ORIGINAL RESEARCH

Retrospective Analysis of Endoscopic Septoplasty at a Tertiary Care Hospital

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ABSTRACT
Background: The present retrospective study was undertaken for assessing endoscopic septoplasty among 100 patients. **Materials &Methods:**The study included assessment of data records of100 consecutive patients that had endoscopic septoplasty. Complete demographic and clinical details of all the patients were obtained. After reviewing the patient's case files, data on the patients' demographics, clinical histories, examination results, investigations, and surgical technique were retrieved. The patients' computed tomography scans of the paranasal sinuses were obtained and examined. The muco-perichondrion and muco-periosteal layers of the nasal septum were elevated by local infiltration at the muco-cutaneous junction of the nose. All the results were recorded in Microsoft excel sheet followed by statistical analysis. **Results:**Mean age of the subjects was 39.2 years. There were 72 percent males and 28 percent females. The majority of subjects were of rural residence. Nasal obstruction and nasal discharge was seen in 100 percent and 78 percent of the patients. Sneezing and septal deviation was seen in 60 percent and 100 percent of the patients. Chronic rhinosinusitis, Chronic rhinosinusitis + Inflammatory polyp and Fungal polyposis were seen in 12 percent, 83 percent and 5 percent of the patients respectively. **Conclusion:**In the current research, deviated nasal septum was the main indication for endoscopic septoplasty. The procedure is relatively safe, and it has a good outcome.
Key words: Endoscopic, Nasal septum,Septoplasty.

INTRODUCTION

Endoscopic septoplasty is a minimally invasive surgical procedure performed for the correction of nasal septal deformity. It is mostly performed for patients with deviated nasal septum (DNS), which is one of the commonest causes of nasal obstruction in rhinology practice. DNS if not corrected can result in atypical facial pains, contact point headaches, difficulty in breathing, epistaxis, and may predispose to chronic rhinosinusitis (CRS).[1-3]

Endoscopic technology greatly enhances visualization during septoplasty. Discrete septal pathologies such as isolated deflection, spurs, perforations, and contact points can be addressed in a directed fashion. These advantages can be especially important in revision cases. Endoscopic technique in conjunction with video imaging is valuable for the education of residents and staff. Various literature reports numerous advantages to this technique, including better visualization and wider, unobstructed visual field, reduced operation time, minimal post operative complications, more accurate identification of the septal area to be corrected with limited excision, control of bleeding, concurrent surgical endoscopy of paranasal sinuses, excellent visualization and precise graft harvest in septorhinoplasty and for cases where septoplasty was done in conjunction with Dacryocystorhinostomy.[4-6]

Endoscopic septoplasty can be a valuable teaching tool. The use of video monitors to demonstrate surgical anatomy and technique offers significantly greater learning opportunities for surgical assistants, students, and operating room staff than does the headlight approach.[5, 6] Hence; the present retrospective study was undertaken for assessing endoscopic septoplasty among 100 patients.

MATERIALS & METHODS

The present retrospective study was undertaken for assessing endoscopic septoplasty among 100 patients in Department of ENT and Head Neck Surgery, LN Medical College and JK Hospital, Bhopal, Madhya Pradesh, India. The study included assessment of data records of consecutive patients that had endoscopic

septoplasty. Complete demographic and clinical details of all the patients were obtained. After reviewing the patient's case files, data on the patients' demographics, clinical histories, examination results, investigations, and surgical technique were retrieved. The patients' computed tomography scans of the paranasal sinuses were obtained and examined. Following an initial complete blood count and renal function test, all patients were determined to be in normal range. Pledgets dipped in diluted adrenaline (1:200,000) were used to prepare the nose for surgery. Every patient had a preliminary nasal endoscopy using a zero-degree telescope. The muco-perichondrion and muco-periosteal layers of the nasal septum were elevated by local infiltration at the muco-cutaneous junction of the nose. All the results were recorded in Microsoft excel sheet followed by statistical analysis.

RESULTS

Data of a total 100 subjects was analyzed. Mean age of the subjects was 39.2 years. There were 72 percent males and 28 percent females. Majority subjects were of rural residence. Nasal obstruction and nasal discharge were seen in 100 percent and 78 percent of the patients. Sneezing and septal deviation was seen in 60 percent and 100 percent of the patients. Chronic rhinosinusitis, Chronic rhinosinusitis + Inflammatory polyp and Fungal polyposis were seen in 12 percent, 83 percent and 5 percent of the patients respectively.

Table 1: Demographic data

Variable	Number	Percentage
Mean age (years)	39.2	
Males	72	72
Females	28	28
Rural residence	56	56
Urban residence	44	44

Table 2: Clinical profile

Variable	Number	Percentage
Nasal obstruction	100	100
Nasal discharge	78	78
Sneezing	60	60
Septal deviation	100	100
Nasal polyp	39	39

Table 3: Histological diagnosis

Histological diagnosis	Number	Percentage
Chronic rhinosinusitis	12	12
Chronic rhinosinusitis + Inflammatory polyp	83	83
Fungal polyposis	5	5

DISCUSSION

Endoscopic Septoplasty is a fast-developing concept & gaining popularity with increasing trend towards sinus endoscopic surgeries. This has led to an increase in number of indications of limited septoplasty, which obviates need of traditional head light approach. The primary advantage of the technique is ability to decrease morbidity and post operative swelling in isolated septal deviation by limiting the dissection to the area of deviation. This enables us to reduce the extent of sub perichondrial dissection especially in patients who have undergone prior septal cartilage resection. The concept of using an endoscope is important in cases requiring limited septoplasty i.e. those with isolated spurs or ridges & require their removal before endoscopic sinus surgery (ESS).[7-9]

Data of a total 100 subjects was analyzed. Mean age of the subjects was 39.2 years. There were 72 percent males and 28 percent females. Majority subjects were of rural residence. Nasal obstruction and nasal discharge were seen in 100 percent and 78 percent of the patients. Sneezing and septal deviation was seen in 60 percent and 100 percent of the patients. In a study conducted by Park DH et al., complications were seen in 14.3 % of the patients who underwent conventional septoplasty as compared to 0 % in endoscopic correction of deviated nose. In another study conducted by R Bothra et al. minor complications like haemorrhage, infra orbital oedema and nasal pain were more in patients who underwent conventional septoplasty. Synechae persisted in 2 patients of each group. Another study was conducted by Dipak Ranjan Nayak et al. on 60 patients. Among them 30 patients underwent endoscopic assisted septoplasty and rest underwent conventional septoplasty. There was significant improvement of symptoms in patients who underwent endoscopic assisted septoplasty and the objective assessment by nasal endoscopy also showed better results in patients who underwent the same.[10-12]In a previous study conducted by Kulkarni SV et al, authors evaluated 415 cases of patients undergoing endoscopic septoplasty. Mean age was 32 years. The 7

years old was operated for DCR for congenital NLD block and septoplasty was adjunct procedure. Even the 75 years was operated for DCR. In the present study out of 415 cases, 256 (67.5 %) cases were male and 115 (32.5 %) cases were female. There is a male preponderance in the overall distribution of cases. In the present study of 415 patients, the most common operative procedure done was septoplasty in 260 (62.6 %), FESS with septoplasty in 38 (9.2 %) cases, septorhinopolasty in 41 (9.9 %) cases and DCR with septoplasty in 78 (18.3 %) cases.[13]

In the present study, chronic rhinosinusitis, Chronic rhinosinusitis + Inflammatory polyp and Fungal polyposis were seen in 12 percent, 83 percent and 5 percent of the patients respectively. Ngamdu YB et al in a previous study documented the indications and the outcome of endoscopic septoplasty in our environment. This was a retrospective study of all consecutive patients that had endoscopic septoplasty at a state tertiary hospital over three years period. Fourteen patients had endoscopic septoplasty over the period under review, constituting 11 (78.6%) males and 3 (21.4%) females. Predominant clinical features were nasal obstruction (100%) and nasal septal deviation (100%). The main indication for procedure was deviated nasal septum. The outcome of the surgery was good, 2(14.3%) of the patients had nasal adhesions but no major complication was recorded. The length of hospital stay ranged between 3 and 5 days with a mean of 3.7 ± 0.9 days, and all the patients were discharged successfully.[14]Analysis of cases of endoscopic septoplasty was done in another previous study conducted by Gupta N et al. 78 consecutive septoplasty patients were identified in two years. Out of these 48 septoplasties (52%) were performed with endoscopic technique. A large percentage of cases 48(41%) were those where septoplasty was performed in conjunction with endoscopic dacrocystorhinostomy. In 8 cases (16%) it was performed alone as a primary procedure, 4 deviations were broadly based deflections (12%), 10 of septal deformities were spurs (20%), in 4 cases more than one type septal deformities were encountered.[15]

CONCLUSION

In the current research, deviated nasal septum was the main indication for endoscopic septoplasty. The procedure is relatively safe, and it has a good outcome.

REFERENCES

1. Sathyaki DC, Geetha C, Munishwara GB, Mohan M, Manjuanth K. A comparative study of endoscopic septoplasty versus conventional septoplasty. Indian J Otolaryng Head Neck Surg. 2014;66:155–61.
2. Hong CJ, Monteiro E, Badhiwala J, Lee J, de Almeida JR, Vescan A, et al. Open versus endoscopic septoplasty techniques: A systematic review and meta-analysis. Am J Rhinol Allergy. 2016;30:436–42.
3. Katherine JR, James O, Nikki R, Deborah S, Denise H, Laura T, et al. Nasal airway obstruction study (NAIROS): A phase III, open-label, mixed-methods, multicentrerandomised control trial of septoplasty versus medical management of a septal deviation with nasal obstruction. Trials. 2020;21:1–4.
4. Nawaiseh S, Al-Khtoum N. Endoscopic septoplasty : retrospective analysis of 60 cases. J Pak Med Assoc. 2010;60(10):796–798.
5. Cottle MH, Loring RM. Surgery on the nasal septum; new operative procedures aid indications. Ann OtolRhinolLaryngol. 1948;57:705.
6. Cottle MH, Loring RM, Fischer GG, Ganyon IE, et al. The maxilla-premaxilla approach to extensive nasal septum surgery. AMA Arch Otolaryngol. 1958;68:301–313.
7. Cantrell H. Limited Septoplasty for endoscopic sinus surgery. Otolaryngol Head Neck Surg 1997;116:274–7
8. Lanza DC, Kennedy DW, Zinreich SJ. Nasal endoscopy & its surgical applications. In Lee KJ ed. Essential Otolaryngology: Head & Neck surgery. 5th edn. Medical examination; New York; 1991. p. 373 – 87
9. Stammberger H. Functional endoscopic sinus surgery: the Messerklinger technique. BC Decker; Philadelphia; 1991. p. 432 – 3
10. Park DH, Kim TM, Han DG, Ahn KY. Endoscopic-assisted correction of deviated nose. Aesthetic Plast Surg. 1998;22:190–195.
11. Bothra R, Mathur NN. Comparative evaluation of conventional versus endoscopic septoplasty for limited septal deviation and spur. J Laryngol Otol. 2009;123:737–741.
12. Nayak DR, Balakrishnan R, Murthy KD. An endoscopic approach to the deviated nasal septum—a preliminary study. J Laryngol Otol. 1998;112:934–939.
13. Kulkarni SV, Kulkarni VP, Burse K, Bharath M, Bharadwaj C, Sancheti V. Endoscopic Septoplasty: A Retrospective Analysis of 415 Cases. Indian J Otolaryngol Head Neck Surg. 2015;67(3):248-254.
14. Ngamdu YB, Kirfi AM, Adamu A, Abubakar A, Edem KP, Ahmad BM. Endoscopic Septoplasty: A Retrospective Analysis of Indications and Outcome. J West Afr Coll Surg. 2023;13(2):78-81.
15. Gupta N. Endoscopic septoplasty. Indian J Otolaryngol Head Neck Surg. 2005;57(3):240-243.