

Does Nasal Packing Affect Postoperative Complications of Surgery for Deviated Nasal Septum?

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Received on: 25 January 2023; Accepted on: 25 March 2023; Published on: 06 July 2023

ABSTRACT

Background: Septoplasty is one of the most common procedures performed by otorhinolaryngologists. Nasal packs are placed following nasal surgery to arrest hemorrhage, prevent septal hematoma formation, and prevent postoperative adhesion formation. Many different forms of nasal packing materials have been used nowadays. The objective of this study was to find out if nasal packing has any direct effect on postoperative complications of surgery for deviated nasal septum.

Materials and methods: A prospective study was conducted among 40 patients in a tertiary care center for 18 months who underwent septal surgery in the department of otorhinolaryngology. Patients between the ages of 18 and 50 who underwent septal surgery were included. The subjects were divided into two groups: group I received a conventional nasal pack, and group II received Merocel postoperatively. Selected subjects were assessed first, second, and fourth weeks postoperatively, for any postoperative complications.

Results: It was observed that group I had more synechiae and hematoma formation than group II.

Conclusion: The conventional and Merocel packs were both effective packs. The Merocel pack is better in terms of minimizing the risk of postoperative complications.

Keywords: Conventional nasal packing, Hematoma formation, Merocel nasal packing, Nasal packing, Septoplasty, Synechiae formation.

SBV Journal of Basic, Clinical and Applied Health Science (2023); 10.5005/jp-journals-10082-03180

INTRODUCTION

Nasal packing is a common procedure used by otorhinolaryngologists to control postoperative bleeding after nasal surgeries. It is used to hasten the wound-healing process and to prevent septal hematoma, postoperative adhesion formation, and lateralization of the middle turbinate. Nasal packing is also used for the internal stabilization of bony and cartilaginous structures.¹

The ideal nasal packing should be easy to insert and remove without causing any discomfort; it should not cause much pain; it should prevent postoperative bleeding without injuring the mucous membrane of the nose, and it should be comfortable *in situ*.² Nasal packing has the potential to produce serious complications such as severe damage to the nasal mucosa, allergic reactions, and toxic shock syndrome.³ In addition to preventing synechiae formation and hematoma production, nasal packing is utilized to facilitate septal flap apposition.⁴

This study is being conducted to find out if nasal packing has any direct effect on postoperative complications of surgery for deviated nasal septum.

MATERIALS AND METHODS

Patients who underwent any septal surgery in the department of otorhinolaryngology from a period of 18 months from 2021 to 2022 were included in the study after explaining the purpose and need of the study; informed consent was obtained to participate in the study before the surgery.

Based on nasal packing, the included subjects were allocated into groups I and group II. After septal surgery, group I patients were packed with conventional nasal packing, and group II patients

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How to cite this article: John FM, Rajasekaran V, Kiren T. Does Nasal Packing Affect Postoperative Complications of Surgery for Deviated Nasal Septum? *J Basic Clin Appl Health Sci* 2023;6(3):52–53.

Source of support: Nil

Conflict of interest: None

were packed with Merocel. Surgery was performed and packs were inserted. The packs were kept *in situ* for 24 hours. Nasal packing was removed after 24 hours without any analgesics or tranquilizers. A diagnostic nasal endoscopy was done postoperatively on the first and second weeks to assess any synechia or hematoma formation as well as any mucosal trauma. Both groups irrespective of nasal packing were advised nasal douching with the alkaline nasal solution and were prescribed nasal decongestants. After the data collection, parameters were analyzed.

RESULTS

Our study shows that the group with the conventional pack had more synechiae formation than the Merocel pack and was significant ($p = 0.01$) (Table 1). The group with the conventional pack had more hematoma formation compared to the group

Table 1: Comparison of synechiae formation among the study groups based on different periods postoperatively

	Conventional	Merocel	Total	Chi-square	p-value*
Postoperative 1st week					
Absent	14	20	34	7.06	0.01
Present	6	0	6		
Postoperative 2nd week					
Absent	14	20	34	7.06	0.01
Present	6	0	6		
Postoperative 4th week					
Absent	17	20	37	3.24	0.1
Present	3	0	3		
Total	20	20	40		

*Chi-square test

Table 2: Hematoma formation among the study groups

Group	Hematoma formation	No hematoma formation	p-value*
Conventional	3	17	0.04
Merocel	1	19	

*Chi-square test

with the Merocel pack and was significant ($p = 0.04$) as depicted in Table 2.

DISCUSSION

In our study, all 40 patients who had deviated nasal septum underwent septoplasty. The patients who gave their consent were divided into two groups: group I underwent conventional nasal packing, and group II underwent nasal packing with Merocel postoperatively. Follow-up was done and the findings were noted.

On analyzing the data, there was only one patient who had hematoma formation in the Merocel group, while there were three in the group with a conventional nasal pack which was statistically significant ($p < 0.05$). In our study, the Merocel group did not have synechiae formation while the group with the conventional nasal pack had synechiae formation in six patients and the association is statistically significant among study participants ($p < 0.01$).

In the study conducted by Dutta et al.⁴ to evaluate and compare three distinct approaches (Merocel, gauze with sisomyacin cream, gauge pack with sisomyacin cream with a septal splint) of nasal packing in the treatment of epistaxis, as well as for complications. In this study, they included both epistaxis patients and postoperative cases. The study showed that lower incidence

of synechiae formation in comparison to other groups. This study shows results similar to our study; however the study population was different.

In this study, hematoma formation was lower in patients who had Merocel nasal pack post-septal surgeries compared to patients who had conventional nasal packing. The Merocel nasal pack is easy to insert with a single step but the conventional nasal pack has to be done in "accordion fashion" in multiple layers so that each layer extends the entire length of the nasal cavity. A possible explanation for the finding in our study might be that the surgeon handled the septum roughly in view that packing would control bleeding. The study conducted by Said and Abdulrazzaq⁵ showed that the group with a Merocel pack developed a septal hematoma similar to our study, however the study conducted by Cukurova et al.⁶ in 2012 reported no case with septal hematoma in their study. In both studies, they evaluated the postoperative complications of different materials in different study populations. However, the sample size in our study was less. Similar study in larger population could help us in understanding these outcomes in a better way.

CONCLUSION

To conclude, the Merocel nasal pack is considered the safest technique for post-septal surgeries when compared to conventional nasal packing, minimizing the risk of postoperative complications (hematoma and synechia formations).

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