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ORIGINAL ARTICLE

STUDY ON CLINICAL PROFILE AND IMPACT OF SEPTOPLASTY IN PATIENTS ATTENDING NATIONAL MEDICAL COLLEGE BIRGUNJ FOR DEVIATED NASAL SEPTUM

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ABSTRACT

Introduction: *A deviated nasal septum is a common anatomic disorder that presents in up to 62% of the population but, not all are symptomatic. However, it may play a critical role in nasal obstruction symptoms, aesthetic appearance of the nose, increased nasal resistance and sometimes snoring. This study was done with an aim to determine the profile of subjects having deviated nasal septum and assess the impact of septoplasty on them.*

Materials and Methods: *A cross-sectional study was done at National Medical College, Department of Otorhinolaryngology, Head and Neck Surgery, Birgunj from January 2022 to June 2022. Total 30 cases with symptomatic deviated nasal septum were included. Ethical clearance (F-NMC/579/078-79) was obtained from institutional review committee of NMC Birgunj. Details of nasal patency test followed by anterior rhinoscopy and nasal endoscopy were noted. Patients were followed up on 1st, 7th and 30th day post operatively after septoplasty. Pre and post operative comparison was done by using NOSE questionnaire. Wilcoxon signed rank test was done.*

Result: *The ratio of male to female being 1.1:1. The age of the patients varied between 18 to 55 years, and the mean age was 29.07±10.409 years. most common type of deviation seen was type IV (30%). Nasal obstruction was seen in all the study cases which was followed by headache (76.7%) There was decline in the Nose scoring gradually from preoperative period to postoperative period. In anterior rhinoscopy spur (73.3%) was the most common finding. A significant ($p<0.001$) improvement in nose score after septoplasty was seen.*

Conclusion: *Significant improvement in NOSE score was seen in our study which was in accordance with similar studies conducted.*

Keywords: *Nasal septum deviation; NOSE score; Septoplasty.*

INTRODUCTION

The nasal septum which divides the nasal cavity into two halves, consists anteriorly of quadrilateral cartilage and posteriorly a bony part, consisting of perpendicular plate of ethmoid and vomer. Within the nasal cavity, a straight septum enables laminar airflow, allowing the inspired air to be warmed, cleaned and humidified and thus optimized for gas exchange. Conversely, a deviated nasal septum can contribute to various degrees of nasal obstruction and altered nasal respiration.

A deviated nasal septum is a common anatomic disorder that presents in up to 62% of the population but, not all are symptomatic.[1] However it may play a critical role in nasal obstruction symptoms, aesthetic appearance of the nose, increased nasal resistance and sometimes snoring.[2] Cottle described the deviation of the septum into four different groups: subluxation, large spurs,

caudal deflection and tension septum.[3] Whereas Mladina classifies it into 7 types on the basis of their orientation and horizontal axis.[4] The symptoms or complications produced by a deviated nasal septum sometime respond with medical treatment such as antibiotic and steroid therapy but the deformity cannot be corrected. When medical management is not successful, septal surgery is considered and septoplasty is one of the surgical procedures.[5–7]

This study was done with an aim to determine the profile of subjects having deviated nasal septum and assess the impact of septoplasty on them.

MATERIALS AND METHODS

A cross-sectional study was done at National Medical College, Department of Otorhinolaryngology, Head and Neck Surgery, Birgunj from January 2022 to June 2022. Total of 30 cases with symptomatic deviated nasal septum were selected for the study. Informed consent was obtained from the cases that were included in the study. Ethical clearance (F-NMC/579/078-79) was obtained from institutional review committee of NMC Birgunj. Acute rhinosinusitis, chronic rhinosinusitis, nasal polyps, malignancy, revision cases for septoplasty patient associated with co morbid condition like hypertension, diabetes mellitus medication for nasal obstruction, rhinitis medicamentosa, medication causing nasal congestion were excluded from the study.

Nasal patency test was done followed by anterior rhinoscopy and nasal endoscopy and details were noted. Conventional septoplasty was performed in all 30 patients. Patients were followed up on 1st, 7th and 30th day post operatively. Deviations were classified according to Mladina[1] classification which was modified by Rao et al.[8]

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

Pre operative and post operative comparison was done by using NOSE questionnaire.

Data collection was done in data collection sheet and later entered in Office Excel version 2016. Data analysis was done using Statistical Package for the Social Sciences (SPSS) version 16. Variables were expressed in mean ± standard deviation, frequency and percentage where applicable. Wilcoxon signed rank test was done where p value less than 0.05 was considered significant.

RESULTS

In our study of 30 cases, 16 (53.3%) patients were male and 14 (46.7%) patients were female, the ratio of male to female being 1.1:1. The age of the patients varied between 18 to 55 years, and the mean age was 29.07±10.409 years.

In our study most common type of deviation seen was type IV (30%) which was followed by type II and III (20% each) as shown in Table 1.

Table 1: Type of deviation

Type	Frequency	Percentage (%)
I	2	6.7
II	6	20.0
III	6	20.0
IV	9	30.0
V	5	16.7
VI	1	3.3
VII	1	3.3

Nasal obstruction was seen in all the study cases which was followed by headache (76.7%) and nasal discharge (50%) as shown in Table 2.

Table 2: Presenting symptoms

Symptoms	Frequency	Percentage (%)
Nasal Obstruction	30	100
Headache	23	76.7
Nasal Discharge	15	50
Epistaxis	5	16.7
Hyposmia	9	30

In anterior rhinoscopy spur (73.3%) was the most common finding followed by right deviation (60%) as shown in Table 3.

Table 3: Anterior rhinoscopy findings

Findings	Frequency	Percentage (%)
Right deviation	18	60
Left deviation	12	40
inferior turbinate hypertrophy	14	46.7
Congested mucosa	10	33.3
Spur	22	73.3
External deformity	6	20

Nose scoring was compared in a graph between preoperative with 1st,7th and 30th postoperative. There was decline in the Nose scoring gradually from preoperative period to postoperative period. (Figure 1)

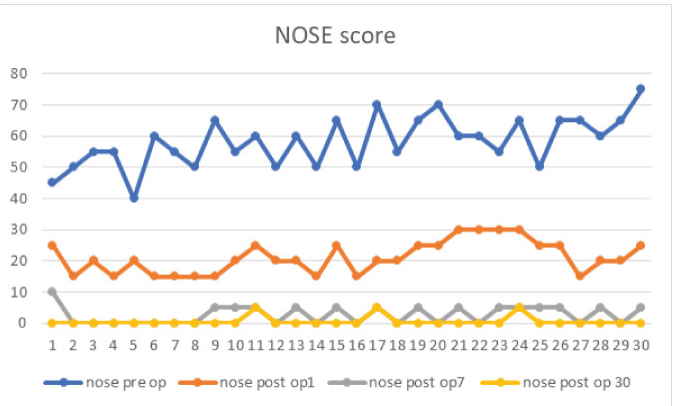

Figure 1: NOSE score distribution

Pre operative nose score was compared with post operative nose score on 1st, 7th and 30th day using Wilcoxon signed rank test. It was found that there was a significant improvement in nose score after septoplasty with p value <0.001. (Table 4)

Table 4: Comparison between pre-operative and post-operative NOSE score

	nose post op1 - nose pre op	nose post op7 - nose pre op	nose post op 30 - nose pre op
Z statistic	-4.807	-4.808	-4.805
p value	<0.001	<0.001	<0.001

DISCUSSION

The nasal septum has a vital role in both the look and function of the nose. Deviation of the nose is reciprocal and amendment needs an attentive, anatomically based treatment.[9]

In our study of 30 cases, 16 (53.3%) patients were male and 14 (46.7%) patients were female, the ratio of male to female being 1.1:1. The age of the patients varied between 18 to 55 years, and the mean age was 29.07±10.409 years.

In our study, the most common symptom was nasal obstruction (100%), followed by headache (76.7%), nasal discharge (50%), epistaxis (16.7%), and hyposmia (30%). The finding of the present study was similar to a study conducted by Iqbal et al [10] which concluded that nasal obstruction was present in 220 patients (100%). Another study conducted by Bothra and Mathur[5] showed that nasal obstruction was the most common presenting symptom found in 90% of the patients.

According to anterior rhinoscopy and nasal endoscopic findings 18 (60%) patients had right sided deviation, 12 (40%) had left sided deviation, 14 (46.7%) had inferior turbinate hypertrophy, 10 (33.3%) had congested mucosa, 22 (73.3%) had spur and 6 (20%) had external deformity.

In the literature several studies have been conducted, using different classifications of septal pathologies.[11,12] Type-IV (30%) was the commonly encountered deviation followed by type II and III (20% each) in this study. This is in congruence with other studies which used Mladina[1] classification. This is in accordance to a study conducted by Rehman A et al.[13]

In the present study, statistically significant improvement was observed in the entire patient population in post operative NOSE score post operatively on the 30th day after septoplasty with p value <0.001.

Study with longer period of follow- up is required to evaluate the surgical outcome of the study. The sample size included in our study were according to the presentation in our center so multicenter study is

recommended to relate the outcome of septoplasty.

CONCLUSION

Significant improvement in NOSE score was seen in our study which was in accordance with similar studies conducted. Type IV deviation was the most common presentation in our study and all the subjects complained of nasal obstruction followed by headache.

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REFERENCES

1. Mladina R. The role of maxillar morphology in the development of pathological septal deformities. Rhinology. 1987 Sep;25(3):199–205. [Pubmed]

2. Anari S, Natt RS. Nasal Septum and Nasal Valve. In: Watkinson JC, Clarke R, editors. Scott and Brown's Otorhinolaryngology Head & Neck Surgery. 8th ed. London New York:CRC Press; 2019. p. 1135–48. [DOI]

3. Mogarnad M, Mohta V, Gupta A. A Study on Clinical Profile of Deviated Nasal Septum and to determine the Efficacy of the Surgery. Clin Rhinol Int J. 2017 Aug;10:70–3. [DOI]

4. Syed M, Shoib B, Borlingegowda V. Association between Symptomatic Deviated Nasal Septum and Sinusitis: A Prospective Study. Res Otolaryngol. 2016 Feb;2016:1–8. [Full Text]

5. Bothra R, Mathur NN. Comparative evaluation of conventional versus endoscopic septoplasty for limited septal deviation and spur. J Laryngol Otol. 2009 Jul;123(7):737–41. [DOI]

6. H.S.Satish D. Septoplasty Outcome Using Snot- 22 Questionnaire Study. IOSR J Dent Med Sci. 2013 Jan;6:34–8. [DOI]

7. Reddy-Kolanu GR, Izzat AB. Patient views on information given before septoplasty, their expectations and outcomes. Darlington County Med J. 2009;2010(3):2.

8. Rao JJ, Kumar ECV, Babu KR, Chowdary VS, Singh J, Rangamani SV. Classification of nasal septal deviations-Relation to sinonasal pathology. Indian J Otolaryngol Head Neck Surg Off Publ Assoc Otolaryngol India. 2005 Jul;57(3):199–201. [DOI]

9. Alotaibi AD, Almutlaq BA, Alshammari FN, Gadelkarim Ahmed H. The Common Clinical Presentation of Patients Selected for Septoplasty in Northern Saudi Arabia. Int J Otolaryngol. 2018;2018:8536387. [DOI]

10. Iqbal K, Khan MI, Amanullah A. Submucous resection versus septoplasty: complications and functional outcome in adult patients. Gomal Journal of Medical Sciences. 2011;9(1). [Full Text]

11. Salihoglu M, Cekin E, Altundag A, Cesmeci E. Examination versus subjective nasal obstruction in the evaluation of the nasal septal deviation. Rhinology. 2014 Jun;52(2):122–6. [DOI]

12. Strambis G. Incidence of Nasal Deformities in Young Populations," Prooceeding of the xv Congress of the European Rhinology Society, Amsterdam, 1988, p. 60.

13. Rehman A. A Prospective Study of Nasal Septal Deformities in Kashmiri Population Attending a Tertiary Care Hospital. Int J Otolaryngol Head Neck Surg. 2012 Jan;01:77–84. [DOI]