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WHICH IS BETTER- CONVENTIONAL NASAL PACKING VS INTRANASAL SPLINT IN SEPTOPLASTY?**ABSTRACT**

Background: Septoplasty is a frequently performed rhinologic surgery. The surgery is followed by nasal packing or intranasal splinting. This study was done to compare these two procedures in terms of effectiveness, postoperative discomfort and complications.

Materials and methods: A prospective comparative study was done over a period of two years, 48 patients were included and alternatively selected for splint and nasal packing. Patients were compared on basis of postoperative discomfort in terms of nasal pain, headache, epiphora, cheek swelling, epistaxis, foreign body sensation in throat, complications like septal perforation, septal hematoma, synechiae etc. Data were collected and analysed statistically.

Results: Post operatively nasal pain, headache, epiphora, cheek swelling, hypoxic spell, foreign body sensation in the throat, epistaxis, synechia, septal perforation, and septal hematoma were found to be reduced in patients who underwent intranasal splint when compared with nasal packing, deeming it to be a superior choice as compared to nasal packing.

Conclusion: Intranasal splint reduces nasal packing related problems and post-operative complication, without significantly increasing the duration of surgery. Hence from our study, we have gathered enough evidence to state that intra nasal splint would be a better choice to intranasal pack in septoplasty considering the patient's comfort and lesser postoperative complications.

Keywords: Intranasal splint, Nasal packing, Septoplasty

INTRODUCTION

Nasal septal surgery is one of the most common surgical procedures in Otorhinolaryngology.¹ Deviation of nasal septum is a common cause of unilateral and bilateral nasal airway obstruction often are indication for Septoplasty. A deviated nasal septum is present at birth occurring during fetal development or due to injury during childbirth or traumatic injury induced deviations later in life. An intra-nasal splint was first introduced by Salinger and Cohen.² Since 1955, intranasal splint (INS) has been used.³ Some studies have shown increased postoperative pain with splint

use and a significant decrease in synechiae formation rates. The main reasons for the use of nasal splint and packing in septoplasty remains maintaining homeostasis, preventing hematoma, and avoiding displacement of bone or cartilage grafts. Recently, silicone splints have become preferable in septum surgery when compared to other materials as they have the advantage of being safe and comfortably retained intranasally longer than other materials. This splint can be retained intranasally for a longer duration of up to 10 days in some cases. Different types of nasal packing are used all over the world, such as Bismuth Iodoform Paraffin Paste (BIPP), Vaseline

gauze, and Merocel.⁴ All patients complain of discomfort with nasal packs and cause pain and bleeding when removed, so the basic purpose of packs are questioned.⁵ In recent years, silicone intranasal septum splints with integral airways result in less postoperative pain and preferred for patient comfort.

MATERIALS AND METHODS

Prospective comparative Study was conducted at C.R Gardi Hospital Associated with R.D Gardi Medical College Ujjain M.P from November 2020–November 2022 including 48 patients

All symptomatic patients who presented with deviated nasal septum, between the age of 15-60 years and both sex were included in the study. Patients with history of previous septal and turbinate surgery, bleeding disorders, atrophic rhinitis or other granulomatous nasal disorders,

patients not giving consent for the study, loss of follow up and incomplete records were excluded from the study After written informed consent, all patients underwent Septoplasty.

RESULTS

A total of 48 patients with symptomatic DNS were included in the study. At the end of the surgery, the patients were alternatively selected to have either intranasal splint (n=24) or nasal packing (n=24) groups. There were 33 males and 15 females in the study. The mean age of presentation was 29 ± 10.45 years. Majority of the patients in each study group belonged to the age group of 15-30 years. Headache was significantly associated to nasal packing group with $p < 0.05$. Out of 24 cases headache was seen in 3 (12.5%) patients with intranasal splint and in 12 (50.0%) patients with nasal packing. Pain in nose was significantly associated to nasal packing group with $p < 0.05$. Out of 24 cases pain in nose was seen in 6 (25%) patients with intranasal splint and in 10 (41.7%) patients with nasal packing. Epiphora was significantly

associated to nasal packing group with $p < 0.05$. Out of 24 cases epiphora was seen in 03 (12.5%) patients with intranasal splint and in 10 (41.7%) patients with nasal packing. Cheek swelling was significantly associated to nasal packing group with $p < 0.05$. Out of 24 cases cheek swelling

was seen in 01 (4.2%) patients with intranasal splint and in 6 (25%) patients with nasal packing. Epistaxis was not significantly associated to any group with $p > 0.05$. Out of 24 cases epistaxis was seen in 01 (4.2%) patients with intranasal splint and in 3 (12.5%) patients with nasal packing. Foreign body sensation in throat was not significantly associated to any group with $p > 0.05$. Out of 24 cases septal perforation was not seen in any patient with intranasal splint and in 3 (12.5%) patients with nasal packing. Synechiae was not significantly associated to any group with $p > 0.05$. Out of 24 cases epistaxis was not seen in any patient with intranasal splint and in 3 (12.5%) patients with nasal packing. Septal perforation was not significantly associated to any group with $p > 0.05$. Out of 24 cases septal perforation was not seen in any patient with intranasal splint and in 2 (8.3%) patients with nasal packing. septal hematoma and hypoxic spell was not seen any patient in both groups.

Table 1. Postoperative sign and symptoms in the intranasal splint (n=24) and intranasal packing (n=24).

Signs/ Symptoms Post Septoplasty	Intranasal Splint (n=24)	Intranasal Packing (n=24)	P value
Headache	3 (12.5)	12 (50)	0.005
Nasal pain	6 (25)	10 (41.7)	0.041
Epiphora	3 (12.5)	10 (41.7)	0.023
Cheek swelling	1 (4.2)	6 (25)	0.041
Epistaxis	1 (4.2)	3 (12.5)	0.296
Foreign body sensation in throat	0	3 (12.5)	0.074
Synechiae	0	3 (12.5)	0.074
Septal perforation	0	2 (8.3)	0.149
Septal hematoma	0	0	
Hypoxic spell	0	0	

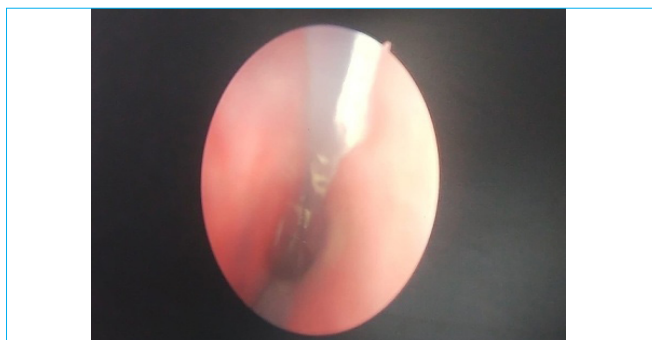


Fig I: Endoscope inside Silicone Nasal Splint Right side

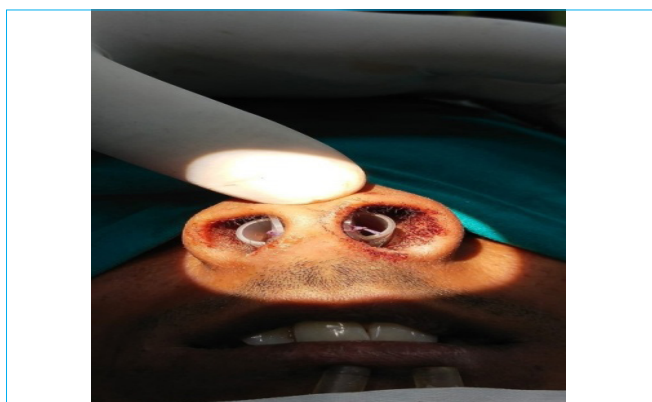


Fig II: Internal Silicone Nasal Splint Inserted and tied with vicryl 3.0

DISCUSSION

In the present study, a total of 48 patients with deviated nasal septum planned for septoplasty were selected as per the inclusion and exclusion criteria. All the patients were alternated into two groups. First who were given intra nasal packing, second with intra nasal splints during septoplasty. Each group had 24 patients. Every patient was studied clinically and observed for immediate, first post-operative day and after one month postoperative for any complications. These complications namely- headache, pain in nose, epiphora, cheek swelling, epistaxis, synechia, septal perforation, septal haematoma, hypoxic spell, foreign body sensation in throat, were observed in every case. Intra nasal splints are a balance between totally occluding nasal packs and using no packs. The commonly used nasal packing materials are paraffin gauze, gauze impregnated with antibiotics, vaseline gauze, Bismuth iodoforn paraffin paste. We have used conventional gauze nasal packing with antibacterial ointment in our study as it is comparatively easier to remove after surgery and does not cause foreign body reaction.

Headache in our study out of 48 patients, 15 case (31.25 %) had post operative headache, compared with study of Sweta Soni⁶ in which out of 40 patients, 10 case (25 %) complained of the post operative headache. Nasal pain out of 48 patients, 16 cases (33.33%) complaints of the post operative pain in nose on immediately and post operative day-1, as compared with study of Sweta Soni⁶ in which out of 40 patients, 12 case (30 %) complained of the post operative pain in nose. Studies done by M M Ardehalli et al⁵ and R Wadhwa et al⁷ had similar findings of significantly higher pain levels among the packing group.

Epiphora in our study out of 48 patients, 13 case (27 %) complained of the post operative epiphora on immediate and post operative day-1, as compared with study of Sweta Soni⁶ out of 40 patients, 10 case (25 %) complained of post operative epiphora.

Cheek swelling in our study out of 48 patients, 7 case (14.6 %) complained of the post operative cheek swelling on immediate and post operative day-1, as compared with study of Sweta Soni⁶ in which out of 40 patients, 11 case (27.5 %) of the post operative cheek swelling.

Epistaxis in our study out of 48 patients, 4 case (8.3 %) complained of the post operative epistaxis post operative day-1, as compared with study of Sweta Soni⁶ in which out of 40 patients, 1 case (2.5 %) complained of the post operative epistaxis on post operative day one.

Foreign body sensation in throat in our study out of 48 patients, 3 case (6.25 %) complained of the post operative Foreign body sensation in throat on post operative day-1, as compared with study of Sweta Soni⁶ in which out of 40 patients, 15 case (37.5 %) had post operative Foreign body sensation in throat and post operative day one and two.

Synechia In our study out of 48 patients, 3 case (6.25 %) had Post Operative Synechia in post operative 1 month, as compared with study of Sweta Soni⁶ (2017) in which out of 40 patients, 11 case (27.5 %) had Post Operative Synechia in post operative 1 month. In our study and R Wadhwa et al⁷, no Synechia was present at 1 month post-operative period in intra nasal splint group whereas 4 (13.5%) patients in nasal packing group to have adhesions.

Septal perforation in our study out of 48 patients, out of 24 patient in intra nasal splint had no septal perforation in the post-operative period, and 2 case (8.3 %) out of 24 patient of intra nasal packing complained of post operative septal perforation in post operative 1 month. M M Ardehali et al⁵ out of 48 patient of intranasal splint 1 case (2%) and out of 57 patients of intra nasal packing , 2 case (3.5%) had septal perforation. In study Sweta Soni⁶, out of 40 patients, no patient present with Septal perforation on 2 week follow up in any of the group.

Septal Haematoma in our study there were no patient found with septal Haematoma in any of group on follow up after one Month. M M Ardehali et al⁵ and Sweta Soni⁶ studies also did not find any haematoma among the packing and splint group.

CONCLUSION

We found that intranasal splint (silicone) is a better choice as compared to intranasal gauze packing in septoplasty. This observation was based on various complications observed on the immediate and postoperative days. When comparing both the procedures, certain complications like septal perforation and synechiae were seen in intranasal packing case. None of our cases who had intranasal splints developed synechiae and septal perforation in post-operative septoplasty.

Hence from our study, we have gathered enough evidence to state that intra nasal splint would be a better choice to intranasal pack in septoplasty considering the patient's comfort and lesser postoperative complications

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