Evaluating the etiology and the operations of the patients with the presence of nasal obstruction that applied to department of otorhinolaryngology Dicle university medicine faculty, Turkey

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Santrukas
 Tikslas. Šios studijos tikslas – įvertinti, kokios operacijos padarytos pacientams, kurie kreipiasi į laringologus dėl nosies obstrukcijos. Medžiaga ir metodika. Tyrimo dalyvavo 260 pacientų (175 vyrai ir 85 moterys), kurie kreipėsi į Dicle universitetinės ligoninės Otorhinolaringologijos kliniką dėl nosies obstrukcijos (nuo 2004 m. gruodžio iki 2005 m. gruodžio mėn.). Vertintos obstruucijos priežastys, padarytos operacijos, jų technika bei komplikacijos. 164 pacientai operuoti bendrosios anestežijos sąlygomis ir 96 pacientai – vietinės anestežijos. Rezultatai. Operuotų pacientų amžius virkės buvo 19,8 ± 12,6 metų; didžiausios amžiaus grupės buvo 5–10 metų ir 18–25 metų (n = 155, 57,4 proc.), p < 0,0001. Dažniausiai nustatytą diagnozę – iškrypusi nosies pertvara (DSN) (n = 56, 21,5 proc.), antroji pagal dažnumą – nosies deformacija (n = 51, 19,6 proc.); trečioji – létinis adenotonzilites (n = 43, 16,5 proc.), p < 0,0001. 5–10 metų amžiaus grupę sudarė 69 pacientai (24,5 proc.), iš jų 41 pacientai nustatytas létinis adenotonzilitas, 17 pacientų – létinis adenotonzilitas su eksudaciniu oitiniu. 18–25 metų amžiaus grupėje buvo 86 pacientai (32,9 proc.), tarp kurių dažniausiai diagnozuotos DSN – 31 pacientui. Apibrėžtinus padarytas operacijas, paaškėjo, jog buvo atliekamos pagleivinės rezekcijos (SMR) (n = 56, 21,5 proc.), rinoseptoplastikos (n = 51, 19,6 proc.) ir adenotonzilektomijos (n = 43, 16,5 proc.), p < 0,0001. Iš jykusių komplekţių 12 pacientų (4,6 proc.) įvyko vienos pusės gleivinės plyšimas, 2 (0,8 proc.) abiejų pusių gleivinės plyšimas, 6 (2,3 proc.) atsirado pooperacinis kraujavimas, p = 0,022. Išvados. Pacientai, kurie kreipėsi į mūsų kliniką, dažniausiai skundėsi iškrypusia nosies pertvara ir nosies deformacija. Didžiausią pacientų kontingentą sudarė 5–10 metų ir 18–25 metų pacientai. Pastebėta, kad pacientai vis dažniau kreipiasi dėl nosies deformacijos. Reikšminiai žodžiai: nosies obstrukcija, nosies pertvaros iškrypusios, létinis adenotonzilitas.

Summary
Aim: In this study, the aim was to evaluate the operations for the patients who applied with the etiology of nasal obstruction. Materiel and method: In this study, 260 patients (175 men, 85 women) who applied to the otorhinolaryngology department of the Dicle University medicine faculty with nasal obstruction etiology, the operations, etiology, technique and complications were evaluated between December 2004 and December
2005. 164 of our cases we used general anesthesia and 96 of them were local. **Results:**
The mean age of our patients operated in our clinic was 19.8±12.6 years and the most
diagnosis seems to be deviation of septi nasi (DSN) (n=56, 21.5 %); second nasal de-
formity (n=51,19.6 %) third was chronic adenontonsilitis (n=43, 16.5 %), (p<0.0001).
Our cases were mostly between 5-10 and 18-25 years old (155 cases, 57.4 %), (p<0.0001).
69 (24.5 %) cases were between the ages of 5-10, and in these, the most prevalent dis-
cases were with 41 cases of chronic adenontonsillitis and with 17 cases of chronic
adenontonsilitis + serous otitis media. 86 (32.9 %) cases were between the ages of 18-25
and in these, the most prevalent diseases were with 31 cases were DSN and nasal de-
formity for each. In general evaluating the operations we did, the most operation we did
were submucosal resection (SMR) (56 cases, 21.5 %), septorhinoplasty (51 cases, 19.6
%) and chronic adenontonsillectomies (43 cases, 16.5 %), (p<0.0001). The complications
were unilateral mucosal rupture (12 cases, 4.6 %), bilateral mucosal rupture (2 cases,0.8
%) and post-op hemorrhage (6 cases, 2.3 %) (p=0.022). **Conclusion:** The patients ap-
plied to our clinic seem to be mostly because of DSN and nasal deformity. Especially
between the ages of 5-10 chronic adenontonsilitis frequency and between the ages of 18-
25 DSN and nasal deformity frequency seems to be increased.

**Key words:** Nasal obstruction, deviation of septi nasi, chronic adenontonsilitis

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**INTRODUCTION**

Nasal obstruction is one of the most fre-
quent symptoms in otorhinolaryngology.
Septal deformity is of two kinds, which may
occur independently or together: 1) ante-
rior cartilage deformity of the quadrilater-
al septal cartilage caused by direct
trauma or pressure at any age; and 2) com-
bined septal deformity involving all the
septal components, caused by compression
across the maxilla from pressures occurring
during pregnancy or parturition. This is
part of a facial deformity [1].

Anamnesis and physical examination
play an active role in the evaluation of pa-
patients with nasal obstruction. Anamnesis
often gives an opinion about the reason of
nasal obstruction and the opinion is sup-
ported with physical examination. Ana-
tomical deficiencies, presence of secretion,
mucosal edema, presence of mass, septal
pathologies and foreign bodies can be de-
Table 1. Causes of nasal obstruction

<table>
<thead>
<tr>
<th>Mucosal Disorders</th>
<th>Structural Causes</th>
<th>Non-neoplastic Neoplastic Causes</th>
<th>Traumatic Causes</th>
<th>Pharmacologic Agents</th>
<th>Endocrine Metabolic Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflammatory rhinitis (viral, bacterial, fungal)</td>
<td>Septum deviation</td>
<td>Adenoid hypertrophy</td>
<td>Septal haematoma</td>
<td>B blocker</td>
<td>Diabetes mellitus</td>
</tr>
<tr>
<td>Allergic rhinitis</td>
<td>Conchal hypertrophy</td>
<td>Nasal polyp</td>
<td>Septal abscess</td>
<td>Reserpin epinephrine</td>
<td>Pregnancy</td>
</tr>
<tr>
<td>Non-atopic allergic rhinitis</td>
<td>Septal perforation</td>
<td>Neoplastic causes</td>
<td>Foreign body</td>
<td>hydralazine</td>
<td>PCO₂ increase</td>
</tr>
<tr>
<td>Vasomotor rhinitis</td>
<td>Koanal atresi</td>
<td></td>
<td></td>
<td>Aspirin</td>
<td>PO₂ decrease</td>
</tr>
<tr>
<td>Atrophic rhinitis</td>
<td>Nasal valve narrowing</td>
<td></td>
<td></td>
<td>Alcohol, nicotine</td>
<td>Cystic fibrosis</td>
</tr>
</tbody>
</table>

ected (Table 1). Radiological examination can also play an important role in evaluating nasal obstruction. Straight graphs, CT and MRI are quite useful at detecting especially paranasal sinus disorders [2,3].

The nose lets the ventilation air to reach the lungs with adequate pressure, volume, moist, temperature and cleanliness. The pressure of the air flowing through the nose is 10–15 mm H₂O and the flow rate is 0-140 ml/sec. The nose constitutes 50% of the total respiratory resistance. Vestibule, nasal valve and the bodies inside nasal bone take part in this resistance. The nasal valve is the angle between the upper lateral caudal ridge and the septum, and constitutes the narrowest site of the nasal air passage. The both sides of the nasal cavity present nasal cycles characterised by congestion and decongestion phases. While congestion occurs on one side, decongestion occurs on the other side, and this period ranges from 30 mins to 3 hrs [4].

In this study, it was aimed to evaluate the operations performed to the patients applied to our clinic with nasal obstruction aetiology in the last one year.

MATERIAL AND METHOD

In this sectional study, we evaluated the operations, aetiology, technique and complications for 260 patients (175 male, 85 female) with the aetiology of nasal obstruction who applied to the Otorhinolaryngology Clinic of the Dicle University between the dates 18 November 2004 and November 2005. In 164 cases general anaesthesia, and in 96 local anaesthesia was used.

The cases were classified according to the cause of the nasal obstruction (table 1) and the operation they underwent (table2); months (figure 1) and age (figure 2).

The statistical analysis was conducted

Figure 1. Distribution of cases by months (Chi-square: 36.2, p<0.0001)

Figure 2. Distribution of cases by ages (years) (Chi-square: 72.2, p<0.0001)
with the computer program SPSS 10.0. The data were analyzed with the Chi-square test. P < 0.05 was regarded as significant.

**RESULTS**

The mean age of the patients operated in our clinic in the last one year is 19.8±12.6 yrs and the most diagnosis seems to be deviation of septi nasi (DSN) (n = 56, 21.5%); second nasal deformity (n = 51, 19.6%) third was chronic adenontonsillitis (n = 43, 16.5%), (Chi-square: 47.0, p < 0.0001), respectively (table 2). The majority of our cases (155 cases, 57.4%) are at the ages of 5-10 (69 cases) and 18-25 yrs (86 cases) (Chi-square: 72.2, p < 0.0001), respectively. The number of the cases of 5 -10 yrs old are 69 (24.5%), and among those adenoid vegetation is the leading one with 41 cases and adenoid vegetation + serous otitis media with 17 cases.

86 cases (32.9%) are found to be 18-25 years old, and the biggest portions are of DSN and of nasal deformity with 31 cases each. Generally reviewing our operations, the most frequently performed operations are submucosal resection (SMR) (56 cases, 21.5%), septorhino-plastia (51 cases, 19.6%) and adenoid vegetation operations (43 cases, 16.5%), (Chi-square: 149.1, p < 0.0001) respectively.

The complications, respectively to their incidence, are unilateral mucosal rupture (12 cases, 4.6%), bilateral mucosal rupture (2 cases, 0.8%), and postoperative bleeding (6 cases, 2.3%), (Chi-square: 7.6, p = 0.022). Comparing our operations in terms of the frequency of incidence, no significant difference was found between those under general anaesthesia and local anaesthesia (p = 0.277). Also, evaluating the seasonal aspect of our operations, it is seen that they are most frequent in March and June (Chi-square: 36.2, p < 0.0001).

**DISCUSSION**

A deficiency in the appearance of the nose may cause both cosmetic and psychological problems. A deformity in the nasal cavity may cause important problems in the respiratory system. According to the anatomists, septum is at the minimal level at the midlimest line [5]. The incidence of septal deformity was investigated in 2,380 Caucasian infants at birth, 2,112 adult skulls of five ethnic groups (European, Indian [Asian], Chinese, African and Australian Aboriginal). Forty-two percent of septa of infants were straight, 27% deviated and 31% kinked. A similar pattern was found in adult skulls, namely 21% straight, 37% deviated and 42% kinked. Anterior cartilage deformity occurred in about 4% of births [1].

It was found that compared with healthy people the partial oxygen saturation values
in patients with septum deviation are lower, while partial carbon dioxide values are higher [6]. It was detected that nasal septum deformities were more frequent in men [7]. In the literature it is stated that most septum deformities are leftward [8]. In a survey conducted among schoolchildren of first and second grade, DSN was detected in 131 out of 2042 (6.4 %) first grade schoolchildren, and in 169 out of 1633 (10.3 %) second grade schoolchildren [5].

In our study, it was found that 260 patients (175 men, 85 women) applied to our clinic for nasal obstruction mostly in March and June in the last one year (p < 0.0001). In July and August, however, there was a decrease in our operations. The reason for this situation is that it is the annual vacation season in our country and that as it is extremely hot in summer in our region, operations are suspended because of the risk of post operative complications. Again, it is seen from our operations that 155 of the cases (57.4 %) were at the ages of 5-10 and 18-25 years old (p < 0.0001).

In an epidemiologic study conducted among schoolchildren, the ratio of rhinopharyngeal diseases was found to be 38.3 %, of allergic chronic rhinitis 40 %, and of obstructive hypertrophic tonsillitis 16.5 % [9]. Again, in a study conducted by Chavez-delgado et al [10], the ratio of chronic and hypertrophic adenotonsillitis in children of 6-10 years old was found to be 45 %, and it was found that this ratio decreases by aging.

In a study conducted on 3853 children in Norway, upper airway infections are common at about the age of 4. In the recent months, 7.1 % of the children have had acute otitis media, and 7.5 % tonsilopharyngitis. During the last 12 months 9.5 % of the children have had at least once acute otitis media, 6.9 % tonsilopharingitis episode, 47.7 % more than twice common cold attack, and 2 % weekly or monthly rhinitis attack. The frequency of lifelong recurrent acute otitis media (</=4 episode every 12 months) is 12.7 % (n = 473) [11].

In our study, there are 69 cases (24.5 %) of 5-10 years old classified according to their diagnosis for operation, and among them the largest proportions are adenoid vegetation with 41 cases and adenoid vegetation + serous otitis media with 17 cases. There are 86 (32.9 %) cases of 18-25 years old, and the largest proportion is of DSN and nasal deformity with 31 cases each. Generally evaluating our operations, the most frequent ones are SMR (56 cases, 21.5 %), septorhinoplasty (51 cases, 19.6 %) and adenoid vegetation operations (43 cases, 16.5 %) (p < 0.0001), respectively.

Consequently, it is seen that patient frequently apply to our clinic for DSN and nasal deformity. It is also seen that the frequency of adenoid vegetation increases at the age of 5-10, while the frequency of DSN and nasal deformity increases at the age of 18-25 yrs.

References


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