

Assessment of Clinical Profile of Patients with Nasal Septal Deviations

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Abstract

Background: The aim is to assess clinical profile of patients with nasal septal deviations. **Subjects and Methods:** Ninety- four patients of deviated nasal septum of both genders were recruited for the study. Nasal patency test was done followed by anterior rhinoscopy. NOSE questionnaire was applied consisted of 0 being the lowest and 4 being the highest. Deviations were classified according to Mladina classification. **Results:** Out of 94 patients, there were 54 males and 40 females. Septal deformities according to Mladina classification was type I seen in 4, type II in 8, type III in 6, type IV in 14, type V in 36, type VI in 20 and type VII in 6 cases. Grading was caudal in 46, mid-septum in 30 and posterior septum in 18. Symptoms were nasal discharge in 82, nasal obstruction in 42, headache in 16, facial pain in 25, epistaxis in 11 and hyposmia in 28. The difference was significant ($P < 0.05$). The mean pre- operatively NOSE value was 58.4 and post-operatively was 30.2. The difference was significant ($P < 0.05$). **Conclusion:** Deviated nasal septum is common among people. Common symptoms were nasal obstruction, headache, facial pain, and nasal discharge. Septoplasty resulted in significant improvement in NOSE score.

Keywords: Deviated nasal septum, NOSE, Septoplasty.

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Introduction

Nasal septal deviations are very commonly found in a regular nasal examination. Nasal septal deviations are anatomically often described as C- or S-shaped deviations in the vertical or horizontal plane.^[1] The nasal septum is an important physiological structure of the nose. It is formed by the quadrangular cartilage anteriorly, the vomer and perpendicular plate of the ethmoid bone posteriorly. Deviated nasal septum (DNS) is a common anatomic variation in healthy adults, affecting 80 % of population. Studies have shown that the shape and size of septal deviation not always interconnects with the symptoms and the need for surgery – thus the clinical significance of the septal deviation.^[2]

Symptoms and signs accompanying septal pathology may be nasal blockage, dryness, crusting, bleeding, itching, rhinorrhea, anosmia, headache, and cosmetic complaints. Septoplasty is a surgical procedure that is done to correct a DNS.^[3] A DNS arises when the cartilage that separates the nostrils is out of place. This can cause various breathing difficulties. Septoplasty is one of the most frequently performed otorhinolaryngological procedures, which might be very challenging for many surgeons. A precise preoperative diagnosis of pathologies of the septum in the situation of the nasal cavity is crucial for the success of surgery.^[4] Intraoperative visualization through microscope or endoscope is very supportive for the surgeon and for the training of the residents. The new method of septoplasty with the phases of methodology, mobilization,

resection/repositioning, and reconstruction/fixation is offered. These techniques commonly use traditional septoplasty or endoscopic sinus instruments to accomplish the dissection and removal of cartilage.^[5] The present study was conducted to assess clinical profile of patients with deviated nasal septum.^[6]

Subjects and Methods

Ninety- four patients of deviated nasal septum of both genders were recruited for the study. Ethical consideration was taken into account along with written consent of all patients.

A case history Performa was created with included information regarding name, age, gender, clinical symptoms etc. Nasal patency test was done followed by anterior rhinoscopy. NOSE questionnaire was applied consisted of 0 being the lowest and 4 being the highest. Deviations were classified according to Mladina classification⁶, which was modified by Rao et al: – Type I: Mild deviation in vertical or horizontal plane – Type II: Moderate anterior vertical deviation of cartilaginous septum in full length – Type III: Posterior vertical deviation at level osteomeatal complex and middle turbinate – Type IV: “S” shaped, posterior to one side and anterior to other – Type V: Horizontal septal crest touching or not touching the lateral wall Type VI: Prominent maxillary crest contralateral to the deviation with a septal crest to the deviated side – Type VII: Combination of previously described septal deformity types. CT scan of paranasal sinus region was performed. The surgeries were

performed under general anaesthesia with LA 1% lidocaine in 1:200000 epinephrine. Deviations anterior to the Cottle's line were treated with a Septoplasty. The results were compiled and subjected for statistical analysis using Mann Whitney U test. P value less than 0.05 was set significant.

Results

Out of 94 patients, there were 54 males and 40 females (45%) [Table 1].

Septal deformities according to Mladina classification was

type I seen in 4, type II in 8, type III in 6, type IV in 14, type V in 36, type VI in 20 and type VII in 6 cases. Grading was caudal in 46, mid-septum in 30 and posterior septum in 18. Symptoms were nasal discharge in 82, nasal obstruction in 42, headache in 16, facial pain in 25, epistaxis in 11 and hyposmia in 28. The difference was significant ($P < 0.05$) [Table 2].

The mean pre-operatively NOSE value was 58.4 and post-operatively was 30.2. The difference was significant ($P < 0.05$) [Table 3].

Table 1: Patients distribution

Total- 94		
Gender	Male	Female
Number	54	40

Table 2: Assessment of parameters

Parameters	Variables	Number	P value
Septal deformities according to Mladina classification	Type I	4	0.01
	Type II	8	
	Type III	6	
	Type IV	14	
	Type V	36	
	Type VI	20	
	Type VII	6	
Grading	Caudal	46	0.05
	Mid-septum	30	
	Posterior septum	18	
Symptoms	Nasal discharge	82	0.04
	Nasal obstruction	42	
	Headache	16	
	Facial pain	25	
	Epistaxis	11	
	Hyposmia	28	

Table 3: Assessment of NOSE value

NOSE value	Mean	P value
Pre-operatively	58.4	0.01
Post-operatively	30.2	

Discussion

Surgical and medical management of nasal obstruction is the common measure in otolaryngologist practice. The perfect management of deviated nasal septum (DNS) is septoplasty.^[7,8] Chronic nasal airway obstruction is one of the most frequent complaints that patients complain to otolaryngologists.^[9,10] DNS is a common anatomic disparity and the most common cause of nasal obstruction. Surgical amendment of the DNS is the most frequent ear, nose, and throat (ENT) operation in adults.^[11,12] The present study was conducted to assess clinical profile of patients with deviated nasal septum.

Our results showed that out of 94 patients, there were 54 males and 40 females. Mogarnad et al,^[13] assessed clinical profile of deviated nasal septum and assessed the subjective efficacy of the surgical outcome using Likert scale. Preoperative and Postoperative values were analyzed. Statistically significant improvement was observed in the entire population: Nasal obstruction, headache, nasal

discharge, facial pain and hyposmia. Patient satisfaction was high and they used fewer nasal medications.

We observed that septal deformities according to Mladina classification was type I seen in 4, type II in 8, type III in 6, type IV in 14, type V in 36, type VI in 20 and type VII in 6 cases. Grading was caudal in 46, mid-septum in 30 and posterior septum in 18. Symptoms were nasal discharge in 82, nasal obstruction in 42, headache in 16, facial pain in 25, epistaxis in 11 and hyposmia in 28. Alotaibi et al,^[14] assessed the association between initial clinical presentations of patients selected for septoplasty and demographical characteristics. With regard to the clinical presentations, almost all patients presented with variable degrees of nasal congestions, nasal blockages, breathing troubles, sleeping troubles, and exercise problems.

Our results showed that the mean pre-operatively NOSE value was 58.4 and post-operatively was 30.2. Qannass et al,^[15] determined the prevalence of nasal septum deviation and to detect which types of DNS are more prevalent. The study included 408 attendants whose age ranged from less

than 1 year up to 100 years with mean age of 32.1 ± 20.6 years old. Exact 154 (37.7%) attendants had DNS. It was diagnosed on the right side among 95 (61.7%) participants and on the left side among 59 (38.3%) participants. Regarding the shape of DNS, 78 (50.6%) participants had anterior DNS, followed by C-shape (29.9%; 46), S-shape (8.4%; 13), spiral (8.4%; 13), and thickened (2.6%; 4).

Eren et al,^[16] in their study 86 patients with septal deviation were divided according to six deviation types. Patients were followed up for a mean duration of 6.3 ± 0.9 months. All groups showed significant improvement in VAS scores postoperatively. All groups showed a significant decrease in NOSE scale scores postoperatively. PNIF values of all groups increased postoperatively. AR values of narrow cavities in all groups increased postoperatively, but this increase was observed only for wider cavities in groups 2, 4, and 6. RMM values were higher in the narrow cavities in types 2, 4, and 6 postoperatively, whereas only types 4 and 6 had higher values in the wider cavities.

Rao et al,^[17] concluded that 63% of patients belonged to types V and VI where horizontal crest touches or not touches the lateral wall and there is prominent maxillary crest contralateral to the deviation with septal crest to the deviated side.

The shortcoming of this prospective study is small sample size.

Conclusion

Deviated nasal septum is common among people. Common symptoms were nasal obstruction, headache, facial pain, and nasal discharge. Septoplasty resulted in significant improvement in NOSE score.

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