

The Effect of Septoplasty in Relieving Nasal Obstruction and On Quality Of Life

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Abstract: The deviated nasal septum is one of the most common causes of unilateral nasal obstruction. Trauma during birth including forceps delivery passing through narrow pelvic canal etc can cause early deviation, both septal deformity and deviation has different meanings it is attributed to many other symptoms as recurrent bleeding from nose, anosmia, frequent crusting, headache, sinusitis, post nasal bleeding, snoring, external nasal deformity etc. Septoplasty is the preferred surgery to correct deviated septum.

Background: The deviated nasal septum is one of the most common causes of unilateral nasal obstruction. Trauma during birth including forceps delivery, passing through narrow pelvic canal etc can cause early deviation in the nasal septum or deviation which becomes evident during the pubertal growth spurt. Nasal septal deformities (NSD) are one of the most common disorders in humans. Both septal deformity and deviation has different meanings, deformity means change of shape or change of form while deviation means declination from the medio sagittal plane. Even though nasal obstruction is the most obvious symptom of a deviated nasal septum (DNS); it is attributed to many other symptoms in rhinology such as recurrent bleeding from nose, anosmia, frequent crusting, headache, sinusitis, post nasal bleeding, snoring, external nasal deformity etc. Treatment includes correction of anatomical deformity. Septoplasty is the preferred surgery to correct deviated septum.

• **Materials and Methods:** This is a Prospective randomized study on 50 patients with symptomatic deviated nasal septum who have undergone septoplasty between study period of November 2020 to May 2021. A group of 50 patients with deviated nasal septum attending outpatient department with symptoms of nasal obstruction, underwent complete ear nose throat and general medical evaluation and assessed with NOSE questionnaire. Diagnostic nasal endoscopy was done to assess degree of septal deviation, site of obstruction, turbinate hypertrophy, signs of sinusitis or any other pathology. Radiological investigations were done including X-ray and CT scan of the paranasal sinuses in required cases. Surgery was performed under general/local anesthesia after giving local infiltration with 1% xylocaine with 1:100000 adrenaline

• **Results:** Age distribution of the sample population was between 18 to 48 years with mean age of 28.93 years. Majority of patients were in 3rd decade. Out of 50 patients 29 were males and 21 were females. The male to female ratio was 1.38:1. The commonest symptom was nasal obstruction (46%), followed by headache (35%), bleeding (28%), nasal discharge (29%) and hyposmia (25%).

Key Word: Deviated Nasal Septum, Septoplasty, Nasal Endoscopy, NOSE, Nasal Polyposis

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I. Introduction

The deviated nasal septum is one of the most common causes of unilateral nasal obstruction. Trauma during birth including forceps delivery, passing through narrow pelvic canal etc can cause early deviation in the nasal septum or deviation which becomes evident during the pubertal growth spurt. Nasal septal deformities (NSD) are one of the most common disorders in humans. Both septal deformity and deviation has different meanings, deformity means change of shape or change of form while deviation means declination from the medio sagittal plane. Even though nasal obstruction is the most obvious symptom of a deviated nasal septum (DNS); it is attributed to many other symptoms in rhinology such as recurrent bleeding from nose, anosmia, frequent crusting, headache, sinusitis, post nasal bleeding, snoring, external nasal deformity etc. Treatment includes correction of anatomical deformity. Septoplasty is the preferred surgery to correct deviated septum.

II. Material And Methods

This is a Prospective randomized study on 50 patients with symptomatic deviated nasal septum who have undergone septoplasty between study period of November 2020 to May 2021. A group of 50 patients with deviated nasal septum attending outpatient department with symptoms of nasal obstruction, underwent complete ear nose throat and general medical evaluation and assessed with NOSE questionnaire.

Diagnostic nasal endoscopy was done to assess degree of septal deviation, site of obstruction, turbinate hypertrophy, signs of sinusitis or any other pathology.

Radiological investigations were done including X-ray and CT scan of the paranasal sinuses in required cases.

Inclusion criteria:

- a) All patients with symptomatic deviated nasal septum.
- b) All patients who are willing to give consent.

Exclusion criteria:

- a) Patients below the age of 18 years.
- b) Patients with nasal polyposis.
- c) Patients with allergic rhinitis.
- d) Patients undergoing septoplasty with other nasal surgeries.
- e) Revision septoplasty.

Procedure methodology

- Surgery was performed under general/local anesthesia after giving local infiltration with 1% xylocaine with 1:100000 adrenaline. Freer's incision was used and muco-perichondrial flap elevated followed by resection of deviated part of septum. Spurs if present also removed.
- Flaps were repositioned and sutured with absorbable suture material. After surgery both the nasal cavities were packed with medicated gauze and removed on the first postoperative day.
- Saline douching or pressurized saline nasal spray were started after 7 days and postoperative assessment was done in terms of symptoms relieved like nasal obstruction, headache, hyposmia, post nasal discharge.
- Follow-up visits were done after 3rd month and 6th month.
- During the follow up period, NOSE questionnaire and diagnostic endoscopy was done and it was compared with preoperative findings.
- The results were statistically analyzed.

NOSE Scale Administration:-

Have patient complete the questionnaire as indicated by circling the response closest to describing their current symptom And Sum the answers the patient circles and multiply by 20 to base the scale out of a possible score of 100 for analysis.

Nasal Obstruction and Septoplasty Effectiveness Scale

Criteria	Not a Problem	Very Mild Problem	Moderate Problem	Fairly Bad Problem	Severe Problem
Nasal congestion or stuffiness	0	1	2	3	4
Nasal blockage or obstruction	0	1	2	3	4
Trouble breathing through my nose	0	1	2	3	4
Trouble sleeping	0	1	2	3	4
Unable to get enough air through my nose during exercise or exertion	0	1	2	3	4

III. Result

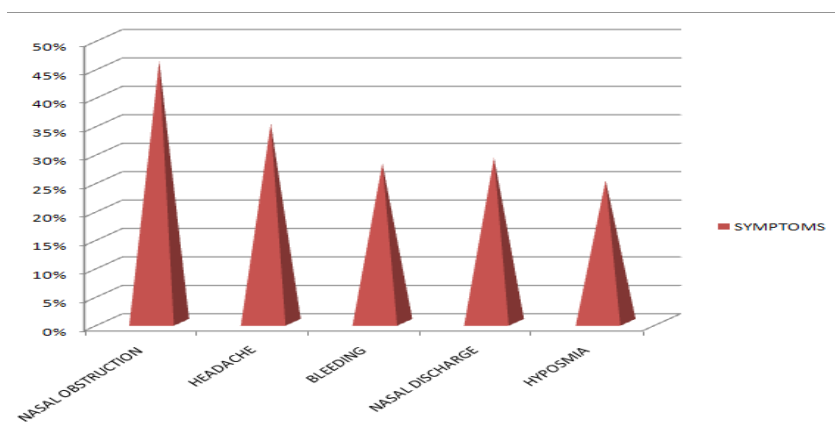
Age distribution:- Age distribution of the sample population was between 18 to 48 years with mean age of 28.93 years. Majority of patients were in 3rd decade.

Sex distribution:-

Out of 50 patients 29 were males and 21 were females. The male to female ratio was 1.38:1

Symptoms

The commonest symptom was nasal obstruction (46%), followed by headache (35%), bleeding (28%), nasal discharge (29%) and hyposmia (25%).



Clinical examination:-

All the patients who had symptomatic deviated nasal septum were evaluated thoroughly by anterior rhinoscopy followed by diagnostic nasal endoscopy preoperatively.

All the patients were given NOSE score questionnaire prior to surgery and were scored accordingly.

Follow up after 6 weeks

- Post surgery patients were followed up after 3rd and 6th month.
- During the follow up period NOSE scoring and DNE examination was done.
- The comparison of pre and postoperative DNE findings is shown below.
- The DNE findings were consistent at both the follow up visits.

Clinical Finding	Preoperative	Postoperative
Anterior Deviation	20	5
Posterior Deviation	17	5
Septal Spur	11	1
Hypertrophied Inferior Turbinate	7	4
High DNS	5	3

Comparison of NOSE score before and after surgery

Mean NOSE Score Preoperative	Mean NOSE score Postoperative (3 months)	Mean NOSE score Postoperative (6months)	Improvement In NOSE score	P Value
59.25	10.55	10.30	48.95	0.0001

Comparison of each symptom scores

IV. Discussion

- All the 50 patients in our group were in the age group of 18 to 48 years with mean age of 28.93 years.
- The male population was relatively high with a male female ratio of 1.38:1.

- There was no age difference in symptomatic improvement score in our study.
- Main presenting symptoms was nasal obstruction (46%) followed by headache (35%), bleeding (28%), nasal discharge (29%) and hyposmia (25%).
- Preoperatively, 44 diagnostic nasal endoscopy was done which showed anterior deviation as the commonest type of deviation followed by posterior deviations, septal spur, hypertrophied turbinate and high DNS.
- Out of the 7 patients who had inferior turbinate hypertrophy, 4 patients continued to have same findings.
- The number of anterior and posterior deviations reduced from 20 and 17 to 5 and 5 respectively following septoplasty.
- 11 patients who had septal spur which reduced to 1 and 5 patients who had high DNS were reduced to 3 after 3 months of surgery.
- The diagnostic nasal endoscopy findings at 3 months and 6 months were consistent.
- Even though few patients had residual deformity, there was a significant symptomatic improvement for all the patients.

V. Conclusion

- In our study of 50 patients who underwent septoplasty, majority of them were in 2nd and 3rd decade and male to female ratio was 1.38:1.
- Nasal obstruction was the most common symptom followed by headache, bleeding, nasal discharge and hyposmia.
- On diagnostic nasal endoscopy, anterior deviation was the most common abnormality followed by posterior deviation, septal spur, HIT and high DNS.
- Post operative follow up visits showed lesser residual deformity except in case of high DNS.
- Postoperatively and during subsequent visits, there was a significant statistical improvement in NOSE scoring.
- Septoplasty is an effective treatment for nasal obstruction in patients with symptomatic deviated nasal septum.
- NOSE scoring is a useful parameter for assessing the improvement in quality of life among symptomatic DNS patients.

References

- [1]. Olphen VFA. The septum. Gleeson M, Browning CG, Burton MJ, Clarke R et al., Scott Brown's Otorhinolaryngology Head and Neuro Surgery, 7th ed: Volume 2. Great Britain: Hodder Arnold; 2008:1569-1582.
- [2]. Cottle MH, Loring RM, Fischer GG, Gaynon IE. The maxilla-premaxilla approach to extensive nasal septum surgery. *AMA Arch Otolaryngol* 1958;68:301-13.
- [3]. Mladina R et al. Nasal septal deformities in ear, nose and throat patients: An International Study. *Am J ORL*, 2008; 29:75-82.
- [4]. Mladina R. The role of maxillary morphology in the development of pathological septal deformities. *Rhinology*, 1987; 25(3): 199-205.
- [5]. Kridel R, Angela, Sturm-O'Brien. Nasal septum. Cummings Otolaryngology, Head and Neck surgery. 6th ed: volume 1. Philadelphia: Elsevier; 2015. section2: 474-492.
- [6]. Freer O. The correction of deflections of the nasal septum with a minimum of traumatism. *J Am Med Assoc* 1902;38:636.
- [7]. Killian G. The submucous window resection of the nasal septum. *Annals of Otolaryngology*. 1905; 14: 363-7.

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