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Original Research Article

The Effectiveness of Endoscopic Septal Surgery in Treating Rhino-Genic Contact Point Headache

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Abstract

Background: Septal deviations are extremely common and may develop at any of septal articulation and spurs may also be found where the quadrilateral cartilage sends small process between the ethmoid and vomer.

Method: The present study, carried out in the Department of ENT (Otorhinolaryngology), DMCH, Laheriasarai, Darbhanga. a total of 100 patients with clinical evidence of chronic rhinosinusitis were evaluated with Nasal endoscopy and CT scan PNS coronal view from Study duration is Two years.

Results: DNS was observed unilaterally in all cases with no bilateral DNS. Among the unilateral DNS left sided DNS showed predominance. Majority of cases had mucoid bilateral nasal discharge (80%) in group Band 76% in group A Inferior turbinate hypertrophy was observed in 70 % group B and 20 % in group A. Middle turbinate was found to be 24% in group B and 10% group A.

Conclusion: Endoscopic septoplasty allow accurate, conservative repair of obstructive nasal septal deviations, with fewer complications and better functional results compared to conventional septoplasty however, the endoscope has its own limitations which include loss of binocular vision , need for frequent cleaning of the tip of endoscope especially when there is more bleeding and lastly by endoscopic approach to septoplasty complex deformities with caudal deflections could not be corrected. Residual deviation and spur was not seen in any case undergoing endoscopic septoplasty.

Keywords: Endoscopy, Septal Surgery, Headache & Rhino-genic.

Introduction

An endoscopic assisted septoplasty approach is useful for treatment of isolated septal spurs in the absence of larger septal deviations. A directed approach results in limited dissection and faster postoperative healing. Septoplasty was first described by Cottle [1] in 1947 as a treatment to correct nasal airway obstruction (Maran & Lund, 1990) [2]. Lanza et al (1991) described endoscopic techniques to correct septal deformities. Septal deviations are extremely common and may develop at any of septal articulation and spurs may also be found where the quadrilateral cartilage sends small process between the ethmoid and vomer. There is no standard definition of septal deviation, but it usually refers to convexities of the septum to one side with accompanying deformities of midline structures. Septal deviation is the most commonly seen deformity of the nose, which can be either congenital or acquired [3]. The inspiratory air currents are often abnormally displaced and frequently because concentrated on small areas of nasal mucosa, producing an excessive drying effect. Crusting will then occur and separation of the crust often produces ulceration and bleeding. The protective mucous layer may then be lost and resistance to infection reduced. The mucosa around a septal deviation may become oedematous as result of Bernouillis principle which states that when there is flow of gas through construction, lateral pressure drops which will in turn, predispose to mucosal oedema in the attached area [4].

Material and Method

The present study, carried out in the Department of ENT (Otorhinolaryngology), Darbhanga Medical College and Hospital Laheriasarai, Darbhanga, Bihar. a total of 100 patients with clinical evidence of chronic rhinosinusitis were evaluated with Nasal endoscopy and CT scan PNS coronal view, Study duration is Two years.

They were divided into group A and group B, with

50 cases in each group. Group A underwent conventional septoplasty and Group B underwent endoscopic septoplasty.

Selection Criteria:

The study included those patients who present with Nasal obstruction, Headache and atypical facial pain with septal spur without any neurological or ophthalmic causes and were refractory to optimal medical therapy for a minimum of 3 months prior to undergoing nasal endoscopy and CT imaging. Patient with Sino nasal malignancy, acute infective Sino nasal diseases, mucoceles protruding from sinuses into nasal cavity, radiation therapy to head and neck, general medical condition that precludes elective surgery (including pregnancy) were excluded from the study.

All patients with identifiable disease were subjected to detailed clinical examination, diagnostic endoscopy & CT scan PNS coronal section (axial section when required).

Results

Table 1: Nasal endoscopy findings

Endoscopic findings		Conventional septoplasty (group A) No. of patients (n=50) (%)	Endoscopic septoplasty (group B) No. of patients (n=50) (%)
DNS	Right Left	14(28%) 36(72%)	12(24%) 38(76%)
Nasal discharge	Mucoid	38(76%)	40(80%)
Inferior turbinate	Hypertrophy	10(20%)	35(70%)
Middle turbinate	Hypertrophy	7(14%)	12(24%)
Post nasal discharge		11(22%)	0(0%)

DNS was observed unilaterally in all cases with no bilateral DNS. Among the unilateral DNS left sided DNS showed predominance. Majority of cases had mucoid bilateral nasal discharge (80%) in group Band 76% in group A Inferior turbinate hypertrophy was observed in 70 % group B and 20 % in group A. Middle turbinate was found to be 24% in group B and 10% group A.

Table 2: Objective assessment at last follow up among study subjects

Objective assessment (at 6 months)	Group a (Conventional septoplasty) No. of patients / Percentage	Group b (endoscopic septoplasty) No. of patients / Percentage
Residualdeviation /Residual deformity (RD)	12 (24%)	0 (0%)
Spur	7(14%)	0 (0%)
Synechia	10 (20%)	1 (2%)

Objective assessment at last follow up among study subjects; 24% of group A and 0% of Group B had persistent deviation and 14% of group A had persistent spur. There was significantly less persistence of deviation, in group B patients and none of them had spur and synechia. So there was less persistence of deviation with $p<0.05$ in group B patients hence this was significant.

Discussion

In our study showed septal deviation to be more common unilaterally and on the left side (72%) and nasal discharge was mucoid in consistency (36%) and bilaterally [5]. Inferior turbinate hypertrophy was found in 54 % cases bilaterally while Middle turbinate hypertrophy was seen in 24 % cases unilaterally. Post nasal discharge was observed bilaterally in 22 % [6]. In terms of Nasal endoscopy findings DNS was unilateral and left sided DNS showed predominance with 76% in group B and 72% in group A patients. Satyaki et al in 2014 observed 50 cases the age of the patients was varying between 10 years and 60 years and in this group who underwent conventional septoplasty, the average age was 29.76 years and in endoscopic septoplasty group, the average age was 27.88 years with male predominance. [7] Sagar et al in 2017 [8] 46% (n=23) of patients had DNS to right side and 54% (n=27) patients to left side. 48% (n=24) patients had anterior deviation. Headache and post nasal discharge was improved in 100% (n=25) patients of group A and 88% (n=22) patients of group B.

Conclusion

Endoscopic septoplasty allow accurate, conservative repair of obstructive nasal septal deviations, with fewer complications and better functional results compared to conventional septoplasty however, the endoscope has its own limitations which include loss of binocular vision, need for frequent cleaning of the tip of endoscope especially when there is more bleeding and lastly by endoscopic approach to septoplasty complex deformities with caudal deflections could not be corrected. Residual deviation and spur was not seen in any case undergoing endoscopic septoplasty.

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