DOI:https://doi.org/10.53350/pjmhs20231710311

ORIGINAL ARTICLE

Comparative Outcomes of Septoplasty with and without Intranasal Splintage

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ABSTRACT

Background: For septal deviations, septoplasty is a frequently utilized procedure in outpatient clinics. A common technique for symptomatic nasal septal deviation is septoplasty. After surgery, it facilitates nasal airflow.
Objective: To assess the comparative outcomes of Septoplasty with and without Intranasal Splintage
Methodology: The current randomized controlled trial was conducted at the Department of ENT, Bolan Medical College / Complex Hospital, Quetta from March 2023 to August 2023 after taking approval from the research committee of the institute. Totally 100 patients were included in our study based on WHO formula for calculation of sample size. Using the lottery approach, the patients were categorized into two groups. Intranasal splintage packing was applied to patients in group A, however intranasal splintage was not applied to patients in group B. SPSS 24 Version was used to enter and analyze all of the research data.
Results: In group A, the mean (SD) age was 22.6 (±3.51) years whereas in group B, it was 23.4 (±4.11). (p=0.21) The male patients in group A were 31 (62%) and female were 19 (38%) whereas in group B, male patients were 32 (64%) and female were 18 (36%). (Figure 1)
In group A, mild, moderate and severe post-operative pain was observed in 16 (32%), 26 (52%) and 8 (16%) respectively while in group B, the mild, moderate and severe post-operative pain was observed in 19 (38%), 20 (40%) and 11 (22%) respectively. (P=0.091) A significant difference was observed in case of postoperative bleeding. In group A, crusting was observed in 16 (32%) patients and no crusting was observed in 34 (68%) patients whereas in group B, crusting was observed in 11 (22%) patients and no crusting was observed in 39 (78%) patients (p=0.091).
Conclusion: With the exception of postoperative bleeding, our research finds that the results of septoplasty with splints are not substantially different from those without splints.
Keywords: Septoplasty; Intranasal; Splintage

INTRODUCTION

Our nose is made up of two distinct nostrils as well as the "Septum," a bone and cartilage structure. We refer to this displacement of the septum as septal deviation, and the typical symptoms include discomfort and nosebleeds. But some individuals are born with a bent septum, while others experience damage from sports injuries, falls, etc. For septal deviations, septoplasty is a frequently utilized procedure in outpatient clinics. A common technique for symptomatic nasal septal deviation is septoplasty. After surgery, it facilitates nasal airflow. According to Erkan Eski et al.[1], it is the third most common operation in otolaryngology. A cotton fleece nasal packing soaked in a porous, water-repellent plastic film was utilised in treating the mucosal barrier in the 1970s and is still in use today[2]. Nasal packing is really used to prevent septal haematoma and postoperative haemorrhage. Additionally, it is thought to reduce the recurrence of septal deviation and calm the remaining cartilaginous septum[3]. An ancient method of treating anterior and posterior epistaxis is nasal packing. Although the traditional nasal packing is composed of ribbon gauze soaked in lubricant or antibiotic ointment, we can see that a good variety of material for packing are accessible. However, because these nasal packs cause discomfort to patients after removal, sutures were recommended as an alternative. Nasal breathing, dry mouth, constriction of the nasal valve, vestibulitis, ear blockage, crusting, synechiae, headache, eye watering, throat irritation, trouble swallowing, hypoxia, hypoxaemia, and secondary infection were all side effects of these nasal packs[4–9]. A study[10] estimates that approximately 60% of people experience at least one nosebleed, and a study from the Nationwide Emergency Department Sample (NEDS) from 2009 to 2011 revealed that over 1 million ER visits for epistaxis occurred in the US, representing 0.32% of all ER presentations[11]. In other places, it documented complaints with more than 450,000 visits annually and a cumulative incidence of 60% of all clinical presentations in outpatient clinics, ranging from a mild to a severe instance of haemorrhage with around 5 to 10% anterior epistaxis[12]. The results of septoplasty with and without nasal packing, as well as the need of nasal packing and associated consequences after septoplasty, were compared in our research.

Received on 06-08-2023
Accepted on 28-09-2023

MATERIALS AND METHODS

The current randomized controlled trial was conducted at the Department of ENT, Bolan Medical College / Complex Hospital, Quetta from March 2023 to August 2023 after taking approval from the research committee of the institute. Totally 100 patients were included in our study based on WHO formula for calculation of sample size. The non-probability consecutive sampling approach was used. Both genders and all patients between the ages of 15 and 30 who had a confirmed diagnosis of symptomatic DNS and were having primary surgery for septoplasty for symptomatic Deviated Nasal Septum were included. We eliminated all patients with DNS problems, prior septal operations, and maxillary sinusitis caused by DNS. Using the lottery approach, the patients were split into two groups. Intranasal splintage packing was applied to patients in group A, however intranasal splintage was not applied to patients in group B. Both nasal canals were filled with gauze impregnated with intranasal antibiotics. Silicone septal splints were placed into both nasal cavities for patients who were not getting nasal packing, and they were fastened using figure-of-eight-shaped trans-septal sutures using 3–0 Ethilon sutures. In order to keep the repaired septum in the midline, care was taken to ensure that both flaps were appropriately approximated and applied with sufficient pressure. Both sides of the splinted septum received neosporin ointment; no antibiotic gauze packs were used. On the first day after surgery, the cases in both groups were assessed to determine the degree of pain using a visual analogue scale (VAS), which has a range of 1 to 10. Splints were taken off one week following surgery in the group that did not receive nasal packing, while antibiotic gauze packs were taken off 48 hours after surgery in the group that did. All patients were told to apply saline nasal sprays for 15 days after the antibiotic packs or splints were

removed. After the first and third weeks after the operation, the patients were to be followed up with.

The research will not include patients who were not followed up with. A secondary proforma that was appended to this one had all of the data, including age, gender, and results. SPSS 24 Version was used to enter and analyze all of the research data. While categorical factors like gender and effectiveness were given as frequencies and percentages, numerical variables like age and postoperative discomfort were presented using descriptive statistics, such as means and standard deviations (SDs). The chi-square test was used to compare the results of the two groups at a significant P-value of less than 0.05.

RESULTS

In our study, totally 100 patients were enrolled. Patients were divided into two group of 50 patients as group A and group B. The patients in group A were subjected to intranasal splints and patients in group B were subjected to no splints. The mean (SD) age was 23.11 (±2.82) years. In group A, the mean (SD) age was 22.6 (±3.51) years whereas in group B, it was 23.4 (±4.11). (p=0.21) The male patients in group A were 31 (62%) and female were 19 (38%) whereas in group B, male patients were 32 (64%) and female were 18 (36%). (Figure 1)

In group A, mild, moderate and severe post-operative pain was observed in 16 (32%), 26 (52%) and 8 (16%) respectively while in group B, the mild, moderate and severe post-operative pain was observed in 19 (38%), 20 (40%) and 11 (22%) respectively. (P=0.091)

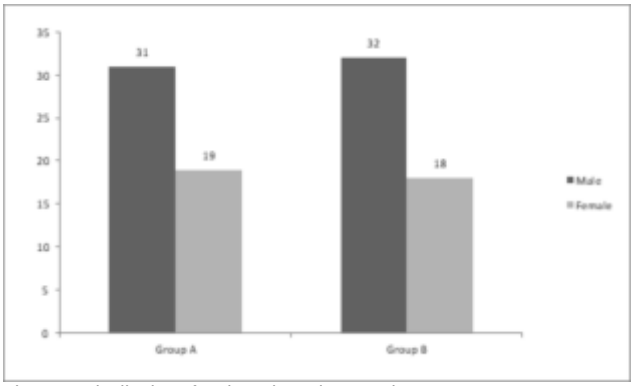

Figure 1: Distribution of patients based on gender

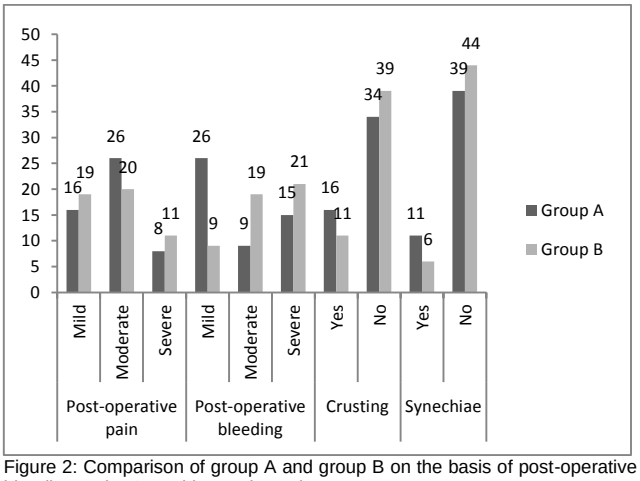

Figure 2: Comparison of group A and group B on the basis of post-operative bleeding, pain, Synechiae and crusting

A significant difference was observed in case of postoperative bleeding. The mild, moderate and severe postoperative bleeding in group was observed in 26 (52%), 9 (18%) and 15 (30%) respectively while in case of group B, the mild, moderate and severe postoperative bleeding in group was observed in 9 (18%), 19 (38%) and 21 (42%) patients respectively (p=0.02). In group A, crusting was observed in 16 (32%) patients and no crusting was observed in 34 (68%) patients whereas in group B, crusting was observed in 11 (22%) patients and no crusting was observed in 39 (78%) patients (p=0.091). Synechiae were reported in 11 (22%) patients in group A and no synechiae in 39 (78%) patients whereas 6 (12%) patients of group B were reported with synechiae and no synechiae in 44 (88%) (p=0.361). (Figure 2)

DISCUSSION

A deviated nasal septum, which may cause breathing difficulties, frequent sinus infections, and other issues, can be corrected surgically using a technique called septoplasty. Otolaryngologists have debated the application of intranasal splints during septoplasty, with differing views on the advantages and disadvantages of this procedure. This research examines how patients respond to septoplasty with and without intranasal splints, emphasizing the impact on complications and postoperative discomfort. In our study, totally 100 patients were enrolled. Patients were divided into two group of 50 patients as group A and group B. The patients in group A were subjected to intranasal splints and patients in group B were subjected to no splints. The mean (SD) age was 23.11 (±2.82) years. In group A, the mean (SD) age was 22.6 (±3.51) years whereas in group B, it was 23.4 (±4.11). (p=0.21). The male patients in group A were 31 (62%) and female were 19 (38%) whereas in group B, male patients were 32 (64%) and female were 18 (36%). These demographic results were comparable to those published by Mujahid AM et al.[13] since, out of 165 patients, 109 (66.1%) were male and 56 (33.9%) were female, with an average age of 37.3 ± 12.3 years. Similarly, Alam M et al.[14] found that their patients were on average 30 years old, 62% male, and 38% female, and that their symptoms lasted an average of 2 years. In our study in group A, mild, moderate and severe post-operative pain was observed in 16 (32%), 26 (52%) and 8 (16%) respectively while in group B, the mild, moderate and severe post-operative pain was observed in 19 (38%), 20 (40%) and 11 (22%) respectively (P=0.091). A significant difference was observed in case of postoperative bleeding. The mild, moderate and severe postoperative bleeding in group was observed in 26 (52%), 9 (18%) and 15 (30%) respectively while in case of group B, the mild, moderate and severe postoperative bleeding in group was observed in 9 (18%), 19 (38%) and 21 (42%) patients respectively (p=0.02). In group A, crusting was observed in 16 (32%) patients and no crusting was observed in 34 (68%) patients whereas in group B, crusting was observed in 11 (22%) patients and no crusting was observed in 39 (78%) patients (p=0.091). Synechiae were reported in 11 (22%) patients in group A and no synechiae in 39 (78%) patients whereas 6 (12%) patients of group B were reported with synechiae and no synechiae in 44 (88%) (p=0.361).

Participants in the few similar randomised controlled studies (15,16) that included 100 patients having surgery for either septoplasty alone or combination septal and inferior turbinate surgery were randomised to receive nasal splints after surgery or no splints at all. On the first day after the procedure, the nasal packing was removed from all patients, and a week later, the splints were removed. Cook et al.[15] used shorter silicone Medasil splints and found no significant difference in intranasal adhesion rates, although both groups showed similar improvements in septal position and airway openness six weeks after surgery. In contrast, during the first week after surgery, participants in the splint group experienced higher pain levels. Using trimmed Silastic splints, Malki et al.[16] found that although all patients had similar levels of pain in the first 48 hours after surgery, the splint group's mean pain score was considerably greater after one week (P<.0001). Intranasal adhesions were found in 1.8% of the splint group and

7.7% of the no splint group at six weeks; however, this difference was not statistically significant. Standard-sized Exmoor Silastic splints were used by von Schoenberg et al.[17], who reported that the splint group had noticeably more discomfort (P<.001). Intranasal adhesions on the septum and lateral nasal wall were most common in patients who had contemporaneous surgery; 31.6% of patients in the splint-free group and 3.6% of patients in the splint-equipped group developed adhesions. Due to the nasal care given at the one-week follow-up visit, after three months, there was only one patient in each group having adhesions. Crucially, the authors mentioned adhesion division under topical anaesthesia as well as standard postoperative nasal toilet. 114 septoplasty patients were randomly assigned by Ardehali et al.[18] to undergo transseptal horizontal mattress sutures or septal splints with antimicrobial meshes. 48 hours after surgery, the antibiotic meshes were taken off, and a week later, the splints were taken off. There were no statistically significant variations between the two groups' mucosal adhesion rates, according to the research. Using a 10-point visual analogue scale (VAS), postoperative pain was shown to be higher in the nasal packing group.

CONCLUSION

With the exception of postoperative bleeding, our research finds that the results of septoplasty with splints are not substantially different from those without splints.

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This article may be cited as: Khan AM, Masoom A: Comparative Outcomes of Septoplasty with and without Intranasal Splintage. Pak J Med Health Sci, 2023; 17(10): 311-313.