

Postoperative Complications Followed by Septoplasty Comparison between Conventional Nasal Packing and Glove Finger Pack

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ABSTRACT

Objective: Objective of this study is to compare complications in postseptoplasty patients using conventional nasal packing and glove finger packing.

Materials and methods: In our study 95 patients who underwent septoplasty were enrolled and written consent taken for the study among these 95 patients, 50 patients were put in group A and 45 patients in group B. In group A patients glove finger packing was done and in group B patients conventional packing using medicated gauze was done and postoperative complications like postoperative pain, hemorrhage, septal perforation, toxic shock syndrome, septal hematoma, septal deviation and synechia/adhesion bands were compared between two groups, follow-up was done for both groups for 3 weeks.

Result: Our study showed that there was significantly less pain in group A patients and also there was less incidence of synechia in group A patients as compared to group B patients, there was not much difference in other complications.

Conclusion: Our results point out that glove finger pack has more advantage than conventional medicated gauze pack. We recommend use of glove finger pack after septoplasty procedure.

Keywords: Septoplasty, Glove finger pack, Conventional nasal pack.

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INTRODUCTION

Septoplasty is one of the most common operations in otorhinolaryngology, alone or in combination with other procedures, such as inferior turbinoplasty, endoscopic sinus surgery and rhinoplasty. Nasal packing is used primarily to control bleeding in all endonasal surgery. It is also used for internal stabilization following operations on the cartilaginous/bony skeleton of the nose. Apart from hemostasis, packing is used to prevent complications of septal surgery including hematoma,¹ infection, abscess formation and perforation. There are no generally accepted standards regarding the materials that should be used for nasal packing, how long the packing should be left in place,² or the indications for nasal packing. Many physicians do not use packing due to the low incidence of heavy bleeding following septoplasty. Of those who use packing, some

remove it on the day after surgery,² others remove it 5 days postoperatively. Most sources describe experience with different kinds of packing methods and packing materials. Materials are produced in several brands and authors have their preferences. The most common packing method is the use of nasal packing materials, such as: Telfa, paraffin gauze, vaseline gauze, bismuth iodoform paraffin paste, glove fingers, silastic sheets, Oxycel, Surgicel, Gelfoam, Merocel, gauzes impregnated with different antibiotics and fibrin glue.³ Other packing methods are pneumatic balloons left in place for various amounts of time, septal splints, and through and through mattress sutures to approximate two mucosal septal flaps. Some complications in endonasal surgery are induced by nasal packing, these are the result of increased swelling causing a disturbance in endonasal lymph and venous drainage. These complications are: Mucosal injury and septal perforation; sleep respiratory disturbances;⁴ decreased arterial oxygen saturation during sleep;⁵ displacement and aspiration of various packing materials;⁶ allergy; toxic shock syndrome; Eustachian tube dysfunction⁷ and paraffin-induced granuloma.

Nasal packs are uncomfortable while they are in place and cause pain and bleeding when they are removed. Many complications due to nasal packing have been noted, which raise questions about the wisdom of using this type of packing method.

MATERIALS AND METHODS

The present study was done in Department of Otorhinolaryngology and Head and Neck Surgery of Government Medical College, Srinagar from May 2011 to October 2011 and was approved by the institutional ethics committee. In our study, 95 patients who underwent septoplasty were enrolled and written consent taken for the study. Among these 95 patients, 50 patients were put in group A and 45 patients in group B. In group A patients glove finger packing was done and in group B patients conventional packing using medicated gauze was done and postoperative complications like postoperative pain, hemorrhage, septal perforation, toxic shock syndrome, septal hematoma, septal deviation and synechia/adhesion bands were compared between two groups patients who met the inclusion criteria where in age group 15 to 35 years and those who do not have any other systemic disease. Nasal

packs were removed on 2nd postoperative day in both groups of patients. Patients were monitored in ward for 2 days then follow-up was done on 5th and 7th day and after 2 and 3 weeks, demographics of two groups of patients are compared in Table 1. All the 95 septoplasty procedures were performed by same team of surgeons and same method of cattle's maxillary premaxillary approach was employed in all the 95 cases.

Table 1: Demographics of two groups of patients

Criteria	Group A (n = 50)	Group B (n = 45)
Sex		
Male	30	28
Female	20	17
Age		
15 to 25 years	32	30
25 to 35 years	18	15
Residence		
Rural	30	32
Urban	20	13

RESULTS

In our study, two patients out of 50 in group A experience severe pain on 1st postoperative day were as seven patients out of 45 in group B experience severe pain for which additional analgesics in the form of injection diclofenac was given. One patient out of 50 in group A develop synechia where as seven patients out of 45 in group B develop synechia after 3 weeks of surgery. Other complications like hemorrhage, septal perforation, toxic shock syndrome, septal hematoma, septal deviation were almost equal in both groups and is given in Table 2.

Table 2: Comparison between the complications of patients undergoing nasal septoplasty, using conventional nasal packing and glove finger nasal packing

Variable	Group A (n = 50)	Group B (n = 45)
Postoperative hemorrhage	2	3
Sever pain feeling**	2	7
Toxic shock syndrome	0	0
Septal hematoma	0	1
Dangerous fungal infection	0	0
Septal deviation/septoplasty again	0	1
Septal perforation	0	0
Synechia and adhesion band**	1	7

**p-value < 0.05 (statistically significant)

DISCUSSION

The results of our trial on 95 patients who underwent septoplasty, and were followed in our postoperative visitations, showed no significant differences between two trial groups except in the feeling of pain and development of synechia (Chi-square test $p > 0.05$).

Most surgeons use nasal packing in their procedures. They have a variety of reasons for doing so; including better homeostasis, septal hematoma prevention, increased mucoperichondrial flap apposition, dead space closure and preventing the displacement of replaced cartilage.⁸ Some studies reported that nasal packing leads to cardiovascular changes, continued hemorrhage, nasal injury, hypoxia, foreign body reaction or infection.

Patients' discomfort and need for hospitalization were the main disadvantages of nasal packing.⁸ Nasal packing is considered as the main cause of postoperative pain.⁹ Most patients believe that the removal of packs is the most painful event.^{10,11} Shaw et al studied the effects of the most commonly used nasal packing materials (ribbon gauze) on the nasal mucosa of patient undergoing nasal surgery. He showed that nasal packing can cause significant mucosal injury with ciliary movement problems.¹²

The packing is intended to prevent postoperative swelling and hematoma formation. Many types of nasal packing are used and the number of days that it is used varies greatly in the literature.¹³ Huizing believes that it is not the material that counts but the care with which these internal dressings are applied.¹⁴ Yet, there are no established guidelines regarding the period of time that packing should remain.

In our study, we removed nasal packing on 2nd postoperative day and we found that there was less pain 2 days of packing as well as during removal of nasal pack in glove finger packing group than in conventional nasal packing group. Also there was less incidence of synechia development in glove finger packing group than in conventional nasal packing group.

CONCLUSION

Large randomized controlled trials are required to compare complications of various nasal packing materials, but this study shows that glove finger nasal packing has more advantages than conventional medicated gauze pack, therefore use of glove finger nasal pack should be promoted and implemented as routine after septoplasty procedures.

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