

## Frequency of Intranasal Adhesion in Septoplasty without Putting Nasal Splints

AHMED ROHAIL, AYUB AHMED KHAN, AYSHA SHAFI, RASHID ZIA, SAJAD AKRAM.

### ABSTRACT

**Aim:** To determine the frequency of intra-nasal adhesion in septoplasty without Putting intra-nasal splint in patients with deviated nasal septum.

**Study design:** Descriptive case series

**Setting:** Department of ENT unit-1 Jinnah Hospital/Allama Iqbal Medical College Lahore.

**Duration of study:** Study was carried out over a period of six months from 02-12-2013 to 01-06-2014.

**Sampling technique:** Probabilty Purposive Sample

**Methods:** A total of 220 patients were calculated with 95% confidence level, 4% margin of error taking an expected percentage of intra-nasal adhesion in 10% of cases treated for DNS without splints.

**Results:** Majority of the patients were between 20-30 years old and minimum patients were 41-50 years of age. Mean age of the patients was  $30.6 \pm 7.5$  year. Regarding gender distribution, there were 147 patients (66.8%) were male while 73 patients (33.2%) were female. Intranasal adhesions were developed in 18 patients (8.2%). Stratification with regard to age and gender also carried out.

**Conclusion:** In conclusion, 8.2% intra-nasal adhesion formation developed in septoplasty without intra-nasal splint in patients with deviated nasal septum.

**Keywords:** Intranasal adhesion, Septoplasty, Deviated nasal septum

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### INTRODUCTION

Deviated nasal septum (DNS) is a very common problem as well as one of the most common causes of nasal deformity. The incidence of septal deviation in adult is very high<sup>1</sup>.

DNS is important in normal structure of nose. Structurally vomer and perpendicular plate of ethmoid in conjunction with septal cartilage, combine to form this nasal septum<sup>2</sup>. Nasal septum may be deviated since birth or acquired in later life DNS can cause partial or complete nasal blockage on either or both sides causes difficult breathing of nose<sup>1</sup>.

DNS may or may not be symptomatic, if symptomatic it may cause nasal obstruction, postnasal drip, epistaxis, headache, nasal discharge or may only cause social embarrassment due to facial deformity. However if symptomatic or patient needs surgery then surgical option include septoplasty, which is an operation to correct the deformity of nasal septum. Septoplasty may be done with or without splints. Septoplasty is the state of art technique that includes the removal of deviated part of septum while conserving the septal framework, followed by reposition of septum and its mucosa<sup>4</sup>. Septoplasty is performed to straighten the deviated or crooked nasal septum. The primary goal or septal surgery is to improve breathing through nose and

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*Department of ENT Allama Iqbal Medical College/Jinnah Hospital Lahore.*

*Correspondence to Dr. Ahmed Rohail, Associate Professor, Email: drarohail@yahoo.com*

also reduces other symptoms like nasal discharge; postnasal drip, recurrent sinus infection<sup>3,5</sup>.

Septoplasty with splinting involves the same procedure except that it is followed by placement of sialistic sheets called "splints". Following the septoplasty the anterior nasal packing is also used soaked in polyfex skin ointment. One study reported that with nasal splints, intranasal adhesion was observed in 21.5%<sup>7</sup>, another study reported that intranasal adhesion was observed in cases which were treated without nasal splints was 10%<sup>8</sup>.

Rationale of this study is to determine the frequency of intranasal adhesion without intranasal splint in patients with deviated nasal septum as there is variability in the frequency of intranasal adhesion in the already published literature.

### MATERIAL AND METHODS

Study was carried out over a period of six months from 02-12-2013 to 01-06-2014 in the Department of ENT unit 1 Allama Iqbal Medical College Lahore/Jinnah Hospital Lahore.

#### Inclusion Criteria

1. Patients of age 20-50 years of either gender.
2. Patient presented with complain of nasal obstruction due to deviated nasal septum on nasal examination, treated with septoplasty without intranasal splint.

#### Exclusion Criteria

- Patient unfit for general anesthesia

- Patient undergoing submucosal resection
- Patient undergoing revision surgery
- Patient having nasal problem other than DNS
- Patients having allergic rhinitis (rhinorrhea, sneezing) in addition to DNS

**Data collection procedure:** After taking approval from hospital ethical committee, 220 patients admitted fulfilling inclusion criteria were included in the study after taking informed consent from ENT, OPD, Jinnah hospital, Lahore. The demographic history including age, gender, contact was noted. Patients were subjected to procedure without splint, patients were operated under general anaesthesia, after taking fitness regarding general anaesthesia. After local infiltration with 2% lignocaine with adrenaline (1:10000) into the nasal septum. Frère's incision given on the nasal septum, Flap was elevated with cartilage mobilization.

Deviated part of the cartilage was removed and incision closed by applying sutures, followed by anterior nasal packing on both sides which were soaked in Polyfex skin ointment. On 2<sup>nd</sup> day nasal packing were removed and patients were discharged. All the patients were given post operatively, antibiotics, antihistamine, local nasal decongestant for 2-3 weeks and analgesics for pain. Patients were advised to do normal saline nasal douches 4-5 time a day and also given liquid paraffin nasal drops, 2-3 drops twice a day for 3 week. Patients were examined after surgery, 1-week interval for 3-4 weeks, and results were noted regarding nasal adhesion formation.

**Data analysis procedure:** All data presented was entered and analyzed using SPSS version 10. Descriptive statistics like age was presented as mean and standard deviation. Gender and intranasal adhesion was presented as frequency of percentages. Data was stratified for age and gender. Chi square test was applied post-stratification. P value  $\leq 0.05$  was considered significant.

## RESULTS

A total of 220 patients were included in this study during the study period of six months from 02-12-2013 to 01-06-2014. Majority of the patients were between 20-30 years old and minimum patients were 41-50 years of age. Mean age of the patients was  $30.6 \pm 7.5$  year. Regarding gender distribution, there were 147 patients (66.8%) were male while 73 patients (33.2%) were female. Intranasal adhesions were developed in 18 patients (8.2%) (Table 1). Stratification with regard to age and gender presented in Table 2-3.

Table 1: Distribution of cases by intranasal adhesions

Intranasal adhesions	n	%age
Yes	18	08.2
No	202	91.8
Total	220	100.0

Table 2: Stratification with regard to age

Age (Year)	Intranasal adhesion		Total
	Yes	No	
20-30	11	122	133
31-40	05	51	56
41-50	02	29	31
Total	18	202	220

Table 3: Stratification with regard to gender

Gender	Intranasal adhesion		Total
	Yes	No	
Male	13	134	147
Female	05	68	73
Total	18	202	220

## DISCUSSION

For a long time, intranasal adhesion development has been an important complication in the post-operative phase of nasal surgery with an incidence which varies from 10% up to 36%<sup>9,10</sup>.

Nasal splints started being used 35 years ago in an attempt to keep the septal position after the surgery. Initially, they were improvised with several plastic forms, and now they are industrially produced in several forms and sizes, although a Greek study has indicated the use of wax envelope containing Fucidin<sup>11</sup>.

Synechia is an adherence between the nasal septum and the inferior nasal concha which may cause nasal obstruction.

In order to avoid such adhesions, nasal splints have been created, which are devices more and more used, as a British study demonstrates, which shows 64% of United Kingdom's doctors' offices using the nasal splint in order to avoid synechias formation.

In 1988, some authors proved the increase of synechia incidence in septoplasties when associated to turbinectomy presenting a 36% rate<sup>10</sup>.

The use of nasal splint is only justified when it really presents advantages to the patient<sup>12</sup>.

In present study, frequency of intra-nasal adhesion was observed in 8.2%, in septoplasty without intra-nasal splint in patients with deviated nasal septum.

Pringle carried out a survey of 440 consultants and found that 33% of them never or rarely used intranasal splints, and reported an adhesion rate of (5.2% in non-splinted patient vs. 3.9% in the splinted patients), there was no statistically significant

difference in the adhesion rate between two groups<sup>13</sup>.

Results of the study done by Malki et al showed no statistically significant difference in the incidence of adhesions between the splinted and non-splinted patients [14] Study of Almoflehi also showed that intranasal splints were not of significant value in preventing nasal adhesion (10% in splinted vs. 21% in non-splinted group) and concluded that the use of intranasal splints in septal surgery has to be individualized. Nasal irrigation using saline is of importance to prevent crusting and minimize occurrence of adhesion<sup>15</sup>. Almazrou and Zakzouk in their study found non-significant incidence of adhesions (2% in splinted vs. 10% in non-splinted group)<sup>16</sup>. Results of these studies are close to findings of current study.

## CONCLUSION

In conclusion, 8.2% intra-nasal adhesion formation developed in septoplasty without intra-nasal splint in patients with deviated nasal septum.

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