

## The Role of Quilting Sutures in Septoplasty

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### ABSTRACT

Nasal obstruction is the most common complaint in ENT practice. Deviated Nasal Septum (DNS) is the most common cause of nasal obstruction. Septoplasty for symptomatic deviated septum is the commonest nasal surgery performed all over the world. Post septoplasty nasal packing is the most unwanted and unpleasant step in this manouvre. Its use has been proposed to serve multiple purposes as bleeding, hematoma formation and stabilization of the remaining septal cartilage. But evidence supporting this assertion is limited at best. Various materials are used for nasal packing.

**Duration of Study:** January 2008-January 201

**Patients And Methods:** A total of 95 patients were included in this study with moderate to marked deviated nasal septum. All patients underwent Septoplasty under G/A with placement of a Quilting Suture with 3/0 vicryl and no nasal packing.

**Results:** Eighty Two (86.32%) patients had no problem. Thirteen (13.68%) patients reported with nasal bleeding who were treated with nasal packs.

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### INTRODUCTION

The nasal septum is a central support structure for the nose. When significantly deviated, it causes dysfunction and cosmetic deformity, having adverse effects on quality of life. Nasal obstruction is the most common complaint in otorhinologic practice<sup>1</sup> and DNS is the most common cause of this symptom. It is observed that one third of the population has nasal obstruction and one quarter of these pursue surgical treatment.<sup>2</sup> A straight septum is the exception rather than the rule. Almost all deformities are caused by developmental disturbances, trauma, impaired growth after trauma or systemic diseases.<sup>3</sup> The initial insult to the nasal septum may have been caused by birth trauma or by micro fractures occurring early in life that have led to asymmetric growth of the septal cartilage.<sup>4</sup> Septoplasty is an operation designed to replace a deviated nasal septum in mid position by dividing all its attachments and leaving quadrilateral cartilage attached to a flap of mucosa to preserve its viability.<sup>5</sup>

In SMR the basic procedure removes most of the quadrilateral cartilage leaving an inverted "L" shaped strut for structural support, along with removal of significantly deviated bony septum.<sup>6</sup>

Apart from nasal obstruction, a significantly deviated nasal septum is associated with epistaxis, sinusitis, obstructive sleep apnoea and headache due to contact points with lateral wall structures. Septoplasty is also indicated if access to middle meatus is impaired for FESS, Dacryocystorhinostomy, Orbital decompression or Trans-sphenoidal hypophysectomy.<sup>7,8</sup> These operative procedures are followed by nasal packing with various materials. After SMR nasal packing was started by Ephraim in Chicago and Peterson in Germany in 1882.<sup>9</sup> Different types of materials are used for nasal packing like BIPP, Gels, Vaseline gauze, Merocel, Polyfax, Liquid Paraffin soaked gauze and finger stalls.

The use of postoperative packing has been proposed to minimize postoperative complications such as hemorrhage, septal hematoma, adhesion formation and stabilization of the remaining septal cartilage and hence recurrence of septal deviation.

Except control of bleeding, other benefits of nasal packing are controversial.<sup>10</sup> Life threatening risks, apart from discomfort and pain on removal of pack and nasal bleeding have been documented as well as nasopulmonary reflex, worsening of sleep disordered breathing and postoperative infections as toxic shock syndrome. To avoid these pitfalls people have successfully tried other methods like through and through suturing of the septal flaps with absorbable sutures. Similarly others have attempted to reduce morbidity of nasal packing through either limitation of duration of packing or altering packing material.<sup>11</sup>

If surgery is done with meticulous technique & care without damaging the turbinates and tearing of septal flaps, then about 98% of success rates have been claimed of no nasal bleeding without nasal packing.<sup>12</sup>

## PATIENTS AND METHODS

This study was conducted at ENT Unit II, Services Hospital, Lahore for a period of two years from Jan 2008 to Jan 2010. A total of 95 patients with clinically apparent deflected nasal septum (DNS), causing nasal obstruction, headache, epistaxis and nasal discharge (Anterior and Posterior) were included in this study. Male and female patients between ages 18 to 40 were included. But those patients who were hypertensive, psychologically upset, revision surgery and those whose bony septum was markedly deflected requiring osteotomy were excluded. Before admission all patients were screened for coagulation profile and viral markers along with blood and urine complete examination. Consent for operation under general anaesthesia was taken from all patients. All patients were briefed for operative steps. Tablet Lorazepam 0.25 mg was given to all patients one night before operation. All patients nose were sprayed with oxymetazoline nasal spray half an hour before operation. After intubation injection of 2% xylocaine with 1:200,000 adrenaline was injected in submucoperichondrial and submucoperiosteal plane bilaterally. All patients were operated with the conventional technique of septoplasty without damaging turbinates. After operation Xynosine (xylometazoline) soaked strip gauze was inserted intranasally for 5-10 minutes. Then after suction and clearance of nasal cavities Quilting Sutures were applied and incision sites were also stitched. Temporary loose packs were placed in the nasal cavity, to be removed before shifting the patients to the ward with the

instructions to attendants to inform duty doctors for excessive bleeding from nose, if it occurs. All the patients were given Amoxycyclav, Analgesics, local & systemic Decongestants and normal Saline nasal drops for five days after discharge. All patients were thoroughly examined next day before discharge and advised for follow up on 3<sup>rd</sup> and 7<sup>th</sup> day.

## RESULTS

Ninety Five patients were included in the study of both sexes of variable ages. The youngest age was 17 years while the oldest was 40 years (mean age 28 years). Thirteen cases (13.68%) were given intranasal packing because of excessive bleeding for 24 hours. Remaining 82 patients (86.32%) had no problem and went homes without nasal packing.

**Table 1: Sex Distribution**

Sex	Number	Percentage
Male	60	63.15%
Female	35	36.84%

**Table 2: Age distribution**

Age	Male	Female
17-20	24	12
21-25	15	11
26-30	11	05
31-35	08	04
>35	02	03
Total	60	35

## DISCUSSION

Functional surgery of nose started in France at the turn of 18<sup>th</sup> century when different types of materials were used for nasal packing.<sup>13</sup> The use of nasal packing following septoplasty is thought to stabilize the remaining septum and prevention of complications such as bleeding, septal hematoma and formation of synechiae. The most common morbidities with packing are pain, worsening of sleep-disordered breathing, toxic shock syndrome, infection and nasopulmonary reflex.<sup>14</sup>

There is little evidence to support the routine use of postoperative nasal packing. Quilting suture application after septoplasty is very beneficial. It avoids the morbidities produced with nasal packing. People who were packed after septoplasty remember the pain of nasal packing extrusion for long time. Reiter & Alford<sup>15</sup> retrospectively studied 75 patients who under went septal surgery with placement of quilting sutures

and no nasal packing and noted only two patients with postoperative excessive bleeding notably from osteotomy sites.<sup>16</sup> Similarly Bajaj and Kanatas reported a series of 78 patients of septoplasty with quilting sutures in a quarter of cases. They noted 7.7 % of patients with postoperative hemorrhage with only one case controlled with nasal packing.

In our series there is incidence of 13.68 % of postoperative hemorrhage. Although the literature suggests the use of postoperative nasal packing but it clearly increases the incidence of postoperative morbidity especially pain.

## CONCLUSION

We recommend that the routine of post septoplasty nasal packing should be abandoned and reserved only for those cases in whom there is excessive per-operative bleeding and there is trauma to the turbinates. It should be done if there is reactionary hemorrhage. Quilting suture application is very effective to reduce morbidities associated with nasal packing. Also it reduces the cost effect of various materials used for packing and prolonged hospital stay.

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