

ORIGINAL ARTICLE

Comparison of postoperative pain, bleeding and septal hematoma formation after septoplasty with and without nasal packing.

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ABSTRACT... Objective: To compare postoperative pain, bleeding and septal hematoma formation after septoplasty with and without nasal packing. **Study Design:** Randomized Control Trial (RCT). **Setting:** Department of ENT, Sir Ganga Ram Hospital, Lahore. **Period:** June 1st, 2025 to November 30th 2025. **Methods:** In this randomized controlled trial, 100 patients who met the selection criteria were enrolled and were split into two equal groups of 50 patients each at random. Group A had nasal packing following septoplasty and Group B patients did not have nasal packing. Patients were assessed over 1, 3, 6, 12 and 24 hours postoperatively and outcomes were assessed. **Results:** The patients in Group A had an average age of 32±4.71 years while those in Group B was 33±9.31 years. The Group A mean VAS pain score at 24 hours compared to Group B was 4±0.61 versus 2±0.51 (p=0.000), respectively. At 24 hours, in Group A versus B, septal hematoma was present in 1 (2%) versus 1 (2%) patient respectively and at the time of discharge, it was present in 2 (4%) versus 2 (4%) patients (p=1.000), respectively. Bleeding at 24 hours occurred in 4 (8%) versus 8 (16%) patients in Group A versus B respectively (p=0.218). **Conclusion:** There was no difference in bleeding or septal hematoma between patients with and without nasal packing and septoplasty without nasal packing was substantially related with decreased pain.

Key words: Complications, Nasal Packing, Septoplasty.

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INTRODUCTION

Nasal septum is the longitudinal wall that separates the nose into two nasal cavities.^{1,18} Nasal septum is deviated to one side or the other due to different causes such as birth trauma, accidental trauma.² Septoplasty is a procedure to repair a deviated septum.^{3,17} In routine practice, otolaryngologists often prefer septoplasty with nasal packing.⁴ Nasal packing during septoplasty contributes to strong flap resistance and minimizes the chance of complications (bleeding, discomfort, hematoma and formation of adhesion)⁵ A study in Iran comparing septoplasty with and without nasal packing reported negligible complication rates and morbidities in both groups, except extreme postoperative pain, which was about 100% in group having septoplasty with nasal packing whereas in patients without nasal packing, it was about 2.94%.⁶ According to a study conducted in Pakistan, the extreme postoperative pain was 45% after septoplasty with nasal packing and 5% without nasal packing.⁷ Bleeding and hematoma are complications that may or may not

occur after septoplasty. According to a report, out of 25 patients who underwent septoplasty without nasal packing, only one patient presented with septal hematoma and only two patients complained of minimal postoperative bleeding.⁶ According to another study, the frequency of bleeding and septal hematoma did not significantly differ in the two groups of with nasal packing and without it after septoplasty.⁷

METHODS

It was a Randomized controlled trial study conducted at ENT department of Sir Ganga Ram Hospital Lahore June 1st, 2025 to November 30th 2025. 100 patients in all who met the selection criteria i.e Patients of either gender, Age group more than 18 years and the patients presenting with symptomatic deviated nasal septum without comorbidities, Covid 19 PCR negative were enrolled in this study from OPD of SGRH Lahore whereas patients having acute upper respiratory tract infections, bleeding disorders, comorbidities, pregnancy were excluded

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after approval from Institutional Ethics Review Committee (114/CEB/28-11-25) of Fatima Jinnah Medical University Lahore. Informed written consent from patients was obtained prior to data collection. Basic demographic (name, age, sex, address and contact) information of each patient was noted on proforma. Group allocation was done randomly using computer generated sequence numbers. Standard septoplasty was performed with the mucoperichondrial flap kept intact. In the packing group, packing was performed uniformly by inserting bismuth iodine paraffin (BIPP) packs. Packs were removed 24 hours after surgery. Post-operative pain and bleeding was noted at 1, 3, 6, 12 and 24 hours post operatively respectively. Postoperative pain was monitored according to VAS score. Pain was categorized as mild (1-4), moderate (5-7) and severe (8-10) and was managed by analgesics i.e acetaminophen, diclofenac and hydrocodone, respectively. Septal hematoma formation was monitored at 24 hours after surgery and at the time of discharge. Postoperative bleeding was graded as 0 (no bleeding), 1 (minimal), 2 (moderate), 3 (severe) at different intervals of time and was managed accordingly. In grade 1, xylometazoline nasal spray was given and the nose was pinched for 15 minutes. The patients were re-examined and graded again. If the patient still had bleeding and was of grade 2 then tranexamic acid injection (500mg) was given in addition to the spray. The patients were examined again after 15 minutes. If the bleeding grade was of 3 category then nasal packing was done. All surgical procedures were performed following COVID-19 SOP's devised by WHO. All this information was recorded through pre-made proforma

SPSS version 25 was used to enter and evaluate the data. For numerical information like age, Postoperative pain score, mean and standard deviation was used. Categorical data, such as gender, bleeding and septal hematoma was presented as frequency and percentage. Both groups were compared in terms of bleeding and septal hematoma by utilizing the Chi-square test and a p value <0.05 was registered as noteworthy. In terms of mean VAS pain scores, an Independent t-test was used to compare the two groups and a p value of less than 0.05 was evaluated as significant.

RESULTS

The research included 100 patients. The average age of Group A patients (with nasal packing) was 32 ± 4.71 years and without nasal packing it was 33 ± 9.31 years in Group B (Table-I). There were 62 (62%) males and 38 (38%) females in the study (Figure-1).

The average VAS pain score for Group A versus B at 1 hour was 7 ± 0.54 versus 5 ± 0.67 ($p=0.000$), at 3 hours was 6 ± 0.73 versus 5 ± 0.57 ($p=0.000$), at 6 hours was 5 ± 0.62 versus 4 ± 0.58 ($p=0.047$), at 12 hours was 5 ± 0.57 versus 3 ± 0.71 ($p=0.000$) and at 24 hours was 4 ± 0.61 versus 2 ± 0.51 ($p=0.000$), respectively. The severity of pain at 12 hours in Group A was mild in 29 (58%) and moderate in 21 (42%) and in Group B, mild pain was present in 44 (88%) and moderate pain was present in 6 (12%) patients ($p=0.001$). The severity of pain at 24 hours in Group A was mild in 41 (82%) and moderate in 9 (18%) and in Group B, mild pain was present in 50 (100%) patients and none had moderate or severe pain in Group without nasal packing ($p=0.002$) (Table-II).

In terms of septal hematoma at 24 hours, 1 (2%) patient in Group A and 1 (2%) in Group B had it ($p=1.000$) (Table-III) and at the time of discharge, septal hematoma was there in 4% patients in Group A 4% patients in Group B ($p=1.000$) (Table-IV).

With respect to bleeding, at 12 hours, 3 patients in Group A and 4 patients in Group B had it ($p=0.695$) (Table-V) and the grade of bleeding at 12 hours was 0 in 48 (96%) patients in Group A and 46 (92%) patients in Group B, Grade 1 bleeding was present in 2 (4%) patients in Group A and 2 (4%) patients in Group B and Grade 2 was present in 2 (4%) patients in Group A and none of the patients in Group B. With respect to bleeding, at 24 hours, 4 (8%) patients in Group A and 8 (16%) patients in Group B had it ($p=0.218$) (Table-VI) and the grade of bleeding at 24 hours was 0 in 46 (92%) patients in Group A and 42 (84%) patients in Group B, Grade 1 bleeding was present in 3 (6%) patients in Group A and 2 (4%) patients in Group B and Grade 2 was present in 1 (2%) patients in Group A and 4 (8%) patients in Group B and Grade 3 bleeding was present in 2 (4%) patients in Group B only .

FIGURE-1

Gender distribution of patients

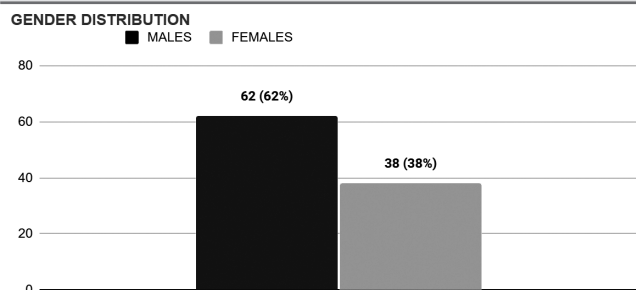


TABLE-I

Mean age (in years) of patients in both groups

Group	N	Mean±Standard Deviation
Group A (with packing)	50	32±4.71
Group B (without packing)	50	33±9.31

TABLE-II

Comparison of mean VAS pain score at different intervals in both groups

Interval	Group		T-Test Value	P-Value
	A (with packing) n=50	B (without packing) n=50		
1 Hour	7±0.54	5±0.67	13.768	0.000
3 Hours	6±0.73	5±0.57	7.336	0.000
6 Hours	5±0.62	4±0.58	2.008	0.047
12 Hours	5±0.57	3±0.71	4.962	0.000
24 Hours	4±0.61	2±0.51	12.348	0.000

TABLE-III

Comparison the two groups frequency of septal hematoma at 24 hours

Septal Hematoma	Group		P-Value
	A (with nasal packing)	B (without nasal packing)	
Yes	1 (2%)	1 (2%)	1.000
No	49 (98%)	49 (98%)	
Total	50 (100%)	50 (100%)	

DISCUSSION

The current study results revealed that mean VAS pain scores showed a statistically significant difference between patients who received nasal packing after septoplasty compared to those who did not have the packing at 1, 3, 6, 12 and 24 hours.

TABLE-IV

Comparing the two groups frequency of septal hematoma at the time of discharge

Septal Hematoma	Group		P-Value
	A (with nasal packing)	B (without nasal packing)	
Yes	2 (4%)	2 (4%)	1.000
No	48 (96%)	48 (96%)	
Total	50 (100%)	50 (100%)	

TABLE-V

Comparison of both groups in terms of bleeding at 12 hours

Bleeding at 12 Hours	Group		P-Value
	A (with nasal packing)	B (without nasal packing)	
Yes	3 (6%)	4 (8%)	0.695
No	47 (94%)	46 (92%)	
Total	50 (100%)	50 (100%)	

TABLE-M

Comparison of both groups in terms of bleeding at 24 hours

Bleeding at 24 Hours	Group		P-Value
	A (with nasal packing)	B (without nasal packing)	
Yes	4 (8%)	8 (16%)	0.218
No	46 (92%)	42 (84%)	
Total	50 (100%)	50 (100%)	

In terms of septal hematoma at 24 hours and at the time of discharge, it was revealed that both groups had similar rates of septal hematoma and the two groups did not differ statistically significantly at any of the two intervals. With respect to bleeding at different intervals, no bleeding occurred at 1, 3 and 6 hours in both groups, however, the rate of bleeding was comparatively higher in Group B (without nasal packing) compared to Group A (with packing) at 12 hours i.e. 8% versus 6% respectively and also at 24 hours i.e. 16% versus 8% respectively, however, the difference between the two groups at these two intervals was statistically insignificant. Bajwa et al. revealed that the degree of pain described by the individuals in the nasal packing group was more compared to that reported by individuals who did not have nasal packing.⁸ In terms of pain, Wasim et al. revealed that 13.1% of patients without nasal packing reported it compared to 34.8% in the group who had nasal packing (p=0.015).¹³ Walikar et al.

revealed that postoperative pain was experienced by 79.3% patients in the nasal packing group compared to 25.7% patients who did not have it ($p=0.001$).¹⁴ Bhutta et al. revealed that after septoplasty, in patients with anterior nasal packing, 51 (46.4%), 45 (40.9%) and 14 (12.1%) of the patients reported mild, moderate and severe pain on VAS, respectively, whereas in patients without anterior nasal packing, 18 (16.4%) patients reported no pain during the first 24 hours following surgery, while 92 (83.6%) reported minor pain ($p<0.05$).¹⁵ These findings are consistent with our study results that the mean VAS pain scores over the first 24 hours differed significantly between the two groups and were lower in patients who did not have nasal packing.

Naghizadeh et al. in a study compared patients with DNS who underwent septoplasty with and without nasal packing in terms of complications and revealed that in the nasal packing versus no nasal packing group, bleeding during the postoperative period was present in 1 versus 2 patients ($p>0.05$) respectively.⁹ Bhutta et al. revealed that grade 1 bleeding occurred in 2.75% in patients with nasal packing as well as in patients without it ($p>0.05$).¹⁵ Walikar et al. compared patients who underwent septoplasty with or without nasal packing in terms of postoperative complications and revealed that in the nasal packing group, nasal bleeding during the first postoperative day occurred in 12 patients with nasal packing versus in 20 patients without it, on second postoperative day it occurred in 3 patients in nasal packing group versus 7 patients who did not have it and on 3rd postoperative day.¹⁴ However, Wasim et al. revealed that in terms of postoperative bleeding, 6.6% patients in the group without nasal packing had it compared to 28.3% patients in the group which had it ($p=0.006$).¹⁶ There was no statistically significant difference in the incidence of hemorrhagic complications between the groups in a randomized prospective experiment that compared the rate of hemorrhagic complications following the removal of nasal packing left for 24 and 48 hours.²⁰

In our study, septal hematoma was present in 4% patients with nasal packing as well as in patients without it and this difference was statistically insignificant i.e. $p=1.000$. Wasim et al. revealed that

septal hematoma was the least frequently reported complication in patients who underwent septoplasty with or without nasal packing and the difference between the two groups in terms of septal hematoma was statistically insignificant.¹⁶ Bhutta et al. revealed that septal hematoma development was uncommon among patients with or without nasal packing and there was no statistically significant difference between the two groups.¹⁵

CONCLUSION

The current study concluded that following septoplasty, patients without nasal packing experienced significantly lesser pain during the postoperative period compared to patients who had nasal packing. Postoperatively, in terms of septal hematoma and bleeding there was no discernible difference between the two groups.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

1	Waqas Javaid: Data collection.
2	Aamna Durrani: Study concept.
3	Mehak Ahmad: Critical revisions.
4	Ayesha Fayyaz: Literature review.
5	Ziaullah: Data analysis.
6	Muhammad Fawwad Khan: Data entry.