

ORIGINAL ARTICLE

COMPARISON OF ANTERIOR NASAL PACKING VERSUS QUILTING SUTURES AFTER SEPTOPLASTY IN CONTROLLING POSTOPERATIVE BLEEDING

Syed Maisam Ali, Mehwash Sadaqat*, Altaf Hussain**, Tabassum Aziz*, Farida Khan, Mohammed Imran Shah

Department of ENT, Ayub Medical College and Teaching Hospital, Abbottabad, *Holy Family Hospital, Rawalpindi, **Pakistan Institute of Medical Sciences (PIMS), Islamabad, Pakistan

Background: Septoplasty, one of the most frequently performed surgeries in ENT is a surgical procedure designed to uncurl the deviated nasal septum. The objective of this study was to assess the results of anterior nasal packing as compare to quilting sutures in patients who have undergone septoplasty, in terms of postoperative bleeding. **Methods:** After taking approval from hospital ethics committee this randomized controlled trial was carried out at ENT Department Ayub Teaching Hospital Abbottabad from October 2018 to September 2019. A total of 102 patients meeting the inclusion criteria were included in this study after taking informed written consent. In group A after surgery anterior nasal packing was done while in group B sutures were applied across the septum. All patients were examined immediately after surgery and at first postoperative day. **Results:** The mean age of patients in group A was 27.82±6.79 years and in group B it was 26.82±5.84 years. Out of these 102 patients, 64 (62.75%) were male and 38 (37.38%) were female with ratio of 1.7:1. The frequency of postoperative bleeding in group A and B was 11.76% and 31.37% patients respectively ($p=0.016$). **Conclusion:** Postoperative bleeding is less with anterior nasal packing after septoplasty as compared to quilting sutures technique.

Keywords: deviated nasal septum, septoplasty, bleeding

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INTRODUCTION

The nasal septum is the bony-cartilaginous separation between the two nasal cavities which comprises of quadrangular cartilage maxillary crest, vomer and the perpendicular plate of the ethmoid.^{1,2} The septum should be in the midline but deviation is very commonly seen.¹ A deviated nasal septum (DNS) is the displacement of septum to either or both sides causing nasal blockage along with poor sinuses drainage, headache, epistaxis, sometimes causing snoring or sleep apnea.¹ It is common for nasal septum to turn side from the strict centreline but only symptomatic DNS needs correction making it a very common presentation in ENT clinic with different geographical prevalence.³

In mild cases the symptoms can be relieved decongestants, antihistamines, and nasal spray. Medications temporarily relieve symptoms, but do not correct the primary condition which can only be resolved by surgery.⁴ Initially performed surgery which was submucosal resection is now done very rarely due to high incidence of complications.³ Nowadays septoplasty is most commonly performed to straighten the deviation of the septum for nasal obstruction.^{5,6} Correction of septal deviation via septoplasty is commonly performed head and neck surgery.^{3,7}

Anterior Nasal Packing (ANP) is routinely done after surgery with ribbon gauze impregnated in liquid paraffin or BIPP to prevent bleeding but carries

its own complications such as severe headache, disturbed sleep, respiratory difficulty, compromised oxygen saturation, toxic shock syndrome and adhesion formation.⁸⁻¹⁰ Quilting sutures are applied across the septum with absorbable sutures.¹¹

In a study at India comparing septoplasty with and without nasal packing showed that nasal packing carries more local and systemic complications with increased hospital stay and concluded that nasal packing should be avoided if possible and quilting sutures can be applied on the septum after correction of deviation to avoid these problems.¹² In a comparative study, by Bernardo *et al*¹³ the frequency of postoperative bleeding after anterior nasal packing and quilting sutures was 10.8% and 30.6% respectively.

This study aimed to compare the two procedures, anterior nasal packing and quilting sutures for their efficacy in controlling postoperative bleeding.

PATIENTS AND METHODS

This randomized controlled study was carried out at ENT Department of Ayub Teaching Hospital, Abbottabad from Oct 2018 to Sep 2019 after approval from Hospital Ethical Committee. The sample size was calculated on the basis of previous study by Berbarodo, *et al*¹³. A total of 102 patients of either gender of age more than 18 years and diagnosed with DNS with no history of previous nasal surgery were registered from OPD and indoor. Informed written consent was taken

from all patients before surgery. All surgeries were performed by qualified and experienced surgeons. Patients were divided randomly into two groups, i.e., Group A and Group B.

In group A, under aseptic measures septoplasty was performed followed by ANP with 20 Cm long ribbon gauze impregnated with antibiotic ointment. Bleeding was confirmed by dribbling of fresh blood of the ANP, post nasal dripping of fresh blood or completely blood soaked booster of the ANP which needed to be changed.

In group B instead of anterior nasal packing, quilting sutures were applied across the septum and here bleeding was confirmed which needed nasal packing as not controlled by nasal pinching. All patients were examined immediately after surgery and at first postoperative day. All data was entered and analysed using SPSS-21.

RESULTS

Mean age of the patients in this study was 27.42±6.25 years (Range 18–45 years). In group A the mean age was 27.82±6.79 years, and in group B it was 26.82±5.84 years. Majority of the patients (70, 68.63%) were aged 18 to 30 years. Out of these 102 patients, 64 (62.75%) were male and 38 (37.38%) were females with ratio of 1.7:1. (Table-1).

The frequency of postoperative bleeding after anterior nasal packing and quilting sutures was found in 6 (11.76%) and 16 (31.37%) patients respectively with statistically significant $p=0.016$ (Table-2). Stratification of postoperative bleeding with respect to age groups and gender is shown in Table-3, 4 respectively.

Table-I: Age distribution of patients (n=102)

Age (Years)	Group A (n=51)		Group B (n=51)		Total (n=102)	
	Number	%	Number	%	Number	%
18–30	33	64.71	37	72.55	70	68.63
31–45	18	35.29	14	27.45	32	31.37
Mean±SD	27.82±6.79		26.82±5.84		27.42±6.25	

Table-2: Frequency of postoperative bleeding in patients

Postoperative Bleeding	Group A (n=51)		Group B (n=51)	
	Number	%	Number	%
Yes	6	11.76	16	31.37
No	45	88.24	35	68.63

$p=0.016$

Table-3: Postoperative bleeding in age groups

Age (Years)	Group A (n=51)		Group B (n=51)		p
	Yes	No	Yes	No	
18–30	2	31	13	24	0.003
31–40	4	14	3	11	0.957

Table-4: Postoperative bleeding in gender groups

Gender	Group A (n=51)		Group B (n=51)		p
	Yes	No	Yes	No	
Male	6	27	8	23	0.461
Female	0	18	8	12	0.003

DISCUSSION

Nasal packing is not completely safe and may cause complications like cardiovascular alterations, nasal mucosal injury, decreased oxygen saturation, foreign body reaction, headache, infection and toxic shock syndrome.⁹ In order to overcome some of these problems substitutes were sought. One of these is septal suturing technique.⁸

This study compared anterior nasal packing and quilting sutures in patient of deviated nasal septum in terms of frequency of postoperative bleeding. Out of our 102 patients, 64 (62.75%) were male and 38 (37.38%) were female with ratio of 1.7:1. Mahmood *et al*¹⁴, and Rao *et al*¹⁵ also observed that males are affected more than females. But Rehman *et al*¹⁶ found that females were more (64.80%) affected than males (35.19%). The possible reason for male predominance may be more exposure to trauma.¹⁴ The largest numbers of patients (38.71%) in our study were found in 21–30 years age group. Rao *et al*¹⁵ found the maximum incidence between 2nd and 4th decade while Rehman *et al*¹⁶ found maximum cases between 2nd and 5th decade.

The frequency of postoperative bleeding in this study after anterior nasal packing and quilting sutures was found in 6 (11.76%) and 16 (31.37%) patients respectively ($p=0.016$) which is comparative to 10.8% and 30.6% respectively reported by Bernardo MT *et al*.¹³

In a study by Hafeez *et al*¹⁷ out of 70 patients, 2 (2.85%) cases were given intranasal packing with paraffin gauze for 24 hours at the end of surgery because of excessive perioperative bleeding. Five (7.14%) patients had bleeding within 12 hours of operation. Remaining 63 (90%) patients had no problem and nasal packing was not done in them. Many researchers^{8–12,18} found that septoplasty can be performed safely without postoperative nasal packing.

Priyo *et al*¹⁹ concluded that nasal packing after septoplasty does not give any added advantage or benefit to the non-nasal packing group. Another study by Cukurova *et al*²⁰ noted bleeding (1.1%) with quilting suturing and (1.8%) in ANP. Mene *et al*²¹ carried out their trial to compare ANP with trans-septal sutures. They observed no bleeding with ANP but it was associated with pain. In a series of septoplasty carried out by Bajaj *et al*²¹ 3–8% needed ANP because of postoperative bleeding. Others²² suggested not to use nasal packing. Raggad *et al*²³ concluded that suturing should be the preferred alternative to nasal packing.

CONCLUSION

Postoperative bleeding is less frequent after anterior nasal packing compared to quilting sutures technique in patient of deviated nasal septum undergoing septoplasty.

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Address for Correspondence:

Dr Syed Maisam Ali, Consultant, Department of ENT, Ayub Teaching Hospital, Abbottabad, Pakistan. **Cell:** +92-333-9136841

Email: makazmee@hotmail.com

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Contribution of Authors:

SMA: Concept, study design, data acquisition, draft writing

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AH: Study design, data analysis, draft writing

TA: Literature search, draft writing

FK: Design, draft writing, proof reading

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