

Correction of Deviated Nasal Septum: Conventional Vs Endoscopic Septoplasty

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Abstract:

Background: Deviated nasal septum (DNS) is one of the most common causes for nasal block. Endoscopic approach under good illumination and magnification lessens the chances of injuring the vital structures and hence lessens the complications. An attempt was made to study and compare the results and complication of conventional septoplasty with that of endoscopic septoplasty.

Methodology: Patients with DNS, attending a tertiary care hospital with presenting complaints of nasal obstruction, head ache, post nasal drip and hyposmia were included. A total of 150 patients were subjected to detailed clinical examination and investigations like X-ray of PNS, Telescopic examination of nose and CT scan were done. One group of 75 patients were subjected to endoscopic correction of septal spur and the rest 75 were subjected to conventional septoplasty. Intra operative and post operative findings were compared in the two groups.

Results: Age distribution of the study population ranged from 15 to 40 years. Half of them were in the age group of 21- 30 years. Males were 53.3% and females were 46.7%. Incomplete septal correction was 13.3% with conventional septoplasty and 6.6% with endoscopic septoplasty. Septal flap tear was seen in 32% of those who underwent conventional septoplasty as compared to 20% with endoscopic septoplasty ($Z=1.69$; $P > 0.05$)

Conclusion: Though conventional septoplasty is practiced since ages, the endoscopic approach by far can be definitely be considered as a better alternative in the correction of Deviated Nasal Septum.

Key words: Deviated nasal septum, septoplasty, endoscopic septoplasty.

I. Introduction

Deviated nasal septum (DNS) is one of the most common causes for nasal block. It causes headache, epistaxis, infection of paranasal sinus and middle ear diseases due to Eustachian tube block¹. Septoplasty corrects structural deformities of the nasal septum to relieve nasal obstruction.

The traditional way of septoplasty by using the head light is to build the superior and inferior tunnel and dissect the mucosa to reach the site of deviation and the septum and to correct it. This will increase the chance of trauma if the deviated part of the septum is deep and posterior.

The principle of endoscopic septoplasty is to preserve as much of quadrilateral cartilage as possible and the advantage of using endoscope is that it deals only with the site of pathology either in the cartilaginous or bony part of septum. Endoscopic approach under good illumination and magnification lessens the chances of injuring the vital structures and hence lessens the complications².

Hence an attempt has been made to study and compare the results and complication of conventional septoplasty with that of endoscopic septoplasty.

II. Methodology

In our study patients with DNS attending government ENT hospital, Visakhapatnam from Nov 2009 to May 2012 were included. All cases with septal spur or DNS with presenting complaints of nasal obstruction, head ache, post nasal drip and hyposmia were included. Patients with allergic rhinitis and with co existing fungal diseases and polyposis were excluded. A total of 150 patients were subjected to detailed clinical examination and investigations like X-ray of PNS, Telescopic examination of nose and CT scan were done. The participants were divided randomly into two groups. One group of 75 patients were subjected to endoscopic correction of septal spur and the rest 75 were subjected to conventional septoplasty. Intra operative and post operative findings were compared in the two groups. All the patients were followed regularly for a period of 3 months to assess the post operative complications and telescopic examination of the nose was also done to look for correction of the deviated septum. Data was analyzed using MS Excel sheet and the relevant statistical tests were applied. $P < 0.05$ was considered as statistically significant.

III. Results

Age distribution of the study population ranged from 15 to 40 years. Half of them were in the age group of 21- 30 years.

Males were 53.3% and the rest were females (46.7%). Incomplete septal correction was higher (13.3%) with conventional septoplasty as compared to endoscopic septoplasty (6.6%).

Septal flap tear was seen in 32% of those who underwent conventional septoplasty as compared to 20% with endoscopic septoplasty (Z=1.69; P >0.05)

Adhesions between septum and lateral nasal wall were seen in 13% of conventional surgery as compared to 2.66% with endoscopic procedure and this difference was found to be statistically significant (Z=2.91; P <0.05).

Post operative crusting was significantly higher (18.66%) in conventional septoplasty as compared to 4% with endoscopic septoplasty.

Table 1: Post operative complications in the study population

Post operative complications	Conventional septoplasty (n=75)		Endoscopic septoplasty(n=75)		Z value	P value
	n	(%)	n	(%)		
Incomplete correction of DNS	10	(13.3)	5	(6.6)	1.36	>0.05
Flap tear	24	(32)	15	(20)	1.69	>0.05
Post operative crusting	10	(13.3)	2	(2.66)	2.45	<0.05
Adhesions between septum and lateral wall	14	(18.66)	3	(4)	2.91	<0.05

IV. Discussion

In our study, the most common affected age group was between 21 to 30 years and with slight male preponderance in all the age groups. This finding was in concurrence with the study done by Leeha Jain et al³. Incomplete septal correction with recurrence of symptoms was reported high among conventional septoplasty as compared to endoscopic septoplasty.

Endoscopic septoplasty provides a significantly improved field of view particularly in the more posterior deviations, hence the chance of septal flap tear will be minimized. In our study septal flap tear was reported to be high in conventional septoplasty and this finding was in concurrence with study done by Suligavi et al in Karnataka⁴.

Endoscopic septoplasty allows limited incision and elevation of the flaps not compromising adequate exposure of the pathological site. Due to limited extent of flap dissection along with limited manipulation and resection of septal frame work, it reduces the chance of adhesion formation. This finding was observed in our study as it was significantly less in the endoscopic group. Tariq Ashour in their reported similar finding⁵.

Collateral damage to nasal mucosa will be more extensive and hence the post operative crusting and adhesion formation will be high in conventional approach and this was observed in our study also.

V. Conclusion

Though conventional septoplasty is practiced since ages, the endoscopic approach by far can be definitely be considered as a better alternative in the correction of Deviated Nasal Septum.

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