP vs. 12.7% in UP respectively, p=0.24). In addition, 6 of 14 (42.9%) patients with cervical stromal invasion had UP compared to 65 of 314 (20.7%) patients without cervical stromal invasion (p=0.06). (Table 1)

Conclusion

The rate of UP is influenced by length of surgery, adhesions from previous surgery, enlarged lymph nodes, and volume of dye. Given that low volume of dye injected (<3 mL) was associated with UP this should be standardized to avoid this.

Table 1. A summary of predictors of unsuccessful procedure (unilateral or no SLN mapping). Data are presented as unadjusted OR and 95% CI, with adjusted OR and 95% CI of predictor variables, compared to center (OR, 95% CI).

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Unadjusted OR (95% CI)</th>
<th>P</th>
<th>Adjusted OR (95% CI)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of surgery (years)</td>
<td>1.41 (1.09, 1.85)</td>
<td>0.09</td>
<td>1.58 (1.18, 2.11)</td>
<td>0.002</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>1.08 (0.89, 1.30)</td>
<td>0.32</td>
<td>1.08 (0.89, 1.30)</td>
<td>0.32</td>
</tr>
<tr>
<td>Operative time (minutes)</td>
<td>1.56 (1.19, 2.03)</td>
<td>0.001</td>
<td>1.56 (1.19, 2.03)</td>
<td>0.001</td>
</tr>
<tr>
<td>Lysis of adhesions</td>
<td>3.53 (1.67, 7.50)</td>
<td>0.001</td>
<td>3.53 (1.67, 7.50)</td>
<td>0.001</td>
</tr>
<tr>
<td>Enlarged lymph nodes</td>
<td>1.53 (1.04, 2.26)</td>
<td>0.02</td>
<td>1.53 (1.04, 2.26)</td>
<td>0.02</td>
</tr>
<tr>
<td>Visceral adipose C</td>
<td>1.16 (0.81, 1.67)</td>
<td>0.33</td>
<td>1.16 (0.81, 1.67)</td>
<td>0.33</td>
</tr>
<tr>
<td>High risk²</td>
<td>0.91 (0.52, 1.59)</td>
<td>0.76</td>
<td>0.91 (0.52, 1.59)</td>
<td>0.76</td>
</tr>
<tr>
<td>Volume of dye injected (mL)</td>
<td>1.88 (1.05, 3.35)</td>
<td>0.02</td>
<td>2.19 (1.28, 3.72)</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Abbreviations: OR, odds ratio; CI, confidence interval; BMI, body mass index; IFOG, International Federation of Gynecology and Obstetrics

1Data rate per 10 year increase age, per 5 cm increase in body mass index, per 30 minute increase in operative time.

2High risk defined as uterus diameter <2 cm, myometrial invasion 00%, or grade 3.
PRIMARY PREVENTION OF CERVICAL CANCER: FACTORS OF SUCCESS
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Aims

Despite visual localization, cervical cancer remains one of the most common malignant tumors in women. In Ukraine, cervical cancer ranks 5th in frequency and 6th in mortality from malignant tumors in women, and in the age group 30-54 years - the 2nd place in both incidence and mortality.

To analyze the awareness of students of higher educational institutions about the risk factors of the development of cervical pathology.

Method

800 questionnaires were handed out. 657 female students of 12 higher non-medical and 3 medical-biological higher educational institutions of Ukraine took part in the anonymous questionnaire. The age of the respondents ranged from 16 to 25 years and averaged 19.3 ± 1 years.

Results

16.9% of respondents were informed about HPV-associated development of cervical cancer. Among medical and biological universities – 50.7% and the highest level among biologists – 85.7%.

Conclusion

A well-organized information campaign among young women is the main factor that influences the success of the national screening program for the prevention of cervical cancer.

Students of higher medical and biological educational institutions are an important potential of information campaigns.
DETECTION OF CANCER STEM-LIKE CELLS IN ESTABLISHED OVARIAN CANCER CELL LINES AND TUMORS


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Aims

Cancer stem-like cells (CSLC) are defined as a slow cycling, undifferentiated and highly chemoresistant cells. Many studies are aimed to better characterize CSLC and search for targeted therapy against CSLC. Additionally, high expression of CSLC markers in the tumors correlate with worse prognosis of cancer patients.

Method

Our newly established ovarian cancer cell line (OVPA8) and five commercially available lines (A2780, ES2, OAW42, OVCAR3, OVPA8, SKOV3) were used in this study. We also analyzed a collection of over 100 ovarian cancer PFPE samples. Cell surface markers were detected by flow cytometry assay with CD44-FITC and CD133-PE; side population was detected using Hoechst 33342. Detection of CD44 and CD133 in paraffin sections was done by immunohistochemistry.

Results

The majority of cell lines contained about 0.1% of CD133+/CD44+ cells. CD133+ cells were very rare (up to 2%). CD44+ population was highly variable between cell lines (0% to 90%). These results were confirmed also in paraffin sections: CD133 staining was very rare, while CD44 was more ubiquitous. Our preliminary results suggest, that CD44 expression was correlated with patients survival.

Conclusion

It seems that CD133+/CD44+ population of putative CSLC accounts for about 0.1% in established ovarian cancer lines. Side population does not correspond to CD133+/CD44+ population. CD133 is rare, while CD44 is present on much greater fraction of cells. In tumor samples from ovarian cancer patients CD44 expression seems to correlate with worse prognosis.

Acknowledgments: Study was partially supported from Polish-National-Science-Centre grant 2012/04/M/NZ2/00133 to K.M.L.
FACTORS PREDICTING RECURRENCE IN PATIENTS WITH STAGE IA ENDOMETRIOID ENDOMETRIAL CANCER: WHAT IS THE IMPORTANCE OF LVSI?

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Aims

The aim of this study is to define the clinical and pathological prognostic factors for recurrence and to evaluate recurrence patterns and adjuvant therapies used in this group of patients with stage IA endometrioid type endometrial cancer (FIGO 2009).

Method

Among the patients with epithelial endometrial cancer operated on between January 1993 and May 2013 in a single institution, 720 patients with stage IA endometrioid endometrial cancer were included. Patients with a tumor type of serous, clear cell, mucinous, undifferentiated and mixed type and with a tumor containing sarcomatous component and the patients with a secondary primary cancer were excluded from the study.

Results

LVSI was present in 60 (8.3%) patients. Pelvic and paraaortic lymphadenectomy was performed in 266 (36.9%) patients. Median follow-up time was 48 months (range, 3-240). Recurrence occurred in 23 (3.4%) patients and 6 (0.9%) died of disease. The median TTR was 24 months (range, 4-52 months) in the patients with recurrence. LVSI was associated with recurrence in the univariate analysis (Figure 1). Five-year DFS decreased from 96.8% to 80.1% in the presence of LVSI (p=0.001). This association couldn’t be shown in patients who had had lymphadenectomy (p=0.136). Extra-pelvic recurrence occurred in 6.7% and 1% of the patients with and without LVSI, respectively (p=0.001). Any independent prognostic factor couldn’t be detected in the multivariate analysis.

Conclusion

Only LVSI and tumor grade were associated with DFS and DSS, respectively in the 686 patients with stage IA endometrial cancer in the univariate analysis, since these associations couldn’t be shown in multivariate analysis.
LATE BREAKING

ESGO7-1447

HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY (HIPEC) FOR OVARIAN CANCER

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Aims

Cytoreductive surgery and systemic therapy are essential for newly diagnosed ovarian cancer. We conducted a multicenter, open-label phase 3 trial to study whether the addition of intraperitoneal chemotherapy under hyperthermic conditions (HIPEC) to interval cytoreductive surgery would improve outcome among patients receiving neo-adjuvant chemotherapy for stage III epithelial ovarian cancer.

Method

We randomly assigned patients who showed at least stable disease after three cycles of carboplatin (area under the curve 6) and paclitaxel (175 mg/m2) to receive interval cytoreductive surgery with or without HIPEC using cisplatin (100 mg/m2). Randomization was performed per-operatively and eligible patients had a complete or optimal cytoreduction. Three additional cycles of carboplatin/paclitaxel were given post-operatively. The primary endpoint was recurrence-free survival. Overall survival, toxicity, and quality-of-life were key secondary endpoints.

Results

A total of 245 patients were randomly assigned to one of the two treatment strategies. In an intention-to-treat analysis, interval cytoreductive surgery with HIPEC was associated with longer recurrence-free survival than interval cytoreductive surgery alone (14.2 vs. 10.7 months, respectively; hazard ratio [HR], 0.66; 95% confidence interval [CI], 0.50 to 0.87; P=0.003). At the time of analysis, 44% of patients were alive, with a significant improvement in overall survival favouring HIPEC (45.7 vs. 33.9 months; HR, 0.67; 95% CI, 0.48 to 0.94, P=0.02). The number of patients with grade 3-4 adverse events was similar in both treatment arms (27% vs 25%, p=0.76).

Conclusion

Adding HIPEC to interval cytoreductive surgery is well tolerated and improves recurrence free and overall survival in patients with stage III epithelial ovarian cancer.
LATE BREAKING
ESGO7-1488

THERAPEUTIC AND PROGNOSTIC VALUE OF PRETHERAPEUTIC FUNCTIONAL PET/CT PARAMETERS IN PATIENTS WITH LOCALLY ADVANCED CERVIX CANCER AND NEGATIVE AORTIC INVOLVEMENT TREATED WITH CHEMO-RADIOTherAPY

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Aims

Aim of this study was to assess the therapeutic and prognostic role of functional pretherapeutic FDG-PET/CT parameters in patients treated with radiochemotherapy (RCT) for locally advanced cervix cancer (LACC) without paraaortic involvement.

Method

LACC patients treated with RCT and with surgical staging paraaortic lymphadenectomy without macrometastatic involvement were included. All patients had received at least 45 Gy radiotherapy and 5 cycles of platinum-based chemotherapy. High-risk histologies were excluded. A senior nuclear physician expert in oncogynecology reviewed FDG-PET/CT imaging for all patients. SUVmax, MTV, TLG were extracted from cervical tumor and from pelvic lymph nodes when positive. Medical charts were reviewed for clinical, pathology and survival data.

Results

93 patients were included (table 1), with a median follow-up of 40,5 months. Figures 1 and 2 show survival data. Cervical SUVmax and TLG were significantly associated with response to RCT (respectively, p=0,0299 and p=0,0175; table 2). In univariate analysis, FIGO stage and cervical SUVmax were significantly associated with both OS and PFS (respectively p=0,005 and p=0,014). In multivariate analysis, cervical SUVmax was the main predictive factor for OS (p=0,029).

Conclusion

Cervical tumor SUVmax demonstrated to be a predictive biomarker for response to treatment and survival in LACC patients without paraaortic involvement. Metabolic parameters should be evaluated in further trials to determine their role in clinical practice.
RECURRENT CANCER IS ASSOCIATED WITH DISSATISFACTION WITH CARE; A LONGITUDINAL ANALYSIS IN OVARIAN AND ENDOMETRIAL CANCER PATIENTS

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Aims

The primary aim of this study was to assess the longitudinal impact of a recurrence of gynecological cancer on satisfaction with information provision and care. The secondary aim was to assess the impact of a recurrence on illness perceptions, anxiety and depressive symptoms and health-related quality of life (HRQoL).

Method

This study is a longitudinal analysis from the ROGY Care trial, conducted between 2011 and 2014, including patients with endometrial (N=215) and ovarian (N=149) cancer. Patients were invited to complete questionnaires directly after initial treatment and after 6, 12 and 24 months. Patient-reported outcomes were compared before and after the recurrence. Linear mixed model analysis was performed to assess the differences in patient-reported outcomes of patients with a recurrence compared to patients without a recurrence.

Results

During 2-year follow-up, 25 patients with endometrial cancer (12%) and 64 patients with ovarian cancer (43%) had recurrent disease, of whom 9 endometrial and 26 ovarian cancer patients completed at least one questionnaire after their recurrence. Patients with a recurrence reported lower satisfaction with care after the diagnosis of recurrent disease (doctor interpersonal skills, exchange of information between caregivers and general satisfaction with care), more threatening illness perceptions, more anxiety and depressive symptoms and worse HRQoL compared to patients without recurrence.

Conclusion

After diagnosis of recurrent disease, endometrial and ovarian cancer patients were less satisfied with care compared to patients without a recurrence. Our findings suggest that patients with recurrent cancer are in need of care that is better tailored to their needs.
LATE BREAKING

ESGO7-1500

INCIDENCE AND PATTERN OF SPREAD OF METASTATIC LYMPH NODES IN PATIENTS WITH LOW GRADE SEROUS OVARIAN CANCER

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Aims

The aim of this study was to determine the incidence and pattern of distribution of metastatic lymph nodes (LN's) in patients with low-grade serous ovarian cancer (LGSOC).

Method

Retrospective analysis of patients with primary LGSOC, who underwent primary surgery including systematic lymphadenectomy. Analysis of the affected LNs along with the pattern of lymphatic spread was performed.

Results

Forty-eight patients from which who received systematic pelvic and para-aortic lymph node dissection were identified. The median age was 50 years old (range: 21-76). The majority of patients had FIGO stage III (89.6%). Mean of 45.5 lymph nodes were resected. Lymph nodes metastasis were found in 31 (64.6%) patients. In 15 (31.3%) patients both pelvic and para-aortic LNs were affected concomitantly, para-aortic were affected in 5 (10.4%) patients, isolated pelvic lymph nodes were affected in 8 (16.7%) of patients. The most frequently affected region was the right obturator fossa (51%), found in 14 (29.2%) patients, followed by left obturator fossa (40.7%) found in 11 patients (22.9%).

Conclusion

Low-grade serous ovarian cancer is alike potential for metastatic spread with more confinement to the pelvis compared to the para-aortic region.
MALIGNANT MIXED MULLERIAN TUMOR OF THE UTERINE CERVIX: A CASE REPORT

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Aims

The malignant mixed mullerian tumors (MMMTs) of uterus are composed of an admixture of both malignant epithelial (carcinomatous) and mesenchimal (sarcomatous) components. MMMTs of the uterine cervix are rare and unusual neoplasms, accounts for only 0.005% of all cervical malignancies, and approximately 60 well documented cases have been reported. Due to the limited experience, the clinicopathologic features, therapeutic approach and prognosis of these tumors has not been well determined. Here, we report a case of MMMT of cervix was succesfully treated by surgery and adjuvant chemoradiotherapy.

Method

A 46 year old multiparous woman, admitted to our clinic because of intermittant vaginal bleeding. Speculum examination shows a fragile tumoral mass appeared to originate from the endocervical canal. Bilateral parametria were free. The biopsy revealed malignant mesenchimal tumor. MRI confirmed a 44x17 mm, well defined heterogeneous mass in the cervix, without parametrial invasion and without extension into the bladder or rectum. She underwent type III radical hysterectomy with pelvicparaortic lymphadenectomy and omentectomy, upon diagnosis of a FIGO clinical stage 1B2 cervix tumor. Histopathological analysis revealed a MMMT with epithelial and mesenchimal components in the uterine cervix. The patient start to receive six cycles of adjuvant chemoradiotherapy containing weekly cisplatin and radiotherapy. She is currently well conditioned, free of the disease and showed no evidence of recurrence 18 months after the surgery.
Conclusion

MMMTs composed of an admixture of both carcinomatous and sarcomatous components. MMMTs of cervix staged according to FIGO clinical staging for cervical cancer. The treatment is mainly, radical surgery and adjuvant chemoradiotherapy.
Aims

Atypical polypoid adenomyomas (APAs) are rare, benign and noninvasive uterine lesions that composed both epithelial and mesenchimal components. Although they are considered to be benign diseases, they can coexist with endometrial carcinomas or atypical endometrial hyperplasias. Here, we report a case of coexistence of APA and endometrial adenocarcinoma.

Method
Results

A 35 year old nulliparous woman admitted to our hospital with primary infertility. Transvaginal ultrasonography showed a thick and irregular endometrial thickness. We performed endometrial curettage with sharp curettes under ultrasonographic guidance. Pathology report revealed a coexistence of atypical polypoid adenomyoma and well differentiated endometrioid adenocarcinoma. Because of her childbearing and her young age, she underwent medroxyprogesterone acetate treatment. After the MPA treatment, endometrial control biopsy was normal and then she underwent IVF treatment twice, but she could not become pregnant. 2 years later than first curettage, an endometrial biopsy showed recurrence of atypical polypoid adenomyoma with well differentiated endometrial adenocarcinoma. Patient desired definitive treatment and we performed TAH BSO. Final pathology report revealed same result: coexistence of atypical polypoid adenomyoma and Grade 1 endometrial adenocarcinoma with myometrial invasion less than % 50. There is no recurrence or distal metastasis during the 20 month follow-up.

Conclusion

Recurrence can be seen despite agresive curettage and MPA treatment, for patients who has a coexistence of APAS and endometrial carcinomas. Close follow up with control biopsies must be done.
LATE BREAKING

ESG07-1410

ENDOMETRIAL STROMAL SARCOMA WITH UNUSUAL MANIFESTATIONS ALONG WITH TAMOXIFEN INTAKE: CASE REPORT AND LITERATURE REVIEW.

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Aims

This report is about a 56-year-old menopause woman with a history of breast cancer treatment with tamoxifen.

Method

The case report includes a 56 years old woman with severe uterine bleeding and a large 80*60 mm mass in the uterine cavity referred to the gynecology ward of Ayatollah Rouhani Hospital of Babol in 2016. The patient has been diagnosed with breast cancer since 9 years ago and treated by mastectomy and chemotherapy and then used tamoxifen for 5 years; she had TAH & BSO surgery in Aug 2015, in which the pathology reported the mostly necrotic endometrial polyp (Fig 1). Five months after hysterectomy, she came back with vaginal bleeding and soft and necrotic massive mass filled all the vaginal space; the vaginal mass was removed. In ultrasonography and CT scans of the abdomen and pelvis, a large mass of 90 * 100 mm was observed inside the pelvis. The pathology of the vaginal mass was reported a low grade endometrial stromal sarcoma (Fig 2).

Results

After consultation with an oncologist, the patient was underwent chemotherapy and then laparotomy, in which a solid 100 * 100 mm mass with severe adhesion to the intestines was observed. It was underwent mass resection with omentectomy. On histopathological study mostly necrotic mass with foci of high grade sarcoma is noted (Fig 3) the patient was received chemotherapy until July 2017.

Conclusion

Patients with breast cancer, who are treated with tamoxifen, are exposed to the risk of carcinoma and endometrial stromal sarcoma and should be monitored for endometrial cancer symptoms.
INCREASED FREQUENCY OF HLADRhi REGULATORY T CELLS WITH HIGHLY IMMUNOSUPPRESSIVE PROPERTIES IN CERVICAL SQUAMOUS CELL CARCINOMA AND ITS CLINICAL IMPLICATIONS
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Aims
Regulatory T cells (Treg) are composed of different subsets and involved in tumor immune escape and cancer progression. The study aims to investigate the frequency, phenotype and functions of Treg subsets in patients with squamous cell carcinoma (SCC) of the uterine cervix and to identify their clinical implications.

Method
Flow cytometry was used to analyze Treg cell subsets in peripheral bloods from 80 SCC, 42 pre-cancer patients and 50 healthy subjects and in surgical specimens from 35 SCC patients. Their phenotypic and functional features as well as clinical association were further explored.

Results
SCC patients had a remarkably increased proportion of HLADRhi Treg subset in peripheral blood, which exhibited a unique phenotypic feature, including high expression of activation and inhibitory markers. In addition, HLADRhi Treg subset expressed high amounts of Ki-67 and pro-apoptotic molecules. Consequently, this subset underwent more apoptosis in vitro regardless of IL-2 addition, indicating that this subset is highly cycling with strong apoptosis potential. Further studies demonstrated that the HLADRhi Treg subset harbored highly suppressive function. The frequency of HLADRhi Treg subset was strongly increased in the tumor microenvironment compared to the blood counterparts in SCC patients. Prognostic analysis showed that patients with recurrence showed a tendency of increased HLADRhi Treg subset in both blood and tissue, although statistical significance was not achieved.
Figure 1

A

PBMC

CD4+ T

Treg

B

Blood Treg

C

Blood Helios+ Treg

D

Blood DR-RA+ Treg

E

Blood DRlo Treg

Blood DRhi Treg
Conclusion

The frequency of HLADRhi Treg cells was increased in SCC patients. They had unique phenotype and highly suppressive function. The possible prognostic implication merits further exploration by enlarging the sample size.
UBIQUITIN SPECIFIC PROTEASE-17 (USP17) RELATED GENES ARE POTENTIAL TARGETS FOR EPITHELIAL-MESENCHYMAL TRANSITION IN HIGH-GRADE SEROUS OVARIAN CANCER

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Aims

To investigate gene expression differences between primary tumor, malignant cells in the ascites and metastatic implant on the peritoneal surface in high-grade advanced stage serous ovarian cancer.

Method

Biopsies from primary tumor, peritoneal implant and ascites were collected from 10 patients operated primarily for high-grade, advanced staged serous ovarian cancer. After total RNA isolation (RNeasy mini-prep, Qiagen, Valencia, CA, USA), total RNA expression profile (GeneChip® Human Gene 2.0ST Array, Affymetrix, CA, USA) were measured in tissue biopsies and fluid samples. mRNA expressions of three different groups were compared with the help of bioinformatic analysis.

Results

There were significant differences in 7 gene expressions between primary tumor and peritoneal implant, 1041 gene expressions between primary tumor and malignant cells in the ascites, 648 gene expressions between peritoneal implant and malignant cells in the ascites. Functional analyses of candidate genes were carried out by gene ontology and pathway analysis. Genes related with three processes which are protein deubiquitination, ubiquitin-dependent protein catabolism and apoptotic processes were significantly differentially expressed between primary tumor & peritoneal implant and malignant cells in the ascites. All of those genes were belong to USP17 gene family.

Conclusion

Gene expression difference between primary tumor and the peritoneal implant is not as much as the difference between primary tumor and free cells in the ascites. These results show that, malignant cells return into its genetic origin after they invade on peritoneum. This is the first study that offers USP17 as a potential target for epithelial-mesenchymal transition. Further studies will elucidate the importance of USP17 and other deubiquitinating enzymes in metastasis of ovarian cancer.
LEARNING CURVE AND SURGICAL NODAL RETRIEVAL OUTCOME FOR TOTAL ABDOMINAL HYSTERECTOMY WITH LYMPHADENECTOMY IN TREATMENT OF ENDOMETRIAL CANCER

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Aims

Staging surgery in patients with endometrial cancer is important in management and have a great impact on overall survival. The more competent surgeon, the less under/overstaged surgeries occurs. Thus, our aim was to determine learning curve for total abdominal hysterectomy (tAH) with lymphadenectomy (pelvic/paraaortal) for surgical treatment of endometrial cancer and feed-back for assessment of extent of lymphadenectomy and surgical management.

Method

Retrospective analysis including 303 patients, mean age 64.1 yrs (35-90). The learning curve of surgical procedure was estimated with respect to chronologic order. Surgeries were performed by surgeons with different level of oncosurgical skills, divided into two groups (experienced - Group A) and in residency (trainees - Group B).

Results

There were performed 183 tAH with adnexectomy (bilateral/unilateral), 114 tAH with adnexectomy and pelvic lymphadenectomy and 6 tAH with adnexectomy and pelvic-paraaortic lymphadenectomy. Mean number of total retrieved lymph nodes was 11.7 (1-35), from both fossa obturatoria 5.8 (0-19), both parailiac 9.4 (0-24) and paraaortic areas 4.2 (1-9), respectively. Surgeons in group A removed more lymph nodes compared to group B (mean 15.1 vs 10.3, p<0.05), achieved less complications (p<0.05) and shorter operation time (p<0.01). Similarly, they did it for fossa obturatoria clearance 6.7 vs 3.4 nodes (p=0.0041), respectively. Surgeons in group A showed stable operative outcomes, 55% of surgeons in group B improved their surgical skills when comparing first half-pool of operated patients to the second half. Achievements have been noted in reduction of total operative time (p=0.026), rate of surgical complications (9% vs 0.8%, p=0.031) and total number of lymph nodes removal (8.6 vs 10.7, p<0.05).

Conclusion

The learning curve for tAH with lymphnode dissection is an important guide for education, clinical training and quality feedback for every surgeon participating in surgical management of endometrial cancer.