

OUTCOMES FOLLOWING NASAL SURGERY WITH AND WITHOUT POSTOPERATIVE NASAL DRESSINGSS. Surya Prakasa Rao¹, Pradeep Vundavalli²**HOW TO CITE THIS ARTICLE:**

S. Surya Prakasa Rao, Pradeep Vundavalli. "Outcomes Following Nasal Surgery with and without Postoperative Nasal Dressings". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 13, February 12; Page: 2207-2213, DOI: 10.14260/jemds/2015/317

ABSTRACT: PURPOSE OF STUDY: Nasal dressing following nasal surgery in an attempt to prevent postoperative bleeding and to modulate the wound healing process. Experience with postoperative nasal dressings in otolaryngologic literature spans more than half a century; despite of this, there is still little agreement between the surgeons on the appropriate choice of nasal dressings following nasal surgery, or whether nasal dressings are required at all. This paper briefly reviews the comparative study between the postoperative cases with and without nasal dressings. **STUDY DESIGN:** It is a prospective study carried out in a tertiary care, teaching hospital. **MATERIALS AND METHODS:** A prospective evaluation of patients who underwent nasal surgery at tertiary teaching hospital setting between February 2013 to June 2014 was performed. Nasal dressing was done in some cases who underwent nasal surgery and no dressing was done in some cases. The comparative results between the cases with and without nasal packing in terms of Postoperative bleeding, Adhesion formation, Middle turbinate lateralization were studied. **RESULTS:** Out of 160 patients included in this study, nasal dressing postoperatively was done in 92 cases and 68 cases were not packed postoperatively. In terms of postoperative bleeding there is no significant difference between the cases with packs (5.43%) and without pack (5.88%). Postoperative Adhesion formation was less in cases without nasal packing (2.94%) than in cases with nasal dressing (8.7%). Middle turbinate lateralization is also less in cases without nasal packing (8.82%) than in cases with nasal packing (17.5%). **CONCLUSION:** The decision as to whether to pack the nose after nasal surgery remains controversial. There has been an increasing tendency to move away from removable nasal dressings due to discomfort and bleeding upon removal and also postoperative adhesions. This study showcases that there is no considerable difference in postoperative bleeding in patients with or without nasal dressings postoperatively. It also shows that wound healing is better and middle turbinate lateralization is less significant in cases without nasal packings than in cases with postoperative nasal dressings.

KEYWORDS: Endoscopic sinus surgery, Septoplasty, Adhesion, Chronic rhinosinusitis, Bleeding, Merocele, Middle turbinate lateralization.

INTRODUCTION: Surgery to the sinuses has undergone a dramatic change with a paradigm shift from traditional external approaches to endoscopic techniques in the last three decades. Endoscopic Sinus Surgery (ESS) is now considered as the treatment of choice for Chronic Rhinosinusitis which is refractory to maximal medical therapy.⁽¹⁾ Advances in the technology and Instrumentation and availability of high definition Cameras and Endoscopes have led for this consideration. But one notable cause of surgical failure of ESS is adhesion formation postoperatively. Adhesion formation is the most frequent complication of ESS.^(2,3) It has been estimated that up to 25% of patients with adhesion will require revision surgery.⁽⁴⁾ Perioperative bleeding has also been considered as main

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concern in ESS.⁽⁵⁾ To prevent postoperative bleeding and to prevent adhesion formation between the raw mucosal surfaces postoperatively, to prevent lateralization of Middle turbinate and thereby obstructing the sinus drainage pathways, Nasal dressings are used postoperatively. Mucosal sparing techniques are being given considerable importance recently. Experience with nasal dressings in Otolaryngologist literature spans more than half a century.⁽⁶⁾ Despite of this vast experience, there is still little agreement between surgeons for the need of nasal dressings postoperatively and if required, on the choice of nasal dressings. The area of postoperative management of ESS cavity remains an area of active research and ongoing debate in Otolaryngologist literature. The purpose of this study was to prospectively compare the patients with nasal surgery with and without postoperative nasal dressings and to determine their outcome 6 months postoperatively.

MATERIALS AND METHODS: A prospective evaluation of patients who underwent Nasal surgery (Septoplasty with or without Inferior Turbinoplasty, Endoscopic Sinus Surgery) at tertiary teaching hospital setting between February 2013 to June 2014 was performed. All patients were seen in the outpatient department for an opinion regarding nasal surgery for symptoms of Nasal obstruction, Refractory chronic rhinosinusitis that had been treated for at least 6 months. Medical treatment for chronic rhinosinusitis cases included Antibiotics, Topical steroids, Oral and topical decongestants, systemic steroids for necessary case and Allergy management. We included 160 patients in the study who underwent Septoplasty, Septoplasty with Turbinoplasty, Anterior Endoscopic sinus surgery, Anterior and posterior Endoscopic sinus surgery at medical college hospital between February 2013 and June 2014. The following had been laid as the inclusion criteria for this surgery:

- 1) Patients with obstructive and impacted deviated nasal septum presenting with nasal obstructive symptoms who underwent Septoplasty with or without Turbinoplasty.
- 2) Patients with refractory chronic rhinosinusitis with no response to maximal medical therapy and who underwent Endoscopic Sinus surgery (Anterior/Posterior).
- 3) CT scan documentation of Rhinosinusitis at the end of maximal medical therapy and who underwent Endoscopic sinus surgery.

Postoperatively, we used nasal dressings to pack the nose in some cases. For nasal dressing we used Antibiotic soaked gauze, Merocel, Cuticel, Gelfoam. We compared the results in the patients with postoperative nasal dressings with patients without nasal dressings. We estimated the results in terms of Postoperative bleeding, Healing, Adhesion (Synechiae) formation and Lateralization of Middle turbinate.

RESULTS: One hundred and sixty patients satisfied the inclusion criteria and had been followed for 6 months postoperatively. Out of 160 patients in the study 98(61.25%) were males and 62(38.75%) were females. 86 patients (53.75%) underwent Septoplasty with or without Turbinoplasty (32 patients underwent Septoplasty and 54 patients underwent Septoplasty with turbinoplasty). 74 patients (46.25%) underwent Endoscopic Sinus surgery (21 patients underwent Anterior ESS and 53 patients underwent Anterior and Posterior ESS).

Nasal dressing following nasal surgery was done in 92 cases (57.5%). No nasal dressing was done in 68 patients (42.5%). In 92 patients with postoperative nasal dressings, 50(51.02%) were males and 42 (67.74%) were females.

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Nasal dressings were done following Septoplasty surgery was done in 20 cases (62.5% of total 32 cases), Septoplasty with turbinoplasty in 32 cases (59.26% of total 54 cases), Anterior ESS in 10 cases (47.62% of total 21 cases) and Anterior and Posterior ESS in 30 cases (56.6% of total 53 cases).

For nasal dressings, Antibiotic soaked gauze was used in 21 cases (22.83% of total 92 cases with nasal dressings), Cuticel was used in 22 cases (23.91% of total 92 cases with nasal dressings), Merocel was used in 39 cases (42.39% of total 92 cases with nasal dressings), Gelfoam was used in 10 cases (10.87% of total 92 cases with nasal dressings).

We noticed Postoperative bleeding in 5 cases (5.43%) in patients with nasal dressing postoperatively of total 92 cases, in 4 cases (5.88%) in patients without nasal dressing postoperatively of total 68 cases. We noticed Adhesion formation in 8 cases (8.7%) in patients with nasal dressing postoperatively of total 92 cases, in 2 cases (2.94%) in patients without nasal dressing postoperatively of total 68 cases. Middle turbinate lateralization is found in 7 cases (17.5%) in patients who underwent ESS with postoperative nasal dressing (total of 40 cases) and in 3 cases (8.82%) in patients who underwent ESS without postoperative nasal dressing (Total of 34 cases).

DISCUSSION: There seems to be a consensus favoring nasal dressing following nasal surgery. However, there is still disagreement about which type of material should be used for nasal dressing. There is wide array of nasal dressings that are available and are been used for nasal dressings for the postoperative nasal cavity, broadly divided into Absorbable and Removable nasal packing materials. Nasal packing materials are used in order to tamponade bleeding surfaces, activate coagulation cascades and also to act as barriers for the formation of adhesion between two denuded mucosal surfaces. The ideal nasal dressing material is one that is absorbable, haemostatic and improves healing.⁽¹⁾

Currently available dressings that achieve haemostasis worsen wound healing outcomes. The removable nasal packing materials available are Ribbon gauze soaked in antibiotic/Vaseline, Balloon tamponade devices, Polyvinyl acetate sponge (Merocel), Cuticel. The authors experience with balloon tamponade devices is very limited. Removable nasal packing may cause significant bleeding upon removal^(7,8,9) and has been shown to cause significant trauma to the nasal mucosa upon removal.⁽¹⁰⁾ Other complications that have been attributed to nasal packing's include Septal perforation, Turbinate necrosis, Toxic shock syndrome, Obstructive sleep apnoea, foreign body reactions.^(11,12) As a result of these adverse effects, removable nasal dressings are uncommonly used and made the authors to avoid their usage in postoperative cases.

The absorbable dressings may be derived from number of materials and include Blood products (Fibrin glue, Floseal), Animal based (Hyaluronic acid based products like Sepragel, Merogel, Gelfilm, Surgiflo), Plant based (Surgicel, carboxy methyl cellulose), Synthetic (Nasopore). As these products are quite expensive and sparsely available at the authors place.

The decision to pack the nose following nasal surgery has undergone much debate with some surgeons advising against it^(13,14) and others advocating it.⁽¹⁵⁾ In reviewing the literature in regard to no packing at all after nasal surgery particularly after ESS, Athanasiadis etal⁽¹⁶⁾ found no incidence of postoperative bleeding in 30 patients who underwent ESS. James etal⁽¹⁷⁾ also found similar results in a slightly bigger group. In fact, when considering the large volume of literature investigating nasal

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dressings following nasal surgery has any advantage, there is only one RCT that showed the use of nasal dressing on postoperative bleeding when compared to no packing at all (Sindwani R).

In our study, we found that there is no significant difference in Postoperative bleeding in patients with nasal packing (5.43%) and in patients without nasal packing (5.88%). In fact, we found that Adhesion formation rate is quite less in patients without nasal packing (2.94%) when compared to patients with nasal packing (8.7%). Also in issues related to Middle Turbinate lateralization, patients without nasal packing (8.82%) outstand the patients with nasal packing (17.5%). The rate of formation of adhesions and middle turbinate lateralization were found high in cases with nasal packing after Anterior and Posterior ESS when compared to Anterior ESS alone.

CONCLUSION: The decision as to whether to pack the nose after nasal surgery remains controversial. There has been an increasing tendency to move away from removable nasal dressings (Antibiotic guaze, Merocel, Cuticel) due to discomfort and bleeding seen upon removal and also postoperative adhesions. Despite large amount of literature on absorbable biomaterials there has been no conclusive evidence that absorbable nasal dressings show any advantage over no dressing at all in regard to postoperative bleeding, wound healing, Adhesion formation, Middle turbinate lateralization. This study showcases that there is no considerable difference in postoperative bleeding in patients with or without nasal dressings postoperatively. It also shows that wound healing is better and middle turbinate lateralization is less significant in cases without nasal packing's than in cases with post-operative nasal dressings.

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TABLES AND CHARTS

Chart I: Number of surgical cases.

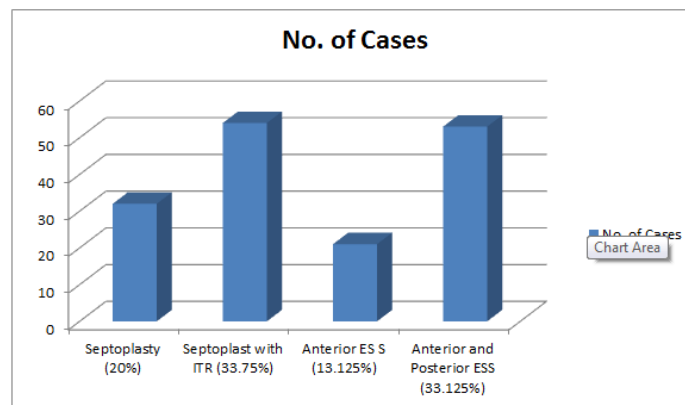


Chart I

Chart II: Surgical cases with and without packing.

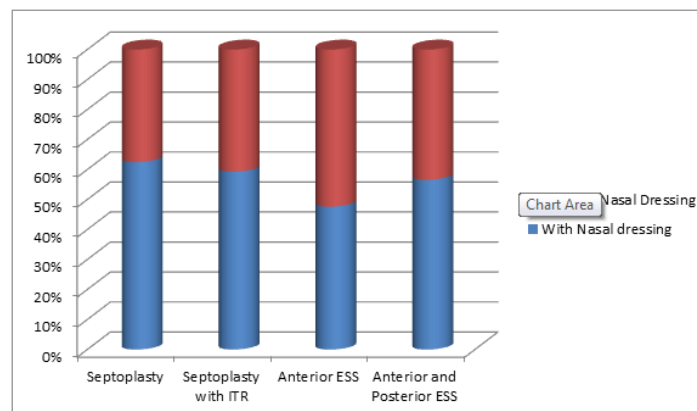


Chart II

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CHART III: Male and Female distribution of Cases with and without packing

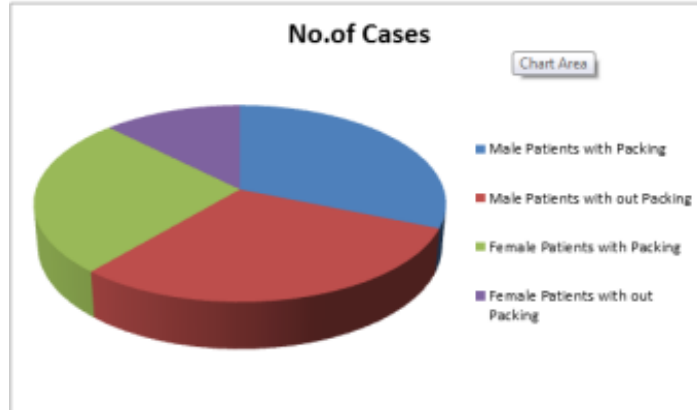


CHART III

CHART IV: Nasal Packing done cases

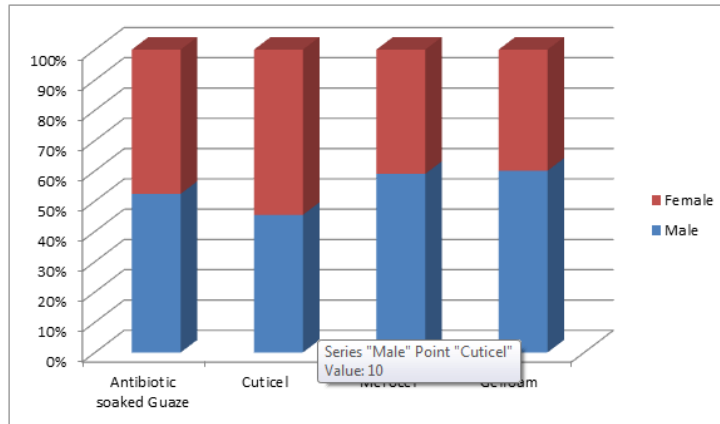


CHART IV

CHART V: POST OPERATIVE FOLLOW UP

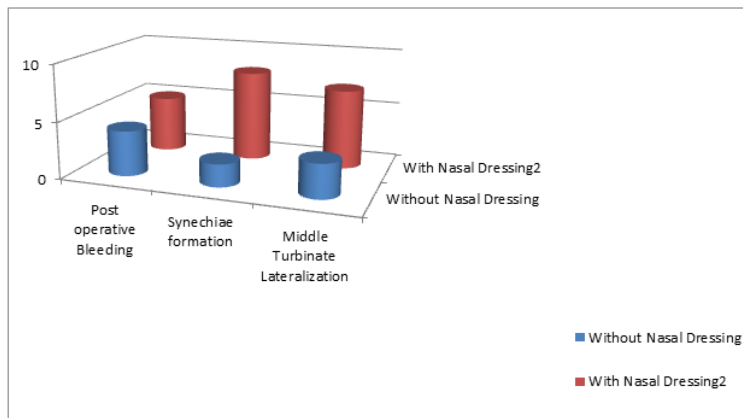


CHART V

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