Comparison of Septoplasty With and Without Nasal Packing and Review of Literature

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Abstract Septoplasty is routinely performed for symptomatic deviated nasal septum. The most unpleasant part of this procedure is the pain during removal of nasal pack. The objective of this study was to compare the results of septoplasty with and without post-operative nasal packing and thereby assess the necessity of nasal packing after septoplasty. This descriptive study was carried out in ENT Department of D.Y. Patil Hospital, Kolhapur. 50 patients between the age groups of 18–50 years, having symptomatic deviated septum were selected. Out of which 25 patients underwent septoplasty with packing and 25 patients underwent septoplasty without packing with quilting sutures taken on the septum. Patients who underwent septoplasty without packing, experienced less pain and bleeding was minimal. Only one patient developed septal hematoma postoperatively. All the patients were satisfied at the end of 3 months. Simple DNS can be safely treated with septoplasty without Anterior Nasal Packing and by taking Quilting sutures on the septum. The sutures are also useful for closing any inadvertent tears of the septal mucosa and providing additional support for the cartilage pieces retained in septoplasty. Nasal packing should be reserved only for the patients with increased risk of bleeding.

Keywords Septoplasty · Postoperative nasal packing · Anterior nasal packing

Introduction

Septoplasty is routinely performed for symptomatic deviated nasal septum. The unpleasant part of this procedure is postoperative nasal packing and the pain and discomfort during removal of the nasal packs. The purpose of nasal packing is to prevent postoperative hemorrhage and septal hematoma. It is also thought to stabilize the remaining cartilaginous septum and minimize persistence or recurrence of septal deviation [1]. But the studies done did not have large sample size to support their results and conclusions.

The disadvantages of anterior nasal packing are compromised nasal breathing, dryness of mouth, nasal pain, nasal valve narrowing, vestibulitis, crusting, synechiae, headache, watering from eyes, ear blocking, irritation of throat, difficulty in swallowing, hypoxia, hypoxemia, and secondary infection [2, 3]. It also increases hospital stay.

In addition to these, severe pain is experienced by the patient during pack removal. Although this discomfort is only for a short duration, patients clearly remember the painful experience. Therefore, it has been suggested that if possible, the nasal packs should be avoided and quilting stitches can be taken in order to prevent complications.

Our study was to compare the results of septoplasty with and without post-operative nasal packing and thereby assess the necessity of nasal packing after septoplasty.

Review of Literature

History of nasal packing after nasal surgery falls back to 1847 in the time of Gustav Killian of Germany and Otto Tiger Freer of USA, yet systematic sub mucosal resection (SMR) and nasal packing was started in 1882 by Ephraim

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in Chicago and Peterson in Germany [4]. Different types of nasal packing have been used like ribbon gauze soaked in bismuth iodoform paraffin paste, liquid paraffin, antibiotic ointments and others. Numerous other agents like polyvinyl acetate sponge (merocel), Nasopore (bioresorbable dressing), various balloon tamponade devices are also available.

The studies done by Laing, MR & Clark and El-Silimy shows that nasal packing after septoplasty apply direct pressure to the septal flaps and to the blood vessels located in the nasal septum and thus, prevents postoperative bleeding and hematoma formation, although this has not been supported by studies with large numbers of cases [5].

Von Schoenberg and colleagues studied 95 patients undergoing routine nasal surgery and reported that pain was significantly higher in the group that were packed after surgery; and the removal of packing proved to be the most painful event in the postoperative period. They found a higher rate of complications (including hemorrhage, vestibulitis and septal perforation) in the packed group, though it is not clear if this difference reached statistical significance [5].

Other studies reported septal surgery without nasal packing to be safe. Bajaj and colleagues reported a series of 78 patients who underwent septoplasty with no postoperative packing; quilting sutures were used in just over a quarter of cases. They identified a 7.7 % rate of postoperative hemorrhage; half of them (3.8 %) required packing to control the bleeding [6].

Few studies suggested that nasal packing is not necessary after nasal septoplasty as it causes discomfort when it is being removed [5, 7, 8]. Wrapping the packs with gel-foam [9], blocking the sphenopalatine ganglion [10], using topical anesthesia for removal [11], keeping the pack for a shorter time [12] are some procedures suggested to reduce the pain.

Several suturing techniques have also been described to approximate the mucosal flaps after septal surgery [13–15] in order to reduce the complication rate. Many surgeons use interrupted sutures using absorbable suture materials to keep the flaps together. In 1984, Sessions1 reported continuous suture quilting, using 4.0 plain catgut on a small cutting needle to approximate the mucosal flaps. A similar technique using a curved needle was described by Lee and Vukovic [14]. These techniques also help to close any mucosal tears and support the remaining cartilage.

Methodology

A prospective, randomized comparative study was carried out in patients with symptomatic DNS who underwent septoplasty in the ENT Department of D. Y. Patil Medical

College Hospital, Kadamwadi, Kolhapur from June 2008 to June 2010. 50 patients between the ages of 18–50 years of both the sexes with symptomatic deviated nasal septum were included in this study. Our exclusion criteria were patients suffering from medical problems (e.g. diabetes, heart problems, hypertension, and blood dyscrasia), history of nasal polyposis, drug abuse and nasal sniffers, history of overt nasal allergy, using hemodiluting drugs like aspirin, and patients with a history of previous septal and nasal turbinate surgery.

Patients were randomly selected for either quilting or nasal packing and were divided into two groups. Informed written consent was taken. Before operation both the nasal cavities were packed with ribbon gauze soaked in 4 % xylocaine. The nose was prepared with topical decongestant spray and 2 % lignocaine with 1:1,00,000 adrenaline infiltration. Either Killian's or Hemitransfixation incisions were used as per surgeon's preference or the requirement for specific case. All the cases were operated by consultants.

The 25 patients underwent septoplasty with packing, were named as Group A. Soframycin soaked ribbon gauze was used for packing group. Pack was removed after 48 h.

25 patients underwent septoplasty without packing named as group B. Quilting sutures are placed through the septum to hold the flaps together and to prevent hematoma formation. A 30 Vicryl on a curved cutting needle is used. The slightly curved needle is straightened until a very slight curve remains at the tip. A knot is made at the end of the suture and the needle is passed through the septum from one nasal cavity to other starting from the anterior end of the middle turbinate to the vestibule where the knot was tied.

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 12 weeks.

Results

Out of total 50 patients participated in the trial, 41 were male and 9 were females. In the group A, pain, discomfort, nasal obstruction, nasal breathing, snoring and sleep apnea were the major problems reported by patients.

2 patients from the group B had minimal bleeding postoperatively which was controlled by local hemocoagulant and ice application. Pain was higher in the group A compared to the group B as recorded by the Visual Analog Scale.

All the patients experienced severe pain during pack removal from the packing group. All the patients were

satisfied with the operation at the post operative follow up 3 months later.

Discussion

In our study, majority of the patients were in the range of 18–31 years. The mean age of group A was 13.52 years and group B was 13.34 years. The chief complain of all the patients, was nasal obstruction. Nasal discharge was the next common complaint followed by headache and sneezing.

2 patients from the group B had minimal bleeding post-operatively. This could be because of wearing off of effects of adrenaline. The results of our trial showed significant difference between two trial groups the feeling of pain and discomfort especially at the time of pack removal.

This result correlates with the study done by Bajaj et al [12] which concluded that Septoplasty can be safely performed without postoperative nasal packing.

In another study Naghibzadeh [16] showed that the rate of complication and morbidities between these two groups were same and the differences were not valuable, except the pain and discomfort post operatively and at the time of nasal pack removal.

Suturing the septum after septoplasty has the advantage of eliminating discomfort for the patients, has minimal complications and the hospital stay is less than with the nasal packing [17].

Comparison of nasal packs and suturing the septum in rabbits has not shown any difference in the histological appearance of the nasal septum [18]. A randomised study carried out on 50 subjects comparing nasal packing and suturing did not find any significant difference in post-operative hemorrhage, adhesions, crusting or mucosal atrophy [19].

A prospective study comparing nasal packing with septal suturing after Septoplasty in 169 patients concluded that suturing should be the preferred alternative to nasal packing [20]. Another retrospective study of 266 septoplasties with septal suturing and no packs reported good results with no complications and no patient discomfort [21].

Summary and Conclusion

The use of nasal packing following septoplasty is thought to stabilize the remaining septum and prevent complications such as bleeding, septal hematoma, and formation of synechiae. Quilting sutures can effectively serve all the above purpose plus reduces the hospital stay.

Simple DNS can be safely treated with septoplasty without Anterior Nasal Packing and by taking Quilting

sutures on the septum. Nasal packing should be should be reserved only for selected cases.

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