

Role of Nasal Splints in Preventing Adhesion Formation in Post-Operative Septoplasty Patients

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ABSTRACT

Background: Septoplasty is performed for the treatment of septal deviation. Nasal packing is used to minimize complications like bleeding, hematoma and adhesions. However, Nasal packing causes pain and epiphora. Intranasal septal splints cause little discomfort as compared to nasal packing.

Aim: To compare nasal splints and nasal packing in avoiding nasal adhesion.

Study Design: Randomized control trial

Duration and Place of Study: Department of ENT, Head and Neck Surgery, Pakistan Institute of Medical Sciences, Islamabad from 1st September 2016 to 30th September 2017.

Methods: A total of 120 patients fulfilling the inclusion criteria were included in this study. After Pre-operative assessment treatment options were explained and consent was taken. Standard septoplasty was done after dividing the patients into two groups. In Group A (n=60) patients only nasal packing was done while nasal splints were applied in Group B (n=60). After 6 weeks patients were examined for nasal adhesions and compared through chi square test.

Results: Mean age was 23.47±5.33 years. There were 41 (68.3%) males and 19 (31.6%) were females in group A. While in group B, 44 (73.3 %) were males, 16(26.6%) were females. Nasal adhesion was seen in 7 (11.7%) patients of group A while 1 (1.7%) patient of group B. P-value was 0.028 which is statistically significant.

Conclusion: Nasal septal splints are more effective as compared to nasal packing in preventing nasal adhesion formation in septoplasty.

Key words: Septoplasty, Nasal packing, Nasal septal splints, Nasal adhesion, Deviated nasal septum

INTRODUCTION

Septoplasty is the most commonly performed operation by ENT surgeons. It is performed for the treatment of nasal obstruction caused by deviated nasal septum (DNS).¹ Septoplasty can cause cosmetic complications due to cartilage over resection and other complications like bleeding, septal hematoma, abscess, perforation, infection, adhesion and anosmia may result.²

Intranasal septal splints have been in use to get good septal flaps approximation and prevention of hematomas, re-bleeding and adhesions. Intranasal packing is also used for the same reasons but nasal packing causes pain in majority of patients.³⁻⁵ The other alternatives options may include quilting sutures and fibrin glue. Salinger and Cohen were the first to describe nasal splints. Splints were fashioned from any suitable material such as X-ray film strips or coffee can's tops which were made of polythene, but nowadays other types of different septal splints are used made of silastic sheets, silicon or dental utility wax plates.⁶ All of these splints are required to be sutured around the septum.

Various types of nasal packing have been in use such as ribbon gauze soaked in antibiotic ointments, bismuth iodoform paraffin paste (BIPP), liquid paraffin and others.

Other materials like merocel, Nasopore (absorbable dressing), different balloon tamponade devices are also in use. Wadhwa et al⁷ compared splints and packing and observed adhesion in 4 patients (13.3%) with nasal packing group while no patient (0%) with nasal splints.

Nasal adhesion is common complication in post septoplasty patient which needs further surgery for release of adhesion but there is no statistical data available to ascertain which group is developing nasal adhesion in our setup. Rationale of this study is to explore the effectiveness of both the options in preventing nasal adhesion formation so that better option can be recommended to patients and revision surgery for adhesion release can be avoided in future.

MATERIALS AND METHODS

This randomized controlled study was done in the department of ENT Pakistan Institute of Medical Sciences Islamabad from 1st September 2016 to 30th September 2017 and comprised 120 patients. All diagnosed cases of deviated nasal septum were included of age 18 to 40 years whiles recurrent cases and those with infection or inferior turbinate hypertrophy cases were excluded from the study. They were divided in two groups; Group A and Group B. Both groups had 60 patients each. Standard Septoplasty was performed by a senior surgeon assisted by a resident under general anaesthesia. Nasal packing was done in "Group A" patients with lubricated petroleum based

Received on 30-09-2019

Accepted on 27-03-2020

antibiotic ointment and Sialistic splints were applied in “Group B” patients. Post-operative care was given as per ward protocols. Patients were discharged on the following day after packing removed from Group A while splints left in place in Group B. Antibiotics, analgesics, nasal decongestants and nasal douching were advised to all patients in both groups and patients were followed after 7 days and splints were also removed from Group B as per ward protocol. Patients were followed again after 06 weeks to assess adhesion formation and findings were noted in the proforma. The data was entered and analyzed through SPSS-20.

RESULTS

This study comprised 120 patients which were divided into 2 groups equally (n=60 each). Patient’s age ranged from 18–39 years. Mean age was 23.47(SD±5.331). Male to female ratio was 2.42: 1. Total male were 85 (70.8%) while female were 35 (29.2%). In “Group A” 41(68.3%) were male and 19 (31.6%) were female while in “Group B” 44 (73.3%) were male and 16 (26.6%) were female. Septoplasty was done in all 120 patients out of which 85 (41 in Group A and 44 in Group B) were male whereas 35 (19 in Group A and 16 in Group B) were females. Nasal adhesion was seen in 7 (11.7%) patients of group A while 1 (1.7%) patient in group B developed nasal adhesions. P-value was 0.028 which is statistically significant. There was no significant role of gender and age on formation of nasal adhesions between the groups (Tables 1-2).

Table 1: Comparison of post-operative nasal adhesions at 6 weeks postoperatively between both the groups (n = 120)

Group	No.	%	P value
A	7	11.7	0.028
B	1	1.7	

Table 2: Comparison of nasal adhesions between male and female patients of both groups at 6 weeks postoperatively (n=120)

Gender	Groups	Nasal adhesions		P value
Male	A	4	37	0.14
	B	1	43	
Female	A	3	16	0.09
	B	-	16	

DISCUSSION

Behroz,⁸ Ardehali⁹and Awan¹⁰ all reported comparable age of presentation ranging from 22 to 27 years while the male to female ratio was 2.88:1 and 1.5:1^{9,10}. Wadhra et al⁷ showed 4 patients (13.3%) who had nasal packing post operatively developing nasal adhesions at 6 weeks follow up while no patient developed nasal adhesions in nasal splint group (p<0.05) while Naik¹¹ found mean age of presentation of 31 years and more adhesions (12 patients, 13%) in patients who had packing than those who had splints (1 patient, 1%), p value was 0.0001. The results coincide with our study. Another study was conducted by Iqbal and Nabil who concluded that the rate of adhesion formation was high if nasal splints were not used.¹²

Veluswamy et al⁶ also published a study with five patients had early adhesion formation in group who were applied nasal packing post operatively and only one patient had early adhesions in group were applied nasal clips with splints.

Aksoy et al¹³ studied adhesion development in patients who underwent septal surgery with splints applied. Patients were divided in two groups according to the splints removal time. They observed no adhesions even if the splints were removed after 24 hours.

All these researched studies strongly favor our results regarding the role of intra nasal splints in preventing nasal adhesion formation in septoplasty when compared to nasal packing.

CONCLUSION

Nasal septal splints are more effective as compared to nasal packing in preventing nasal adhesion formation in septoplasty.

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