

Randomized Controlled Trial Between 24 And 48 Hours Nasal Packing after Sub Mucosal Resection

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Abstract

Background: To compare 24-hours versus 48-hours nasal packing in terms of discomfort and effectiveness in preventing septal haematoma and bleeding after sub-mucosal resection of nasal septum.

Methods: In this randomized controlled trial 160 patients of symptomatic deviated nasal septum (DNS) were included. The sample was randomly divided into two groups, A and B, consisting of 80 patients each. After sub-mucosal resection (SMR) under general anesthesia, bilateral nasal packing was done with paraffin gauze rolls. In Group A, nasal packs were removed after 24 hours. In Group B nasal packs were removed after 48 hours. After the removal of nasal packs bleeding, septal haematomas and subjective discomfort were assessed.

Results: One day (24 hours) nasal packing caused significantly less discomfort, as 28.75% patients had no discomfort as compared to only 5.0% patients in 48 hours nasal packing. However, difference in septal haematoma (2.5% in 24 hours group and 1.25% in 48 hours group) and bleeding (58.75% in 24 hours group and 62.5% in 48 hours group) was statistically insignificant.

Conclusion: Twenty four hours nasal packing has significantly less discomfort as compared to 48 hours nasal packing. There is insignificant difference in bleeding and septal haematoma between 24 hours and 48 hours nasal packing.

Key Words: Nasal packing, septoplasty, septal haematoma.

Introduction

Clinically significant septal deviation is found in 26% of patients with nasal obstruction.¹ Surgical correction of septal deviation is a common head and neck procedure.² Sub mucosal resection (SMR) is the operation performed for correction of septal deviation and involves resection of deviated cartilage and bone.³ Nasal packing is done after SMR to prevent septal haematoma and bleeding.^{4, 5} Keeping the nasal packs

for longer duration is uncomfortable as it can cause pain, headache, epiphora, dysphagia and sleep disturbances.⁶

Nasal packing is mostly done with paraffin gauze rolls after performing SMR. It is usually removed after 24 or 48 hours. However, the better option among the two has not been determined scientifically. Therefore, this study was designed to compare 24 hours and 48 hours nasal packing after SMR, keeping in view the effectiveness, in terms of preventing bleeding and septal haematoma, and subjective discomfort caused by packs.

Patients and Methods

A Randomized Controlled Trial was designed to assess the objectives of the study. Study was carried out from 18th Nov 2009 to 22nd Jul 2010, in ENT Department of Combined Military Hospital Rawalpindi. Total number of patients included in the study was 160 and were divided into two groups. Patients undergoing turbinate surgery or rhinoplasty in addition to SMR were excluded from the study. Patients on anti-coagulant drugs or aspirin and patients with abnormal platelet count, bleeding time (BT), clotting time (CT), prothrombin time (PT) and activated partial thromboplastin time (APTT) were excluded.

After SMR under general anesthesia, appropriate sized bilateral nasal packing was done with paraffin gauze rolls with an aim to prevent post-operative bleeding and haematoma formation but not tight enough to cause necrosis of septal mucosa. Same quality of paraffin gauze rolls were used for nasal packing in both the groups.

In both the groups, Amoxicillin (500 mg capsules 8 hourly) and Paracetamol (2 tablets of 500 mg 8 hourly) were prescribed for 5 days. In Group A, nasal packs were removed after 24 hours. While in Group B, nasal packs were removed after 48 hours. Bleeding was assessed after the removal of nasal packs and was graded as, a: No bleeding; b:Mild(bleeding that stopped spontaneously); c: Moderate(bleeding that

stopped on pinching of nose for 10 minutes);
d:Severe(bleeding that required re-packing)

Results

Age of patients varied from 17 to 60 years. Forty eight hours nasal packing caused significantly more discomfort (p-value = 0.00) (Table 1). Septal haematoma was present in 2 patients in group A in which nasal packing was removed after 24 hours and 1 patient in group B in which nasal packing was removed after 48 hours. There was no statistically significant difference (p-value > 0.05) in septal haematoma in both the groups (Table 2). Nasal bleeding between the two groups was also insignificant (p-value > 0.05) that is there was no significant difference in both the groups (Table 3).

Table 1: Comparison of discomfort level

	Group A (Nasal packs removed after 24 hours)	Group B(Nasal packs removed after 48 hours)
No discomfort	23	4*
Mild discomfort	41	21*
Moderate discomfort	11	32*
Severe discomfort	5	23*

*p-value=0.00 (significant)

Table 2: Comparison of Septal haematoma

Group	Septal Haematoma		p-Value
	Absent	Present	
Group A (24 hrs pack)	78 (97.5%)	2 (2.5%)	0.155 *
Group B (48 hrs pack)	79(98.75%)	1 (1.25%)	

* Insignificant at 95% level of Significance

Table 3: Comparison of nasal bleeding

Group	No bleeding	Mild bleeding	Moderate bleeding	Severe bleeding	p-Value
Group A (24 hrs pack)	47 (58.75%)	22 (27.5%)	9 (11.25%)	2 (2.5%)	0.524 *
Group B (48 hrs pack)	50 (62.5%)	23 (28.75%)	4 (5.0%)	3 (3.75%)	

* Insignificant at 95% level of Significance

Discussion

Most surgeons use nasal packing in their procedures. Better haemostasis, septal haematoma prevention, increased mucoperichondrial flap apposition, dead space closure and preventing the displacement of replaced cartilage are considered the main advantages of nasal packing. Some septal deviations are such that the technical aspects of the repair require post operative packing material. This type of packing is placed on both sides of nasal cavity. Studies reported that nasal packing leads to cardiovascular changes, continued hemorrhage, nasal

injury, hypoxia, foreign body reaction or infection. Patient's discomfort and need for hospitalization were the main disadvantages of nasal packing.^{7,8}

Many types of nasal packing are used and the number of days of their application varies greatly in literature. There is no established guideline for the period for which this packing should be applied. The most frequent problem that septal surgery patients worry about is the pain and discomfort that they have to go through during nasal packing and the fear of pain at its removal. Time to relieve the patient of this troublesome packing is crucial.^{9,10} Jinnas K et al in their study concluded that one day internal nasal dressing is preferable over two or more days as it causes less discomfort and does not increase immediate post-operative complications.¹¹ Present study results also match their findings. The discomfort of nasal packing includes various symptoms e.g. pain in the nose, headache, epiphora, chest tightness. It can even affect mood, sleep and appetite.^{6,12} Factors causing discomfort are direct pressure of packs, nasal mucosal edema and as the patients with nasal packing breathe by mouth, so there is loss of ciliary action and humidification by the nasal cavity resulting in loss of the lower respiratory tract protection and pathogenic infection of respiratory tract. With the changes in ventilation, arterial oxygen content will decrease leading to symptoms like chest tightness. The nasal sinus openings are blocked and also the normal drainage of the nasal cavity is blocked, so the sinus secretions cannot be discharged, resulting in sinusitis and headache. Some of these pathological changes will get worse with passing time e.g. pressure due to stasis of secretions in the nasal cavity will keep rising in the sinuses thus progressively increasing the pain and discomfort level. Chances of foreign body reaction and infection also rise with passing time. That explains why placing packs for longer duration could be more troublesome for the patients. Reserving the nasal packing only for those who have an increased risk of bleeding is an option preferred by many.¹³⁻¹⁶

The most common use of packing is to maintain the mucous membranes of the septum tightly opposed to the bone and cartilage until it sticks. This happens in 1 to 4 days, depending on the situation. Nasal packs prevent bleeding and septal haematoma formation till then. So there is no further need to keep the troublesome packs in place after adequate adherence of flaps had taken place and the dead space is obliterated. Theoretically speaking removal after 48 hours should cause less bleeding and haematoma formation as compared to 24 hours as chances of adherence of flaps

becomes more with passing time. Present study did not find a statistically significant reduction in haematoma formation and bleeding with packs placed for more duration.

Although our study has established the preferable role of 24 hours nasal packing over 48 hours nasal packing, it has its limitations. We did not assess efficacy of nasal packing of even shorter duration than 24 hours, as this was beyond our scope of study. It is therefore recommended that future studies should include nasal packs which are removed after an hour of surgery, and 6 or 12 hours after surgery.

Conclusion

Studies with further limiting the nasal packing hours and with using other materials (inflatable nasal packs, absorbable gelatin foam packs, etc) should be contemplated.

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