CLINICAL STUDY

COMPARING HEMOSTATIC PAIN AND ADHESION PREVENTION EFFECTS OF NASAL PACKING USED POST-SEPTUPLASTY VIZ MEDICATED GAUZE PACKING, AND MEROCEL PACKING

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ABSTRACT: The aim of this study was to compare the efficacy of a merocel technique with conventional nasal packing, in the classic septoplasty operation. The study is a prospective, randomized clinical trial. 60 patients underwent septoplasty for septal deviation and ensuing nasal obstruction. These patients were divided into two groups: conventional gauze packing and merocel packing. Randomization was performed using the two block randomization system. Patients who failed the regular follow-up were excluded, and the two groups were compared for postoperative bleeding, pain, hematoma, and adhesions. Patients were asked to record pain levels using a visual analogue scale. The authors found significant statistical differences between the two groups in the parameters studied, but significantly higher pain levels, Adhesions and withdrawal bleeding were noted in the patients in the gauze packing group. The final results confirmed that patients who underwent septoplasty with merocel packing had more smooth post-op recovery with less complication than conventional gauze packing.

KEY WORDS: Septoplasty, Conventional Gauze Packing, Merocel, Pain.

INTRODUCTION: Septoplasty is one of the common operations performed in ENT theatres. Among the known complications of septoplasty are postoperative hemorrhage, adhesion formation, and postoperative pain. Nasal packing postoperatively is done to prevent nasal bleeding and is thought to reduce adhesions, though effect of conventional nasal packing on adhesion formation or prevention is debatable.

The use of Merocel nasal packs can control bleeding in cases of epistaxis in about 91.5 percent of cases. It is hemostatic and can prevent adhesion formation. As is known if proper technique is followed during septoplasty, complications can be avoided including moderate to severe epistaxis. Many authors believe that nasal packing postoperatively is not needed if proper technique is followed and should thus be avoided to prevent significant morbidity associated with nasal packing. Some authors argue that packing should be reserved for cases where there is concern about persistent haemorrhage. Though these arguments carry enough weightage, packing of nasal cavities postoperatively is usually done in almost all parts of the world. Different types of nasal packing methods and materials are used to prevent many of the known complications of septoplasty. This study is undertaken to compare the advantages and disadvantages of two types of packings viz, medicated gauze packing and merocel packing.

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METHODS: A total of 60 patients were randomly assigned in two Groups A and B.

Postoperative patients in Group A were packed with Classical Medicated Gauze packing. In Group B, patients were simply packed with merocel.

All the septoplasties were done under local anesthesia so that in the immediate postop period patients can maintain sitting posture which to a certain extent ensures that if patient bleeds, it does so anteriorly from where it can be measured or quantified.

In all the two groups, patients were provided with cotton balls to clean the blood tinged soakage and keep these cotton balls preserved for quantification. Each cotton ball was roughly the size of an average sized walnut. Patients who needed repacking were left out from the study because in them bleeding could not be quantified according to the protocol of our study.

Packing was removed after 72 hours and for these 72 hours patients were put on i.v. antibiotics and systemic decongestants. Postoperatively patients were followed at following week/s for adhesion formation and bleeding:

- 1 week
- 4 weeks

Inclusion Criteria:

1. Patients undergoing septuplasty in the age range of 18 to 60 years.
2. Patients of both sexes were included in the study.

Exclusion Criteria:

1. Elderly patients above 60 years and children under 18 years of age.
2. Females presently having menstrual cycle.
3. Patients with revision Septoplasties.
4. Patients with systemic disorders like Collagen disorders, diabetes where poor healing is suspected.
5. Patients with bleeding or coagulation disorders.
6. Patients lost to follow up.
7. Patients who needed repacking post septuplasty

RESULTS: In the immediate postoperative period, patients were intimately observed for the bleeding. The numbers of cotton balls used were counted. Care was also taken to quantify the amount of soakage that each cotton ball had and accordingly the number of cotton balls used was adjusted by addition or subtraction from the number of cotton balls actually used.

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Following table lists the average no. of cotton balls used in two groups on day 1 & 2.

Day	Group A	Group B
Day 1	10	15
Day 2	5	7
Table-1: Number of cotton balls used		

As is evident, on day 1, conventional gauze packing was apparently better hemostatic than merocel packing. Applying Chi square test between conventional packing and merocel packing as under

- Mean no. of cotton balls used in conventional ANP (Observed), O = 10
- Mean no. of cotton balls used in merocel Packing (Expected), e = 15
- $\chi^2 = (o-e)^2/e$
 $= (10-15)^2/10$
 $= 2.5$
- Here degrees of freedom, n = 1
- Computing 'p' value from Chi square distribution, $p < 0.20$ As is evident, the difference is not statistically significant even though conventional ANP appeared to be better in controlling bleeding from nose.

Group A	Group B
10 patient	0 patient
16 %	0 %
Table-2: At 4 weeks postoperatively, following no. (percentage) of patients developed adhesions	

Application of χ^2 test between conventional ANP and merocel packing:

- Number of patients developing adhesions, =0 (Merocel packing)
- Number of patients developing adhesions, e=10 (Conv. packing)
- $\chi^2 = (o-e)^2/e$
 $= (0-10)^2/10$
 $= 10$

Here p value comes out to be, 0.002 (degree of freedom is 1). Thus the difference is statistically significant and the reason why merocel packing should be done in all cases following septoplasty.

For pain management all patients were put on b.d dosage of 500 mg paracetamol tablets on first two days and then on S.O.S basis thereafter. Pain assessment was done by calculating the no. of tablets consumed in the first postoperative week.

Following table depicts the same

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Group A	Group B
15 Tablets	8 Tablets
Table-3: Pain management outcome	

Thus minimal pain was seen with merocel packing, which is also the reason why postoperatively patient should be packed with merocel.

CONCLUSION: Hemostatic effects were best observed with medicated gauze packing, though the difference was not statistically significant. Adhesion formation which is one of the most important determinants of success of septoplasty is best prevented by merocel packing. If good expertise is observed during septoplasty with proper sterilization technique, post septoplasty hemorrhage is quite uncommon and adhesion prevention becomes the single most important factor. Merocel packing should thus be carried out in almost all cases. In cases where postoperative bleeding is suspected, classical medicated gauze packing should be done. The morbidity associated with postoperative pain was minimal with merocel packing.

DISCUSSION: This study revealed that adhesion formation which happens to be one of the most important factors in preventing the successful outcome of surgery is best prevented.

This besides offering the freedom from adhesions also offers freedom from secondary hemorrhage on account of adhesions and avoids morbid pain that is associated with the procedure of releasing adhesions. Hemostatic effects are best observed with conventional medicated gauze packing although the results were not statistically significant on Chi square test. If septoplasty is done by a skillful surgeon using proper infiltration technique (1:100000 adrenaline) and proper sterilization technique, the risk of moderate or severe epistaxis is remote and adhesion prevention becomes the most important factor to be dealt with. It is thus advised to use merocel packing in all septoplasties, if minimal bleeding is suspected postoperatively. But if the suspicion of moderate to severe epistaxis is high as with significantly traumatic surgeries, malnourished children, hypertensives on erratic treatment etc. conventional ANP is advisable.

Additionally, postoperative pain due to nasal packing is of lower intensity by merocel packing. It is thus advised to use merocel packing in all patients undergoing septoplasty as well as duration with the use of merocel packing when compared with other types of packing. Thus considering the advantages of merocel packing in preventing adhesions, and the significantly lower postoperative pain, and avoidance of revision procedures to release adhesions; it is advisable to use this packing in all patients undergoing septoplasty.

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