

Assessment of Cases of Nasal Septal Deviations

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ABSTRACT:

Background: *Nasal septal deviations are very commonly found in regular nasal examinations. The present study was conducted to assess cases of nasal septal deviations.*

Materials & Methods: *54 patients of deviated nasal septum of both genders underwent septoplasty. Outcome was recorded.*

Results: *Out of 54 patients, males were 26 and females were 28. The septal deviation was causal in 28, midseptum in 16 and posterior septum in 10 cases. The difference was significant ($P < 0.05$). The mean NOSE value pre-operatively was 56.2 and post-operatively was 23.8. The difference was significant ($P < 0.05$).*

Conclusion: *There was significant improvement in NOSE score following septoplasty.*

Key words: *septoplasty, nasal septal deviations, NOSE*

Introduction

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.¹ Nasal septal deviations are very commonly found in regular nasal examinations. The prevalence of nasal septal deviations varies in different populations, and the classification schemes are very complex.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

The symptoms of septal deviation vary from patient to patient and can range from a simple headache to a recurrent epistaxis. The Nasal Obstruction Symptom Evaluation (NOSE) scale was designed by Stewart and associates in 2004 and has been widely used in day-to-day practice ever since.⁵ Health-related quality of life (QoL) questionnaires are among the most recent and innovative methodologies for assessing chronic diseases. They were developed either for general applications or to assess a specific disease, function, or symptom.⁶ The present study was conducted to assess cases of nasal septal deviations.

Materials & Methods

The present study consisted of 54 patients of deviated nasal septum of both genders. All became part of the study with their written consent.

Demographic data of patients was recorded. All patients were subjected to a detailed NOSE questionnaire. Each patient was asked to clearly read the questionnaire and give a score for each symptom– 0 being the lowest and 4 being the highest. All the patients were prepared with thorough blood tests along with radiological and local examinations. line. All the surgeries were performed by the same surgeon, under general anaesthesia, and using the same set of instruments. The local anesthetic used was 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- 54		
Gender	Males	Females
Number	26	28

Table I shows that out of 54 patients, males were 26 and females were 28.

Table II Grading of Septal Deviation

Grading	Number	P value
Caudal	28	0.04
Midseptum	16	
Posterior septum	10	

Table II, graph I shows that septal deviation was causal in 28, midseptum in 16 and posterior septum in 10 cases. The difference was significant ($P < 0.05$).

Graph I Grading of Septal Deviation

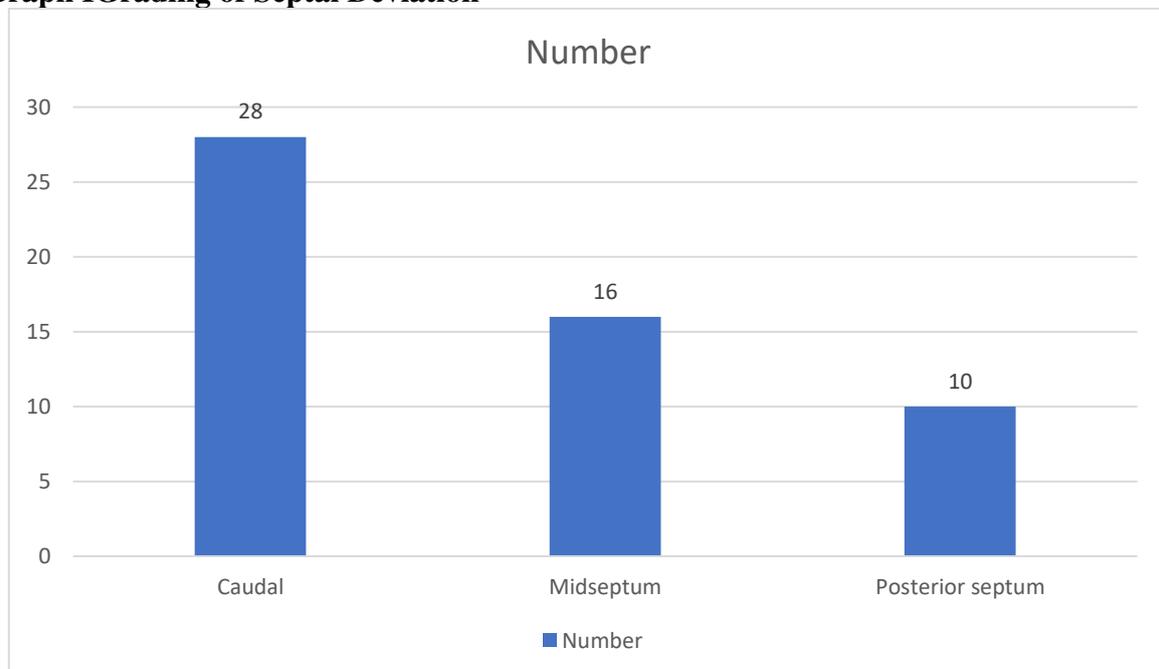


Table III Comparison of NOSE

NOSE	Mean	P value
Pre- operatively	56.2	0.001
Post- operatively	23.8	

Table III shows that mean NOSE value pre- operatively was 56.2 and post- operatively was 23.8. The difference was significant ($P < 0.05$).

Discussion

Septal deviations are extremely common and, in many cases, are asymptomatic. In some individuals, deviation of the nasal septum can contribute to a subjective complaint of nasal obstruction, as well as to objective findings, such as increased nasal resistance and decreased cross-sectional area and airflow. A deviated nasal septum may also impede sinus drainage, contributing to the development of acute or chronic rhinosinusitis.⁷ The septum is comprised of the quadrangular cartilage (anteriorly) and the perpendicular plate of the ethmoid bone and vomer (posteriorly). Inferiorly, along the nasal floor, the septum lies within a groove in the maxillary crest. Deviations of the cartilaginous and bony septum may occur congenitally, during growth and ossification, or as a result of trauma.⁸ The septum is covered by a thin mucoperiosteum/mucoperichondrium that, in its midportion, can contain erectile tissue that forms a structure called the septal body. On intranasal examination, a prominent septal body can have the appearance of a septal deviation.⁹ The present study was conducted to assess cases of nasal septal deviations.

In present study, out of 54 patients, males were 26 and females were 28. Eren et al¹⁰ 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 patients were individually examined by nasal endoscopy and paranasal computed tomography. The tests applied included a visual analog scale (VAS), The Nasal Obstruction Symptom Evaluation (NOSE) scale, acoustic rhinometry (AR), rhinomanometry (RMM), and peak nasal inspiratory flow (PNIF). All groups showed significant improvement in VAS scores postoperatively ($p = 0.0001$). 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 septal deviation was causal in 28, midseptum in 16 and posterior septum in 10 cases. Wang et al¹¹ investigated the effects of DNS on the structure of nasal cavity. The paranasal sinus coronal view CT of 108 patients with DNS and 129 hospitalized patients without DNS was retrospectively analyzed. The transverse diameter of nasal cavity (a), transverse diameter of nasal cavity and paranasal sinus (b), angle between maxillary and palatal bone, interalveolar distance, and maxillary rotation distance were measured. The ratio of a/b in experimental group was 0.367 ± 0.006 which was significantly ($P = 0.0023$) less than that in control group (0.391 ± 0.005). For the angle between maxillary and palatal bone, there was no significant difference found between DNS and control group for both right and left sides. The interalveolar distance was 40.75 mm in experimental group, and 38.8 mm in control ($P = 0.0002$). For the maxillary rotation distance, findings were considered as significant ($P < 0.0001$) in experimental group (11.25 mm) compared with control (10.1 mm). The present study demonstrates that long-term DNS affects the development of nasal cavity and paranasal sinus, as well as increases the interalveolar distance and maxillary rotation distance. These influences may be caused by the alteration of airflow inside the nasal cavities.

We found that mean NOSE value pre-operatively was 56.2 and post-operatively was 23.8. Harley et al¹² concluded that surgical correction of anatomic abnormalities of the septum and turbinate, particularly contact points, resulted in predictable improvement in patient-relevant outcome measures with regard to headache severity and frequency, nasal obstruction and level of patient frustration, irritability, and restlessness. Statistically significant improvements were observed in the entire population, headache ($p < 0.01$).

Conclusion

Authors found that there was significant improvement in NOSE score following septoplasty.

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