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A comparative study of endoscopic Septoplasty versus conventional Septoplasty

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Abstract

Nasal obstruction due to deviated nasal septum is a common problem encountered by otolaryngologists. A variety of surgical procedures have been tried in the treatment of the same. This study was conducted to evaluate the outcomes and complications of endoscopic and conventional septoplasty. This is a prospective, randomized study. Fifty patients with symptomatic deviated nasal septum were included in the study, 25 of them underwent conventional septoplasty and the rest underwent endoscopic septoplasty. The difference in the functional outcome of both the surgeries was insignificant. There was a significant difference with respect to complications. Endoscopic septoplasty had better outcome with respect to complications. It is easier to correct posterior deviations and isolated spurs with endoscopic septoplasty. Complications are lesser with endoscopic septoplasty.

Keywords: Septoplasty, endoscopic septoplasty, conventional septoplasty

Introduction

Deviated nasal septum is one of the most common cause for the nasal obstruction. It not only causes breathing difficulties but also results in improper aeration of paranasal sinuses predisposing to sinusitis and also results in drying of mucosa leading to crusting and epistaxis. Initially submucous resection of septum was done which was a radical surgery and was associated with lot of complications. Later septoplasty was developed as it had advantages of minimal resection of septum and less complications. Hence the present study was taken up to compare the two techniques i.e. conventional and endoscopic septoplasty

Materials and methods

Aims and objectives

To compare the outcomes of conventional and endoscopic Septoplasty.

Methodology

- All patients attending the outpatient with symptomatic deviated nasal septum were included in the study.
- Patients with age less than 10 years, allergic rhinitis, vasomotor rhinitis and with acute infection were excluded
- Patients willing for surgery. were divided into two groups; one group undergoing conventional septoplasty and the other endoscopic septoplasty
- 50 patients were included in the study.
- History and clinical examination
- Diagnostic nasal endoscopy was performed
- CT scan of nose and paranasal sinuses
- After complete pre operative evaluation patients were subjected to surgical intervention. Standard techniques of conventional and endoscopic septoplasty were followed.
- Out of 50 patients with nasal obstruction, 46 of the 50 patients were relieved of the symptom
- 22 of the 25 patients belonged to conventional and 24 of the 25 patients belonged to endoscopic septoplasty group
- Headache persisted in 2 of the 10 patients in conventional septoplasty group. None of the patients in the endoscopic septoplasty group complained of headache.

Results and Analysis

Table 1: Post-Operative Symptomatology

Symptom	Conventional septoplasty (post op/pre op)	Endoscopic septoplasty (post op/pre op)	Total	Percentage of benefit (%)	p value
Nasal block	3/25	1/25	4/50	92	0.471
Head ache	2/10	0/3	2/13	15.38	0.49
Hyposmia	0/0	0/2	0/2	100	1
Epistaxis	0/2		0/2	100	1

- Hyposmia was relieved in patients belonging to endoscopic septoplasty group.
- Epistaxis was relieved in patients belonging to conventional septoplasty group.

Table 2: Post-operative findings

Findings	Conventional septoplasty postop/preop	Endoscopic septoplasty postop/preop	Benefit	Percentage (%)	p-value
Septal deformities	0/25	0/25	50/50	100	1
Hypertrophy of turbinates	3/11	1/12	19/23	82.6	0.46

There were no septal deformities like persistent deviation or spur in both the groups. Persistence of hypertrophy of turbinates were present three of the eleven patients in conventional

septoplasty group and one of the twelve patients in endoscopic septoplasty group

Table 3: Post Operative Objective Assessment

Group	Nasal airflow (cm)	Conventional septoplasty	Endoscopic septoplasty	Total	p-value
1	0-1	0	0	0	0.099
2	2-3	8	1	9	
3	4-5	12	12	22	
4	6-9	5	12	17	
Total		25	25	50	

Group 1: Severe nasal obstruction (0-1); group 2: moderate nasal obstruction(2-3); group 3: mild nasal obstruction(4-5); group 4: very mild nasal obstruction(6-9)

- In the conventional septoplasty group 8 patients had air flow of 2–3 cm, 12 patients had 4–5 cm and 5 patients had 6–9 cm.
- In endoscopic septoplasty group 1 patient had airflow of 2–3 cm, 12 patients had 4–5 cm and 12 patients had 6–9 cm

Discussion

Park DH *et al.* conducted a study on 44 patients to compare the endoscopic assisted correction of deviated nose with that of classical septorhinoplasty.

Of the 44 patients 16 underwent endoscopic assisted septoplasty and the rest underwent classical septorhinoplasty. The patient satisfaction was 87.5 and 71.4 % and complications were 0 and 14.3 % for endoscopic and classical approaches respectively [1]

- In the present study out of 50 patients with nasal obstruction, 46 of the 50 patients were relieved of the symptom
- 22 of the 25 patients belonged to conventional
- 24 of the 25 patients belonged to endoscopic septoplasty group.
- Headache persisted in 2 of the 10 patients in conventional septoplasty group.
- None of the patients in the endoscopic septoplasty group complained of headache.
- 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 [1].
- In this study, 6 patients in conventional septoplasty group had intraoperative hemorrhage and only 2 patients in the

endoscopic septoplasty group had this. Mucosal tear occurred in 6 patients belonging to conventional septoplasty group and 3 patients belonging to endoscopic septoplasty group.

Conclusion

- Evolution of endoscopic septoplasty is a major event in the history of septal surgery. It helps in dealing with posterior deviations, high deviations and isolated spurs. It gives better illumination and precise vision of the anatomy of nasal cavity and thus helps in proper planning of the surgery
- Endoscopic septoplasty is performed with minimal incision and minimal manipulation. This resulted in minimal damage to the tissues, minimal removal of septum and hence precise reconstruction. So the stability of the septum is not compromised, mucosal tears are avoided and hence synechae formation

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