

Endoscopic Septoplasty for Correction of Deviated Nasal Septum: Our Experience of 50 Cases

Mahesh V Kattimani¹, Shweta Anand²

¹Dept. of ENT, Assistant Professor, National Institute of Medical Sciences and Research, Jaipur (Raj.)

²Dept. of ENT, Assistant Professor, National Institute of Medical Sciences and Research, Jaipur (Raj.)

Received: 21-10-2022 / Revised: 20-11-2022 / Accepted: 11-12-2022

Corresponding author: Dr. Shweta Anand

Conflict of interest: Nil

Abstract

This study was performed with the aim of assessing the advantages of endoscopic septoplasty while treating cases of deviated nasal septum. 50 patients of deviated nasal septum who underwent endoscopic septoplasty were assessed both pre and postoperatively in NIMS Jaipur from march 2021 to march 2022. Isolated septal spurs were noted in 17 (34%) patients. Caudal deflection was noted in 8 (16%) patients. 19 (38%) patients had c shaped septal deviation. 6 (12%) patients had combination of multiple septal defects. Post operative intranasal synechiae was found in 5 patients (10%) at the end of 3rd week follow up. 45 patients (90%) presented with improvement in nasal obstruction at the end of 3rd week. No case of post operative septal perforation was encountered within 3weeks of follow up. From this study we conclude that endoscopic septoplasty has advantages of better visualization of posterior septal deformities, lesser complications of synechiae, septal perforation and it acts as an effective teaching tool.

Keywords: deviated nasal septum, endoscopic septoplasty, septal correction, septal spur

This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

Introduction

Deviated bony nasal septum or an inherent bend in septal cartilage are the main causes leading to deviated nasal septum. Only symptomatic deviated nasal septum cases warrant surgical management. In cases where the septum is inherently straight, the septal tilt may be corrected by addressing the bony attachments; when the cartilage is inherently deformed, special techniques are employed. The advent of endoscope has revolutionized rhinology and has widened the horizon of rhinology. [1]

The aim of our study was to describe the advantages of septoplasty under endoscopic vision during correction of deviated nasal septum

Material and methods:

A cohort study was done at NIMS Jaipur from march 2021 to march 2022. 50 cases of symptomatic deviated nasal septum cases underwent endoscopic guided septoplasty under general anaesthesia.

Detailed history, clinical examination, diagnostic nasal endoscopy, x-ray PNS, and

routine pre operative investigations were done. Informed, written and video consents were taken.

Cases of sinusitis, antrochoanal polyps, sinonasal malignancies and cases in conjunction with rhinoplasties were not incorporated in the study.

Procedure:

General anaesthesia was administered in all the cases. Pledgets soaked in topical anaesthetic solution (of 30ml of lignocaine 4% with 4ml of 1 in 10000 adrenaline) were placed in nasal cavity 15 minutes prior to surgery. Infiltration of 8 ml local anaesthetic (lignocaine 2% with 1:100000 adrenaline) done at incision line i.e., junction of cartilaginous and membranous septum. Hemitransfixion incision was made and extended slightly onto the floor. Extending the incision to the floor avoids tenting and flap tear. Subperichondrial plane was reached for blunt dissection (fig 1). Dissection in subperichondrial plane resulted in minimal blood loss providing

good manoeuvrability and vision for endoscope. Endoscope tip was placed between the flap and septum so that working space was created & instrument was passed in the inferior space created for carrying out functions. Endoscope was rested on the ipsilateral ala. Freers elevator was used for blunt dissection till vomer chondral junction was reached (fig 2). Vomer was trimmed so that septal cartilage was freed from posterior attachment (fig 3). Cartilage was separated from maxillary crest and approx. 0.5 mm width of cartilage strip could also be removed followed by removal of maxillary crest projections. Crosshatching of septal cartilage was done. Additionally septal cartilage could be delivered and replaced back after alteration. Figure of 8 stitches were applied to the reconstructed septum. Merocel nasal packing were placed bilaterally in all the cases for 48 hrs. Patient were followed up weekly for 3 weeks for monitoring postoperative adhesion formations, bleeding or any other complaints.

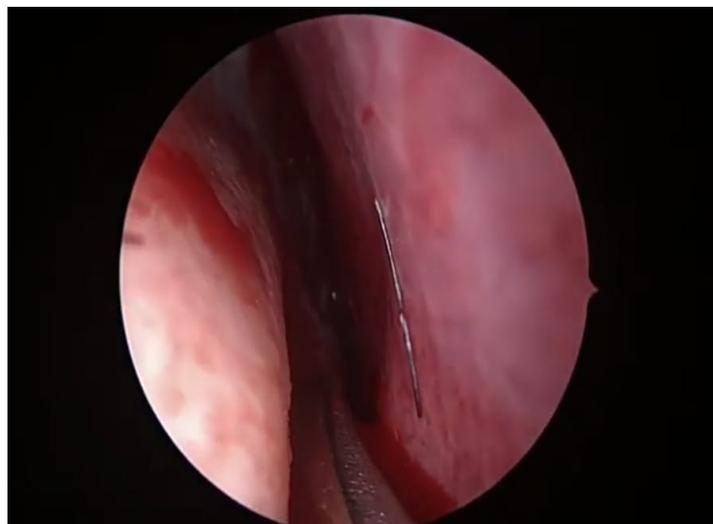


Figure 1: Elevation of mucoperichondrial flap

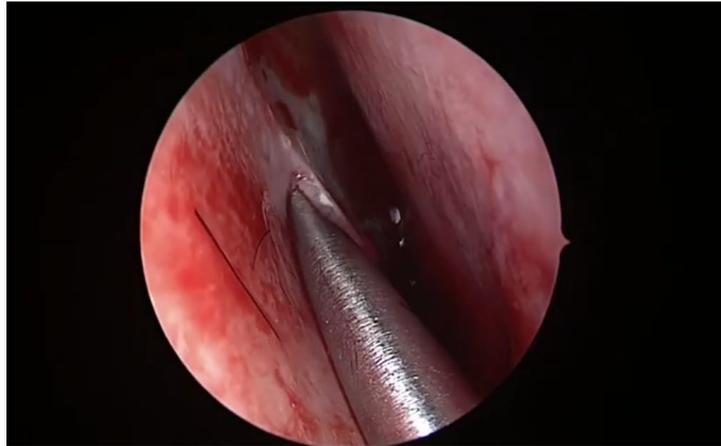


Figure 2: Identification and separation of vomerochondral junction

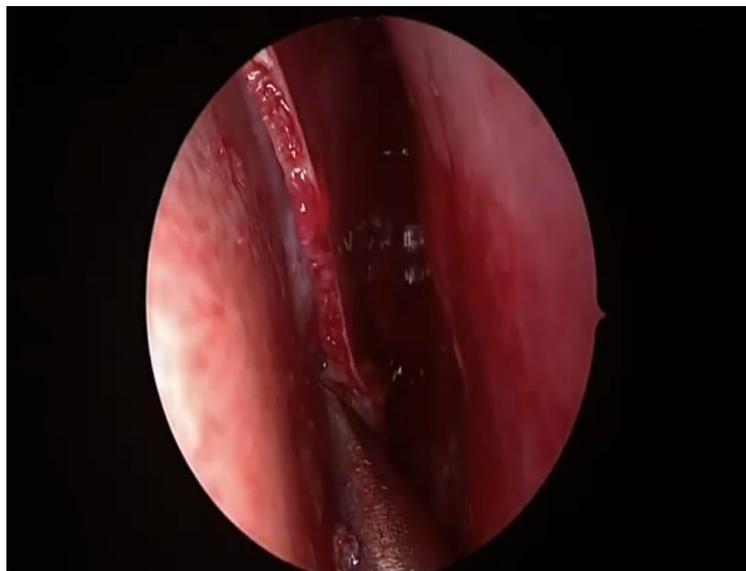


Figure 3: Complete separation of bony cartilaginous junction

Results:

Table 1: Age distribution

Age group	No. of cases
15-25	26
26-35	22
36-45	2
Total	50

Table 2: Type of septal defect

Type of septal defect	No. of cases (50 cases)
Isolated septal spur	17
Caudal deflection	8
C shaped septal deviation	19
Multiple septal defects	6

Isolated septal spurs were noted in 17 (34%) patients. Caudal deflection was noted in 8 (16%) patients. 19 (38%) patients

had c shaped septal deviation. 6 (12%) patients had combination of multiple septal defects.

Postoperative intranasal synechiae were found in 5 patients (10%) at the end of 3rd week follow up. 45 patients (90%) presented with improvement in nasal obstruction at the end of 3rd week.

No case of post operative septal perforation was encountered after 3 weeks of follow up.

Discussion:

Septoplasty is recommended for symptomatic nasal obstruction. A conventional headlight-based septoplasty is employed generally for more anteriorly placed deviations such as caudal deflection. Head light based septal surgery provides poor illumination and less accessibility to posterior septum leading to unnecessary manipulation of septal anatomy and more resection. [2]

Endoscopic septoplasty provides easy assessment of status of the septum during surgery and thus better correction of the deformity is possible. [3] It also provides a significantly improved field of view particularly in more posterior deviations. Visualization is enhanced and is easier as scope is passed comfortably beneath the mucosal flaps. [3]

Due to limited extent of flap dissection along with limited manipulation and resection of septal framework, endoscopic septoplasty reduces the chance of adhesion formation. [4]

In our study, postoperative intranasal synechiae were found in 5 patients (10%) at the end of 3rd week follow up. Synechiae were subsequently removed by cauterization under local anaesthesia. 45 patients (90%) presented with improvement in nasal obstruction at the end of 3rd week. No case of post operative septal perforation was encountered after 3 weeks of follow up. Significant postoperative symptomatic improvement in patients who underwent endoscopic septoplasty compared to those who underwent conventional septoplasty was also noted in the study done by Magdy A and Salma, et al.. [5] In a comparative

study done by Islam et.al, out of 60 patients with nasal obstruction, 28/30 (93.3%) belonged to ES and 23/30 patients (76.67%) belonged to CS group were symptom free for 6 months of follow up. [4] No persistent deviation or spur postoperatively was noted in the study by DC Sathyaki, et al.,. They examined all patients by 0° endoscope during post-operative follow-up and document the findings. [6,7]

Endoscopic septoplasty, as done under direct visualization on monitor helps in improving the learning curve of the trainees as commented by many authors in their studies. [3]

Conclusion:

From this study we conclude that endoscopic septoplasty has advantages of symptomatic improvement in nasal obstruction, better visualization of posterior septal deformities, decreased chances of post operative synechiae and postoperative septal perforation. Endoscopic septoplasty acts as an effective teaching tool.

References:

1. Scott browne 8th edition volume 1 103: Nasal Septum and Nasal Valve 1137.
2. M Gupta, G Motwani. Comparative study of endoscopic aided septoplasty and traditional Septoplasty in posterior nasal septal deviations. Indian j of otolaryngology & head neck surg. 2005; 57(4): 309- 311.
3. Gupta N. Indian Journal of Otolaryngology and Head and Neck Surgery. July - September 20005; 57(3):240-243
4. Islam MA, Mohammad T, Mamoon TB, Milki FU, Lutfur ASM etal, Endoscopic Septoplasty Versus Conventional Septoplasty: Study of 60 Cases. On J Otolaryngol & Rhinol. 2020; 3(5).
5. Magdy A, Salma. Endoscopic Aided Septoplasty Versus Conventional Septoplasty. World J of medical science. 2014; 11(1): 33-38.

6. DC Sathyaki, Chyre Geetha, GB Munishwara, M Mohan. A comparative study of endoscopic septoplasty versus Conventional septoplasty. Indian j of otolaryngology & head neck surg. 2014; 66(2): 155- 161.
7. Rawee D. R. Y. A., Abdulghani M. M. F., Alsabea D. W. M. B. Y., Daoud D. M. A., Tawfeeq D. B. A.G., & Saeed D. F. K. Attitudes and Intention towards COVID-19 Vaccines among the Public Population in Mosul city. Journal of Medical Research and Health Sciences. 2021; 4(9): 1438–1445.