Original Article

To Assess the Morbidity Associated with the use of Intra-Nasal Splints and its Role in the Prevention of Nasal Adhesions

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ABSTRACT

Objective: To assess the morbidity associated with the use of intra –nasal-splints and its role in the prevention of nasal adhesions.
Study design: Prospective study.
Place and Duration of study: This study was conducted at Benazir Bhutto Shaheed Teaching Hospital Abbottabad ,from July 2010 to August 2011.
Materials and Method: Randomized prospective clinical method compared between patients with and without nasal splints. The author observed 256 patients operated on for Septoplasty in the Benazir Bhutto Shaheed Teaching hospital Abottabad. They were assessed fro the complications and discomfort of splints.
Results: The group with the nasal splints, observed poor quality and the recovery was not well tolerated by majority of them. This group also observed sever pain during the removal of splints. In contrast in patients without the nasal splints the complications were minimum with good quality.
Conclusion: Although the nasal splints are widely used, it does not provide maximum protection to prevent adhesions formation. Furthermore morbidity associated with the splints does not justify its regular use.
Key Words: Septoplasty, Nasal-Splints, Adhesions, Deviated Nasal Septum.

INTRODUCTION

Although the diversion of the septum and / or the nasal pyramid occurs in all races and in almost all age ranges, it is more diagnosed in young adults[1]. As a result surgical correction of septal deviation is one of the most common ENT procedure. .The various complications of septal surgery are post-operative pain and discomfort, headache, hemorrhage, vestibulitis, septal perforation, septal haematom, cerebrospinal leak, palatal perforation ,toxic shock syndrome ,and the formation of adhesions between the nasal septum and the lateral nasal wall.[2]Intranasal splints have been used to maintain septal stability and to prevent intranasal adhesions following septal surgery. However their efficacy and attendant morbidity have received little attention[3]. The morbidity associated with the nasal splints, do not justify their everyday use with the intention of preventing the formation of adhesions, the nasal splints increases co morbidities such as post-operative pain and discomfort.[4] The aims of this study are to define the role of nasal splints in preventing the nasal adhesions and the morbidity associated with the use of nasal splints.

MATERIALS AND METHODS

A randomized prospective clinical study, in which 256 patients were evaluated, between 18 to 57 years of age .The study was conducted at Benazir Bhutto Shaheed Teaching Hospital Abbottabad (Khyber pukhtunkhwa, Pakistan),from July 2010 to September 2011.
The patients were selected for surgery complaining of significant nasal obstruction due to nasal septal deviation and evaluated by detailed medical history , physical examination and necessary investigations.. A printed Performa was used for each patient to record the age, sex, presenting complaints and the clinical findings. The surgeries were executed always under general anesthesia and orotracheal intubation, and used the nasoseptal access with under-osteo-perichondriam, with the production of tunnels between the mucosa and the septum osteocartilagenous skeleton (cottle's technique).[5]
Patients were divided into two groups, one with intranasal splints(Group A,128) and the other without the splints(Group B,128). The splints were made up of plastic sheets cut from empty containers of intravenous infusion and fixed with no.1 silk suture through the septum. Nose was packed with Furacin soaked ribbon gauze, which were removed after 24-48 hours in all the cases. The splints were removed after 08 days. The patient's subjective complaint regarding post-operative pain was noted during 24-48 hours after surgery during which pack remained in and during the week following that. During this incidence of septal haematoma,septal and septal abscess was also noted. Three weeks later, each patient was finally evaluated for the presence of septal perforation, adhesions ,crusting and the patient's satisfaction with the result of surgery.

RESULTS

A total of 256 patients were studied, in which 128 were splinted. Out of which the male were 130(53.1%) and the female were 126(49.2%), with a mean age of 32.4years(range,18-57years) The pain and discomfort

was generally observed in many patients during the first 24 hours after the surgery during which they had packs in their noses ,but thereafter the patients with splints (Group A) showed a major discomfort. The incidence and the severity of pain was more in group A as compared to group B (Table. No 1). In group the nasal splints were removed on 4th post operative day due to intolerance in 04 patients.

Table No.1: Distribution of Pain

	No. of patients (group A,n 128)	No. of patients (group B,n 128)
Mild pain	12(9.3%)	84(65.6%)
Moderate pain	100 (86.9%)	44(34.3%)
Sever pain	6(6.2%)	nil

Table No.2: Incidence of Vestibulitis

	No. of patients (group A,n 128)	No. of patients (group B,n 128)
Mild vestibulitis	63(49.2%)	nil
Moderate vestibulitis	58(45.3%)	nil
Sever vestibulitis	7(5.4%)	nil

Majority of the patients in group A developed vestibulitis in contrast to group B where no vestibulitis was noted (Table.No.2). Majority 102 (79.6%) of the patients in group A were having sever difficulty in breathing in the post-operative period due to splints, whereas in group B only 32 (25%) complaint of only mild nasal obstruction.

The incidence of septal abscess was 0.78% in group A and no case was observed in Group B. 02 (1.5%)patients in group A and 03 (2.3%) in group B developed septal haematoma. 06(4.6%) patients with splints and 07(5.46%) without splints developed adhesions between the septum and lateral nasal wall . 04 patients in group A were ended with a septal perforation as compared to 02 patients in group B.

Furthermore almost all splinted patients experienced sever pain at the time of removal of the nasal splints.

DISCUSSION

As much as 75% to 80% of the general population is estimated to exhibit some type of anatomical deformity of the nose, most commonly deviated nasal septum[6].Septoplasty is the preferred surgical treatment to correct a deviated nasal septum. Though 60%to 70% of the surgeons generally use the nasal splints, their situation, efficacy and attended morbidity have received surprisingly little attention[7].

These splints are associated with increased post-operative pain and discomfort. Guyuron et al. came to the conclusion that 60%of his patients complained of an extreme discomfort, when compared to the patients without splint)[8].Our study comparing both groups confirm the same statement. According to the Pringle,the incidence of adhesions formation is 5.2%which is only 1.3%greater than those who always use splints. In a study by Al- Mazrou et al[9] splints were shown to offer no additional help in preventing the adhesions formation.

There is very slight but a definite risk developing the toxic shock syndrome[10]. Watson et al. has reported the recurrence of intranasal adhesion despite the use of nasal splints.[11] Considerable morbidity with nasal splints has been reports by Von Schoenberg et al.[12.]

This study also confirms the finding of Eduardo et al. that though Septoplasty with nasal splints is very widespread in the surgical middle, it does not provide the patient's satisfaction.[13]

It can be seen that a significantly higher rate of complications and the morbidity is associated with the use of nasal splints.

CONCLUSION

The complications and the morbidity associated with the intra nasal splints does not justify their regular use .The incidence of nasal adhesions can be reduced by careful nasal toilet.

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