



Research Article

NASAL SPLINT WITH AIRWAY VERSUS CONVENTIONAL GLOVED NASAL PACK- A COMPARATIVE STUDY OF OUTCOME POST SEPTOPLASTY

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ABSTRACT

Introduction: Septoplasty is one of the most common nasal surgeries performed by ENT Surgeons. Following septal surgeries nasal packs are commonly inserted to support septal flap apposition, to control bleeding and to avoid complications in post surgical period. However it is a source of considerable patient discomfort like pain during pack removal, headache, sleep disturbances and complications like septal hematoma, synechiae and nasal crusting. There are many alternatives like through and through suturing of septal flaps, merocele pack and glove packing and each one has its own advantage and disadvantage.

Objective: To compare the post operative outcome of nasal splint with airway versus conventional gloved nasal pack in patients undergoing septoplasty.

Materials and Methods: Patients undergoing septoplasty under general anaesthesia during the course of study were be allocated into two groups as Groups A (Conventional gloved nasal pack) and Group B (septal splint with airway). Both nasal packs will be left in place for 24 hours. Postoperative morbidity in terms of pain, headache, epiphora, dysphagia and sleep disturbance along with postoperative complications including, septal deviation, septal hematoma, synechiae formation and crusting were assessed over a follow up period of four weeks.

Results: Patients on nasal splint with airway has less postoperative morbidity like minimal pain during pack removal, reduced symptoms like epiphora, headache, sleep disturbances and dysphagia compared to patients on conventional gloved nasal packing. No significant difference between the two groups was seen with respect to complications including septal hematoma, synechiae formation, crusting and septal deviation.

Conclusion: Septal splints with airway are effective alternative to conventional gloved nasal packing thus minimizing post operative discomfort of the patient.

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INTRODUCTION

Septoplasty is one of the most common nasal surgeries performed by ENT surgeons. Following septal surgeries nasal packs are commonly inserted by the surgeons to achieve septal flap apposition, to control bleeding and to avoid complications in post surgical periods such as septal haematomas, abscess, synechia and infection^[1].

Several complications have been related to the use of nasal packs like post operative pain, pain during pack removal, septal haematoma, synechia, nasal crusting, infection and toxic shock syndrome^[2].

People have successfully tried alternatives like through and through suturing of septal flaps, merocele pack and glove packing, paraffin gauze, Vaseline gauze, bismuth iodoform paraffin paste, gel foam, and fibrin glue. Intranasal (septal) splints have been also used as an alternative to achieve good approximation of septal flaps and prevention of haematomas,

bleeding and adhesions. Each of these methods and materials for nasal packing have their advantages and disadvantages^[3,4,5].

In this study we are comparing the post operative outcome using nasal splint with airway and medicated glove packing following septoplasty.

MATERIALS AND METHODS

This was a prospective, randomized controlled study conducted in a tertiary care hospital over a period of 18 months. All the Patients undergoing septoplasty during the course of study were included. Patients suffering from medical problems like Diabetes Mellitus, Hypertension and Blood Dyscrasias, patients with history of nasal polyposis, history of overt nasal allergy, patients using hemodiluting drugs and patients with history of previous septal and nasal turbinate surgery were excluded from this study. The patients were explained about the study and the procedure involved and written and informed consent was taken. Ethical clearance for the study was obtained from the hospital ethics committee.

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Relevant clinical and demographic data were obtained from the patient. All of them underwent a detailed ENT examination. The patients were randomly allocated into two groups as Groups A - glove finger pack (Fig I) and Group B - septal splint with airway (Fig II). Both the nasal packs were left in place for 24 hours. On the first postoperative day a questionnaire was given to the patient to record pain during pack removal, nasal bleeding during pack removal, headache, epiphora, dysphagia and sleep disturbance. On the next follow up visit a thorough examination of nose was done to see septal deviation, septal haematoma, crusting and synechia formation.

Postoperative morbidity in terms of pain, headache, epiphora, dysphagia and sleep disturbance along with postoperative complications including, septal deviation, septal hematoma, synechia formation and crusting were assessed over a follow up period of four weeks.



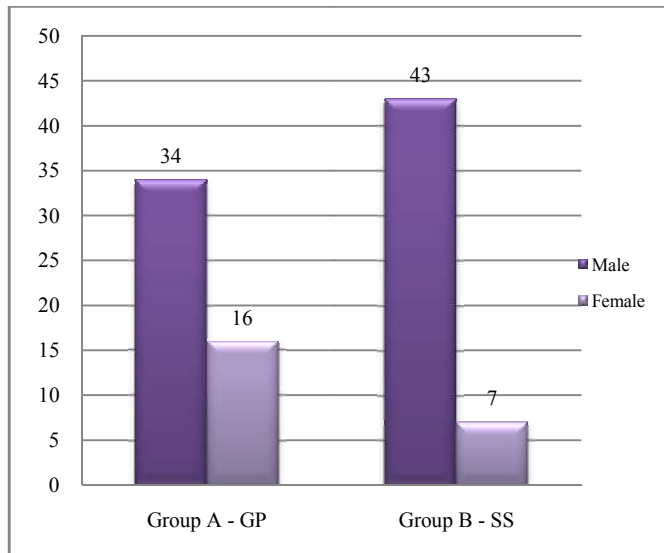
Fig I Glove finger Nasal Pack



Fig II Septal Splint With Airway

RESULTS

The study sample included 100 patients and each group comprised of 50 patients. In the 100 patients that were operated 77(77%) were males and 23(23%) were females. Group A had 34 males and 16 females and Group B had 43 male and 7 females (Graph: I).The mean age and standard deviation of group A was 30.2 ± 11.837. The mean age and standard deviation of group B was 27.22 ± 9.425.



Graph I Sex distribution (GP – Glove pack, SS – Septal splint)

Statistical Analysis was done using SPSS version 22 and the test used was non-parametric test (Mann Whitney u test). P value of 0.05 or less was considered significant.

Table I Post Operative Day 1 Group Statistics

symptoms	group	min	max	median	iqr	p value
Pain	A	1	2	1	1	.000
	B	0	2	1	0-1	
Bleeding DPR	A	0	1	1	0-1	.000
	B	0	1	0	0-1	
Headache	A	0	2	1	1	.000
	B	0	1	1	0-1	
Epiphora	A	0	2	1	1	.000
	B	0	1	1	0-1	
Sleep disturbance	A	0	1	1	0-1	.000
	B	0	1	0	0	
Dysphagia	A	0	1	1	0-1	.000
	B	0	1	0	0	

As seen in the table (Table I), p value shows significant difference between the two groups in the first post operative day symptoms like pain during pack removal (PAIN-DPR), bleeding during pack removal (BLEEDING–DPR), headache, epiphora, sleep disturbance and dysphagia.

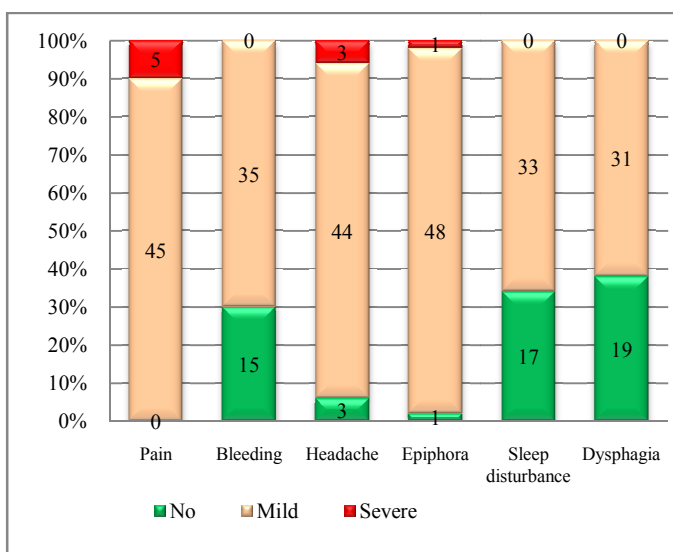
Table II Follow Up Group Statistics

Signs	Group	Min	Max	Median	Iqr	P value
2 nd week synechiaie	A	0	1	0	0	1.000
	B	0	1	0	0	
4 th week synechiaie	A	0	2	0	0	0.984
	B	0	1	0	0	
2 nd week septal haematoma	A	0	0	0	0	1.000
	B	0	0	0	0	
4 th week septal hematoma	A	0	0	0	0	1.000
	B	0	0	0	0	
2 nd week septal deviation	A	0	0	0	0	1.000
	B	0	0	0	0	
4 th week septal deviation	A	0	0	0	0	1.000
	B	0	0	0	0	
2 nd week crusting	A	0	2	1	1	0.744
	B	0	2	1	1	
4 th week crusting	A	0	2	0	0-1	0.008
	B	0	1	0	0	

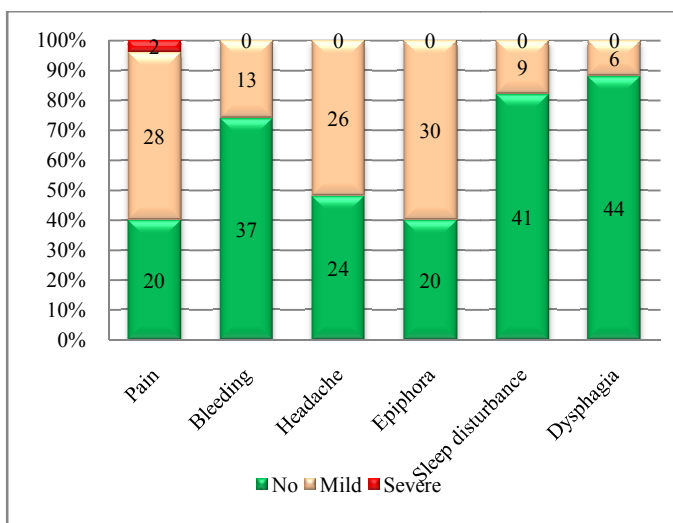
As seen in the table (Table II), p value does not show any significant difference between the two groups with respect to

complications like septal hematoma, synechiae formation and septal deviation except crusting after four weeks.

operative epiphora. 32 (64%) patients in the Group A experienced mild sleep disturbance on the night of surgery compared with only 9 (18%) patients in Group B. In Group A, 31 (62%) patients complained of discomfort while swallowing, whereas in Group B only 6 (12%) patients complained of discomfort while swallowing.



Graph II Group- A (Glove Pack) Post-operative day 1



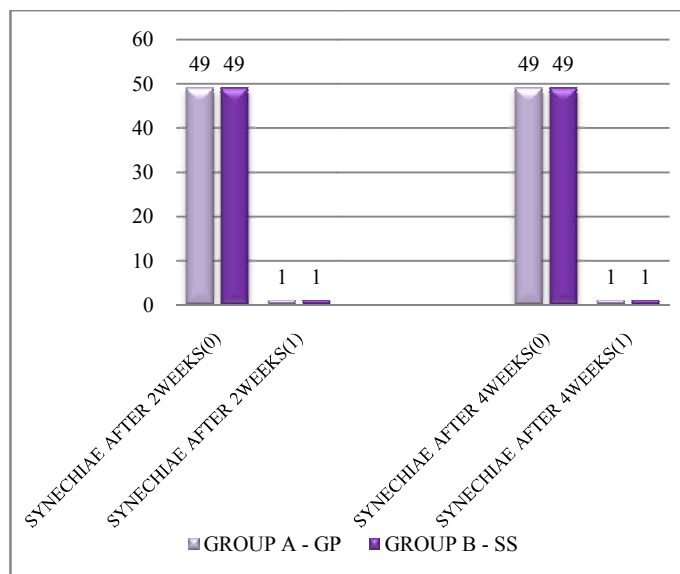
Graph III Group -B (Septal Splint) Post-operative day 2

Comparison of postoperative morbidity was done between the two groups (Graph II and III). In glove finger nasal pack group (Group A), 45 (90%) patients had mild and 5 (10%) patients had severe pain during pack removal. Whereas in nasal splint with airway group (Group B), only 28 (56%) patients had mild and 2 (4%) patients had severe pain during pack removal.

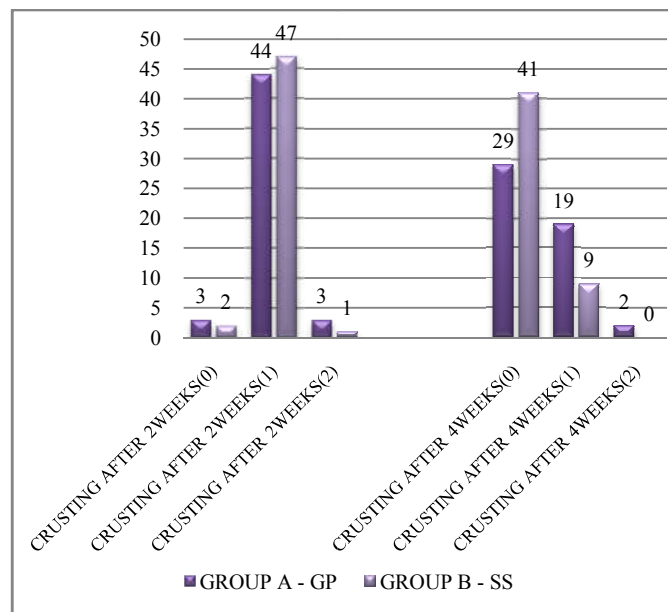
In Group A, 34(68%) patients had mild bleeding during pack removal and only 16 (32%) patients had no bleeding during pack removal. Whereas in Group B, only 13 (26%) patients had mild bleeding during pack removal and 37 (74%) patients had no bleeding during pack removal.

In Group A, 44 (88%) patients had mild and 3 (6%) patients had severe post operative headache. And only 3 (6%) patients do not experienced post operative headache. Whereas in Group B, only 26 (52%) patients had mild headache and 24 (48%) patients had no post operative headache.

In Group A, 48 (96%) patients had mild and 1 (2%) patient had severe post-operative epiphora. And only 1 (2%) patient do not experienced post-operative epiphora. In Group B, 31 (62%) patients had mild epiphora and 19 (38%) patients had no post-



Graph IV Follow Up Synechiae (Comparison Between Two Group)



Graph V Follow Up Crusting (Comparison Between Two Group)

At follow up examination, 1 (2%) patient from each group had mild synechiae of which removal was done. At 2 weeks follow up, 44 (88%) patients in Group A had mild crusting and 47 (94%) patients in Group B had mild crusting. At 4 weeks, 19 (38%) patients in Group A had mild and 2 (4%) had severe crusting and where as in Group B, only 9 (18%) patients had mid crusting (Graph IV-V). None of the patient had septal haematoma and septal deviation in the study.

Patients on nasal splint with airway had less postoperative morbidity like minimal pain during pack removal, reduced symptoms like epiphora, headache, sleep disturbances and dysphagia compared to patients on conventional gloved nasal packing.

No significant difference between two groups was seen with respect to complications like septal hematoma, synechia formation and septal deviation. However, crusting was more with gloved finger nasal pack compared to nasal splint.

DISCUSSION

Following septoplasty, anterior nasal packing is a common practice. It is basically done for achieving hemostasis and apposition of septal flaps. However, it is associated with many immediate postoperative complications such as pain, headache, epiphora, dysphagia as well as late postoperative complications like crusting, synechia, septal hematoma and septal deviation. Patients also suffer from pain and bleeding during pack removal. New materials have been tried to minimize these postoperative complications and there are many studies comparing different materials used for nasal packing.

In a study conducted by Jawaid *et al*, nasal glove finger pack was compared with nasal pressure splints. Patients with glove finger pack group had significantly more post operative pain and a significantly higher incidence of headache, epiphora, dysphagia and sleep disturbance on the night of surgery and no significant difference between two groups was seen with respect to complications including nasal bleeding, septal hematoma and synechia formation^[6]. This result is consistent with our study

Beigh Z *et al*, compared with conventional nasal pack and glove finger pack and found out that there was less pain during second post operative day pack removal with glove finger pack group than conventional pack group. There was also less incidence of synechia formation in glove finger pack group compared to conventional medicated gauze pack^[5]. In our study glove finger pack group had more postoperative pain during pack removal compared to nasal splint group. But there was no significant difference in synechia formation.

Ardehali MM *et al*, compared the efficacy of trans septum suturing with intra nasal splint in septoplasty. There was no significant statistical difference between the two study groups. They also found that using intranasal packing and splints would not result in any further benefit to patients undergoing septoplasty over the trans-septum through and through suturing technique^[4].

Mahmood K *et al*, compared with nasal splint and without splint and there was no statistically significant difference in the incidence of adhesion formation between two groups. They also concluded that there is no significant advantage of routinely using intranasal splints in septoplasty patients for prevention of adhesion formation^[7]. In our study there was no significant difference between two groups in synechia formation.

Amin KA *et al*, in their study compared trans septal suture method with nasal splint and they found pain and post nasal drip were significantly lower in trans-septal suture group than silicone nasal splint group. There was no significant difference in epiphora, crusting and adhesion formation^[8].

The main advantage of nasal packing is to achieve good flap apposition which can be effectively achieved using pressure splints. But there are studies which state that this purpose is effectively achieved using quilting sutures^[8].

There are also some studies which state that there are no added advantage or benefits of nasal packing following septoplasty^[9,10].

CONCLUSION

As per our study the septal splint with airway is an effective alternative to conventional gloved nasal packing, minimizing the post operative discomfort to the patient.

References

1. Velasco LC, Arima LM, Tiago RS, Ortega Filho RC, E Sousa AD. Evaluation about the requirement to use a pack after Septoplasty with Turbinectomy. *Arquivos Internacionais de Otorrinolaringologia*. 2011; 15(02):168-71.
2. Naghibzadeh B, Peyvandi AA, Naghibzadeh G. Does post septoplasty nasal packing reduce complications? *Acta Medica Iranica*. 2011; 49(1):9.
3. Shah S, Kumari S, Pradhan B, Thapa N. Outcomes Of Endoscopic Quilting Of Nasal Septum Versus Nasal Packing Following Septoplasty. *The Internet Journal of Otorhinolaryngology*. 2010; 13(2): 11840-44.
4. Ardehali MM, Bastaninejad S. Use of nasal packs and intranasal septal splints following septoplasty. *International journal of oral and maxillofacial surgery*. 2009; 38(10):1022-4.
5. Beigh Z, Yousuf A, Malik MA, Ahmad R. Postoperative Complications Followed by Septoplasty Comparison between Conventional Nasal Packing and Glove Finger Pack. *Clin Rhinol Int J*. 2012; 5(1): 11-3.
6. Jawaid A, Tahir M, Abdullah A, Akbar F, Jamalullah M. Intranasal pressure splints - a reliable alternative to nasal packing in septal surgery. *Bangladesh J Otorhinolaryngol*. 2012; 18(2): 124-8.
7. Mahmood K, Baig MN, Ayub N, Aziz T. Efficacy of Nasal Splints in Reducing the Incidence of Intranasal Adhesions Following Septoplasty. *Journal of Islamic International Medical College*. 2016; 11(1):8-10.
8. Amin KA, Hasan AD, Jaff SA: Trans-septal suture method versus intranasal silicone splint in septoplasty. *International Journal of Technical Research and Applications*. 2015; 3(3): 159-65.
9. Devi P, Bhutia TJ, Lyngdoh N, Kumar S, Bhutia NN, Babu P. A comparative study of septoplasty with and without nasal packing. *National J Otolaryngol Head Neck Surg*. 2014; 2(11): 15-7.
10. Eski E, Yilmaz I. Septoplasty without Nasal Packing: Functional Outcomes and Complications A Prospective Clinical Study. *J Otolaryngol ENT Res*. 2015; 3(2): 00062.

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