

Postoperative Complications of Septal Quilting and BIPP Packing following Septoplasty

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ABSTRACT

Background: Septoplasty is one of the most common surgeries in otorhinolaryngology. After septal surgery nasal packing is usually done to prevent complications like haemorrhage, septal haematoma. However it is associated with many postoperative complications such as pain, hypoxia, dryness in throat, headache, epiphora, vestibular stenosis, crusting, synechia, secondary infection etc. In order to prevent these complications quilting has been developed. No study has been done in our country to compare the postoperative complications after septoplasty.

Methods: This study was carried out to compare postoperative crusting, oedema, synechia and infection in patients who underwent septal quilting and BIPP packing following septoplasty from August 2008 to July 2011 in the Department of ENT-Head and Neck Surgery, Tribhuvan University Teaching Hospital, Maharajgunj, Kathmandu, Nepal.

Results: There were 44 patients in quilting and 41 patients in BIPP packing group. Out of 44 patients of quilting group, crusting occurred in 3 patients, oedema in 4 patients, synechia in 1 patient and infection in 3 patients. Out of 41 patients of BIPP packing group, 9 patients had crusting, oedema was present in 7 patients, 6 patients had synechia and 5 patients had infection. Crusting and synechia was found to be statistically significant while oedema and infection was not significant between two groups.

Conclusions: Complications like excessive crusting, oedema, synechia and infection can be minimized by quilting suture following septoplasty.

Keywords: BIPP packing, crusting, infection, oedema, quilting, suture, synechia, septoplasty.

INTRODUCTION

Septoplasty is one of the most common surgeries in otorhinolaryngology. After septal surgery nasal packing is usually done to prevent postoperative haemorrhage and septal haematoma. However, it is associated with many immediate postoperative complications such as pain, hypoxia, hypoxaemia, dryness in throat, headache, epiphora etc. as well as late postoperative complications like vestibulitis, vestibular stenosis, crusting, synechia, secondary infection.¹ Postoperative packing is thought to stabilize the remaining cartilaginous septum and minimize persistence or recurrence of septal deviation.

Despite these theoretic advantages, evidence to support the use of postoperative packing is lacking.² Discomfort experienced on removal of pack is a significant factor for patients. Therefore, it has been suggested that when at all possible nasal packs should be avoided.³ In order to prevent these complications quilting has been developed. We carried out this longitudinal, prospective, comparative, randomized study to compare postoperative crusting, oedema, synechia and infection in patients who underwent septal quilting and BIPP packing following septoplasty. This kind of study

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comparing postoperative crusting, oedema, synechia and infection after septoplasty has not been done before in our context.

METHODS

A prospective, randomized comparative study was carried out in patients with symptomatic DNS who underwent septoplasty in the ENT-Head and Neck Surgery, Tribhuvan University Teaching Hospital, Maharajgunj, Kathmandu, Nepal from August 2008 to July 2011. Patients above 12 year of age, both male and female and patients who underwent septoplasty under GA or LA were included in the study. Patient who underwent turbinoplasty, septorhinoplasty, DCR or other surgeries in same setting, patient undergoing revision septoplasty, patients who did not come for follow up and patients who needed nasal packing during immediate postoperative period due to bleeding were excluded from the study.

Patients were randomly selected by lottery by the third person for either quilting or BIPP packing. Written consent was taken prior to surgery. The patients and surgeon were blind folded. Classical septoplasty was done. Endoscopic guided quilting was done using 3-0 vicryl. Some knots were made and the needle inserted from one side of the septum to the other side starting from the anterior end of the middle turbinate to the vestibule where the knot was tied. BIPP and soframycin soaked ribbon gauze was packed in bilateral nasal cavities in packing group. Pack was removed after 48 hours. Saline nasal irrigation and application of topical nasal decongestant and antibiotic ointment was advised for 2 weeks. Oral antibiotic and antihistamine was given for 10 days. Postoperatively patients were followed up at 2, 4 and 8 weeks. Crusting, oedema, synechia and infection was noted during each follow up by the third person who was also blind folded regarding the procedure. Fisher's exact test was applied to analyze the data. The result was analyzed by using Statistical Package for Social Sciences (SPSS) version 16. P value equal or less than 0.05 was considered to be statistically significant.

RESULTS

There were total 87 patients who underwent primary septoplasty during above mentioned period, 46 in quilting group and 41 in BIPP pack group. But 2 patients of quilting group needed BIPP packing in the recovery, therefore, they were excluded from the study. Age of the patients ranged from 13-48 years and 13-52 years with mean age of 25.05 years and 23.95 years in quilting and BIPP packing group respectively (Table 1). Out of 44 patients of quilting group, 37 were male and 7 were female. In BIPP packing group 35 were male and 6

were female (Table 1). Crusting occurred in 3 patients of quilting group and 9 patients of BIPP packing group (Table 2), oedema occurred in 4 patients of quilting and 7 patients of packing group (Table 3). Synechia was present in 1 patient of quilting group and 6 patients of packing group (Table 4). Infection occurred in 3 patients of quilting group and 5 patients of BIPP packing group (Figure 1). Crusting and synechia was found to be statistically significant while oedema and infection was not significant between two groups.

Table 2. Comparison of crusting between two groups.

Group	No. of patients	Fisher's exact test
Quilting (44)	3	P value 0.0043
BIPP pack (41)	9	

Table 3. Comparison of oedema between two groups.

Group	No. of patients	Fisher's exact test
Quilting (44)	4	P value 0.1400
BIPP pack (41)	7	

Table 4. Comparison of Synechia between two groups.

Synechia					
Group	Right	Left	Bilateral	Total	Fisher's exact test
Quilting (44)	1	0	0	1	P value 0.003
BIPP pack (41)	1	2	3	6	

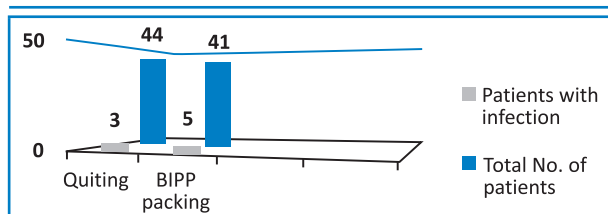


Figure 1. Comparison of infection between two groups.

DISCUSSION

Nasal packing after septoplasty increases pain and other complications like vestibulitis, septal perforation especially with BIPP but pack prevents persistent and troublesome haemorrhage. Although it appears intuitive that packing may prevent or decrease the incidence of these complications, evidence supporting this assertion is limited. Furthermore, certain types of nasal packing have been demonstrated to increase postoperative pain and have been implicated as a causative factor of catastrophic complications, such as toxic shock syndrome and nasopulmonary reflex, which is mediated via the vagus nerve and results in an increase in parasympathetic activity that can lead to broncho-constriction and hypoxia.³⁻⁵

Crusting and oedema may occur after any nasal surgery. We found crusting in 3 patients of quilting group and 9 patients of BIPP packing group. The difference was statistically significant. Kazkayasi et al reported more crusting in packing group.⁶In our study oedema was present in 3 patients of quilting and 5 patients of packing group but statistically it was not significant. We found crusting and oedema only in few number of patients. The reason behind this may be regular nasal douching and use of topical nasal decongestant during postoperative period. We could not find other studies to compare our results of oedema.

Another justification that has been cited in the past for placing postoperative nasal packing is that it might prevent adhesions between the turbinates and the lateral nasal wall. But it has been found that packing makes the nasal mucosa raw and actually more susceptible to synechia formation. In our study synechia was found more in packing group - 6 (14.3%) vs 1 (2.3%). Study by Awan et al. revealed synechia in 8 of the packing patients and none of the no-packing patients (18.2 vs. 0%) but they had used finger gloves instead of BIPP pack.⁷In a report by Iqbal and Nabil nasal packing was performed routinely in 200 patients and synechia was found in 14 (7.0%) patients.⁸Al-Raggad et al found 1 (1.1%) patient in the sutured group, and 5 (5.9%) patients in the packing group having postoperative adhesions (synechia).⁹ Adhesion can be prevented without packing by careful handling of the septal mucosa, by avoiding manipulation of the turbinates, and by meticulous placement of instruments in the surgical site.^{10,11}

In our study infection occurred in 3 patients quilting group and 5 patients of BIPP packing group. In a study by Awan et al none of the patients had infection.⁶Lemmens et al reviewed postoperative complications such as infections, septal perforations or synechia in 226 consecutive patients with septal suturing after septoplasty without nasal packing retrospectively but none of these complications were noted.¹² However, Awan et al had used different material for packing and Lemmens did not compare their finding with nasal pack.

CONCLUSIONS

Postoperative complications like excessive crusting, oedema, synechia and infection can be minimized by

quilting suture following septoplasty. We will continue this study with larger number of patients to validate our results.

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