

ORIGINAL RESEARCH

Assessment of cases of nasal septal deviations

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ABSTRACT

Background: Septoplasty is a well-accepted treatment for nasal airway obstruction as well as for rhinologic headache due to irritation of the septum caused by contact with the lateral nasal wall. The present study was conducted to assess cases of deviated nasal septum.

Materials & Methods: 60 patients of deviated nasal septum of both genders were subjected to a detailed NOSE questionnaire consisted of 0 being the lowest and 4 being the highest.

Results: Out of 60 patients, males were 28 and females were 32. Septal deviation was causal in 30, mid-septum in 14 and posterior septum in 16 cases. The difference was significant ($P < 0.05$). The mean pre- operatively NOSE value was 54.6 and post-operatively was 24.2. The difference was significant ($P < 0.05$).

Conclusion: Septoplasty resulted in significant improvement in NOSE score.

Key words: nasal septal deviations, NOSE, septoplasty

INTRODUCTION

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 people, most unknowingly.¹ DNS usually occurs by pressure during the upward growth of the maxillar crest, downward growth of the septum from the ethmoid ossification centers, and the development of the premaxilla and vomer. In addition, it is frequently caused by impact trauma, as well as by compression of the nose during childbirth.² Septoplasty is a well-accepted treatment for nasal airway obstruction as well as for rhinologic headache due to irritation of the septum caused by contact with the lateral nasal wall. Traditional septoplasty involves elevation of a large mucoperichondrial flap to excise the deviated bone and cartilage.³ Newer endoscopic techniques have been described, especially in conjunction with functional endoscopic sinus surgery. These techniques commonly use traditional septoplasty or endoscopic sinus instruments to accomplish the dissection and removal of cartilage.⁴ Lindahl described nasal septal deviations as either developmental (usually smooth, "C-shaped" or "S-shaped" nasal septum with occurrence more often in the anterior septum) or traumatic (usually irregular, angulated, and sometimes dislocated) in origin.⁵ The present study was conducted to assess cases of deviated nasal septum.

MATERIALS & METHODS

The present study consisted of 60 patients of deviated nasal septum of both genders. All patients were enrolled with their written consent.

Demographic profile was recorded. All patients were subjected to a detailed NOSE questionnaire consisted of 0 being the lowest and 4 being the highest. 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. Results were assessed statistically using Mann Whitney U test. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 60		
Gender	Males	Females
Number	28	32

Table I shows that out of 60 patients, males were 28 and females were 32.

Table II Grading of septal deviation

Grading	Number	P value
Caudal	30	0.02
Mid-septum	14	
Posterior septum	16	

Table II, graph I shows that septal deviation was causal in 30, mid-septum in 14 and posterior septum in 16 cases. The difference was significant ($P < 0.05$).

Graph I Grading of septal deviation

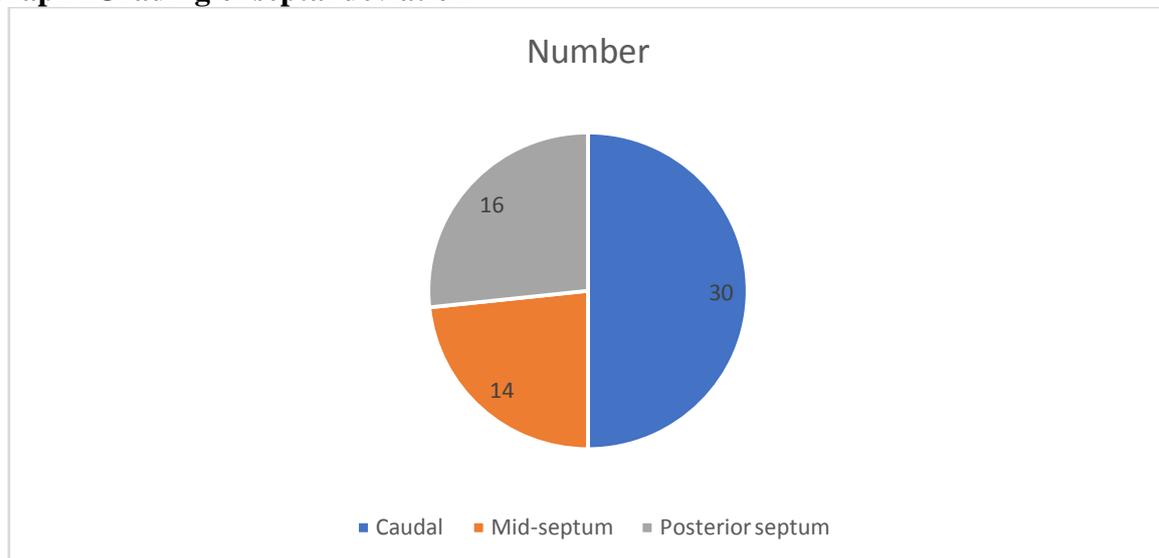
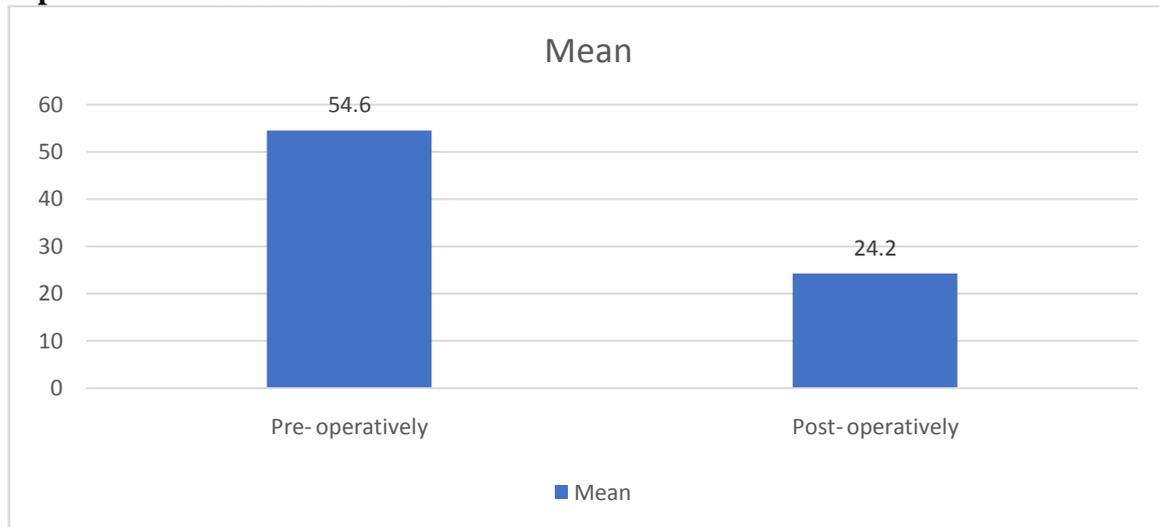


Table III Assessment of NOSE value

NOSE value	Mean	P value
Pre- operatively	54.6	0.001
Post- operatively	24.2	

Table III, graph II shows that mean pre- operatively NOSE value was 54.6 and post- operatively was 24.2. The difference was significant ($P < 0.05$).

Graph II Assessment of NOSE value

DISCUSSION

The most important otorhinolaryngological cause of headache is a septal deviation. It also causes nasal obstruction and is a prevalent problem in the general population. Nasal septal deviations are very commonly found in regular nasal examinations.⁶ The prevalence of nasal septal deviations varies in different populations, and the classification schemes are very complex. Nasal septal deviations play a critical role in nasal obstruction symptoms, aesthetic appearance of the nose, increased nasal resistance, and sometimes snoring.⁷ Consequently, a comprehensive assessment of the nasal septum serves an essential role in preoperative planning, re-establishing function, and overall cosmetic appeal. Typically, a septoplasty suffices in addressing significant nasal septal deviations, but on occasion such deviations warrant a single-stage septorhinoplasty.⁸

The most common mechanism of injury is blunt trauma to the mid-face.⁹ The natural protuberance and the weakness of distal structures in the nose make it more liable for injury. The bones and cartilage of the nose provide both esthetic and structural support for the mid-face and airway; therefore, proper evaluation and management are necessary to prevent nasal deformity and nasal airway compromise.¹⁰ The present study was conducted to assess cases of deviated nasal septum.

In present study, out of 60 patients, males were 28 and females were 32. Qannass et al¹¹ assessed 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).

We found that septal deviation was causal in 30, mid-septum in 14 and posterior septum in 16 cases. Eren et al¹² in their study eighty-six patients with septal deviation were recruited and divided according to six deviation types as defined previously. 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 ($p < 0.05$). 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.

We found that mean pre-operatively NOSE value was 54.6 and post-operatively was 24.2. Kim et al¹³ have reported that there is a significant association between septum deviation and asymmetric facial development. As shown in our study, the ratio of transverse diameter of nasal cavity/transverse diameter of nasal cavity and paranasal sinus decreased significantly in DNS group than in control. Yousem et al¹⁴ also found that patients with sinusitis had a higher degree of DNS. If the pathology persists for long time, a decrease in the volume of the sinus and thickening at wall of sinus becomes apparent.

CONCLUSION

Authors found that septoplasty resulted in significant improvement in NOSE score.

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