

## Original Research Article

## USE OF LIQUID PARAFFIN IN SEPTOPLASTY

Sathyaki D C<sup>1</sup>, Shwetha<sup>2</sup>, Nalina P A<sup>3</sup>

Received : 13/03/2025

Received in revised form : 11/05/2025

Accepted : 28/05/2025

## Keywords:

Post Septoplasty, Nasal douching,  
Alkaline douching.

Corresponding Author:

Dr. Sathyaki D C,

Email: sathyakide@gmail.com

DOI: 10.47009/jamp.2025.7.3.83

Source of Support: Nil,

Conflict of Interest: None declared

Int J Acad Med Pharm

2025; 7 (3); 433-435

<sup>1</sup>Associate Professor, Department of ENT, KoIMS, Madikeri, India.<sup>2</sup>Professor and HOD, Department of ENT, KoIMS, Madikeri, India.<sup>3</sup>Assistant Professor, Department of ENT, KoIMS, Madikeri, India.

## ABSTRACT

**Background:** Nasal obstruction due to deviated nasal septum is a common problem encountered by otolaryngologists. Septoplasty is the surgical procedure which has been performed in the treatment of the same. This study was conducted to evaluate the efficacy of post-operative topical application of liquid paraffin and saline nasal douching. **Materials and Methods:** This is a prospective, randomized study. Forty patients with symptomatic deviated nasal septum were included in the study, 20 of them were advised topical application of liquid paraffin and the rest were advised saline nasal douching. **Result:** The difference in the functional outcome of both the irrigation was insignificant. There was a significant difference with respect to formation of crust and synechiae. Liquid paraffin had better outcome. **Conclusion:** Topical application of liquid paraffin resulted in prevention of crusting and synechiae.

## INTRODUCTION

Nasal obstruction is the most common symptom an otolaryngologist encounters in his clinical practice. Deviated nasal septum is the most common cause of nasal obstruction. It also causes improper aeration of paranasal sinuses leading to sinusitis. Septoplasty is the most common surgery performed to treat deviated nasal septum.

Topical therapies play an integral role in the management of sinonasal disease, and high volume irrigation delivery is more effective for achieving distribution to the sinuses than other topical delivery methods such as nasal sprays, nebulizers, or atomizers. Saline irrigations have been recommended in a number of clinical scenarios, including chronic rhinosinusitis and postoperative care. High volume irrigations have also shown benefits for medication delivery, such as with mupirocin and budesonide. The improvement of sinus irrigation penetration thus increasingly becomes an important outcome of septoplasty. In efforts to improve these outcomes, the efficacy of topical irrigations delivery to target sinuses is an area of active research. Previous studies have shown that nasal irrigant may not reliably penetrate all sinuses and its effectiveness in postoperative cases varies and may depend on the degree of surgery, e.g. ostia size<sup>1</sup>. Hence this study was conducted with the objective to compare the efficacy of saline nasal douching with that of topical

application of liquid paraffin in post septoplasty patients.

## MATERIALS AND METHODS

40 patients who underwent septoplasty in a tertiary care centre from January 2016 to December 2016 were included in this study. They were divided into two groups of 20 patients each. Saline nasal douching was advised in one group and topical liquid paraffin in the other. Endoscopic septoplasty was performed in all patients. Patients were followed up for 6 months.

**Inclusion Criteria:** Patients with symptomatic deviated nasal septum.

**Exclusion Criteria:** Age less than 12 years, patients with asymptomatic deviated nasal septum and patients with acute rhinitis or allergic rhinitis.

## RESULTS

## Age distribution

10 patients were present in liquid paraffin group and 5 in saline douching group in the age group of below 20 years. In the age group of 21-30 years there were 3 patients in liquid paraffin group and 6 patients in the other. In the age group of 31-40 years there were 6 patients in liquid paraffin group and 7 in the other. In the age group of above 40 years there were 3 patients. [Table 1]

Table 1: Age distribution comparison between two groups

Age in years	Liquid Paraffin	Saline douching	Total
<20	10(50%)	5(25%)	15(37.5%)
20-30	3(15%)	6(30%)	9(22.5%)

31-40	6(30%)	7(35%)	13(32.5%)
41-50	1(5%)	2(10%)	3(7.5%)
Total	20(100%)	20(100%)	40(100%)
Mean $\pm$ SD	22.95 $\pm$ 11.18	27.85 $\pm$ 10.71	25.40 $\pm$ 11.09

### Sex distribution

There were 13 female patients each in both the groups and 7 male patients each in both the groups (table: 2)

**Table 2: Sex distribution comparison between two groups**

Gender	Liquid Paraffin	Saline douching	Total
Female	13(65%)	13(65%)	26(65%)
Male	7(35%)	7(35%)	14(35%)
Total	20(100%)	20(100%)	40(100%)

Crusting was present in 6 patients in saline douching group. P-value was 0.02 which was significant (Table 3).

**Table 3: Formation of crust comparison between two groups**

Formation of crust	Liquid Paraffin	Saline douching	Total
Absent	20(100%)	14(70%)	34(85%)
Present	0(0%)	6(30%)	6(15%)
Total	20(100%)	20(100%)	40(100%)

Formation of synechiae was seen in 12 patients in saline nasal douching. It was not present in patients who used liquid paraffin. P-value was less than 0.001 which was also significant. Fisher exact test was used (Table: 4).

**Table 4: Presence of Synechae comparison between two groups**

Presence of Synechae	Liquid Paraffin	Saline douching	Total
Absent	20(100%)	8(40%)	28(70%)
Present	0(0%)	12(60%)	12(30%)
Total	20(100%)	20(100%)	40(100%)

## DISCUSSION

Postoperative debridement is considered as an important means of facilitating the healing of nasal mucosa, it has been shown to prevent the development of crusting and adhesions in the middle meatus. On the other hand, patients may experience postoperative unpleasant. In fact, frequently debridement has been associated with more postoperative pain. So the necessity has not been identified.

During the healing process of mucosa after septoplasty, large crusting and clot may trap mucosa, which will reinfect the sinuses. The old blood itself may be a good culture medium for bacteria. The crusts may act as bridges across which scar formation may occur, leading to an obstructed postoperative cavity. And retained bone fragments that are denuded of mucosa maybe the cause for reinforce.<sup>[1]</sup>

Seiberling et al found intraoperative saline irrigations are effective in reducing the load of pathogenic bacterial within the treated sinus. Although at that point in time it was unclear whether this will have a clinical impact in the postoperative outcome of the patient, it was assumed that healing will be improved with a decrease in bacterial load within the sinus mucosa. In that study, they broadened their objectives to evaluate whether mupirocin irrigations given as a one time dose at the time of surgery would reduce bacterial load to a greater extent than saline irrigations alone. Their results demonstrated that intraoperative mupirocin irrigations effectively

reduced the amount of *S. aureus* detected within the treated sinus mucosa at 7–10 days post-surgery. When compared to normal saline irrigations, mupirocin appears to have greater efficacy in reducing bacterial counts as detected by quantitative rPCR. Furthermore, mupirocin appears to be more effective in patients with CRS without polyps although larger numbers are needed to reach statistical significance.<sup>[2]</sup>

Hashemi et al found that saline nasal irrigation prevented recurrence of polyp in patients who underwent endoscopic sinus surgery.<sup>[3]</sup>

Zhao et al advocated visualisation of nose and paranasal sinuses through computational fluid dynamics pre and post-surgery to get better results<sup>4</sup>. Many surgeons document weekly debridement may reduce crusts in the nose, nasal congestion, and postoperative infections. It is known that crusts act as bridges over which adhesion can grow. Severe crusting may also cause nasal blockage. Debridement of the nasal cavity reduces crusts and postoperative adhesions significantly compared with saline irrigation only.

Use of topical liquid paraffin has not been reported in the previous studies. So we have compared its efficacy with that of saline nasal douching in this study.

## CONCLUSION

Post-operative debridement is an important step in treatment of patient who undergo nasal surgeries. It

prevents post-operative infection. In our study we concluded that topical application of liquid paraffin is more effective in prevention of crusting in the nasal cavity which in-turn leads to better ventilation and drainage in nasal cavity and paranasal sinuses.

**Ethics Approval:** obtained from institutional ethics committee.

Consent to participate was obtained.

**Funding:** None

## REFERENCES

1. Shi L, Feng Y, Cui W, Yan K, Lv M, Hong Z et al. Effect evaluation of repeated debridement after endoscopic sinus surgery. *International journal of clinical and experimental medicine*. 2015;8(1):928-33.
2. Seiberling KA, Aruni W, Kim S, Scapa VI, Fletcher H, Church CA. The effect of intraoperative mupirocin irrigation on *Staphylococcus aureus* within the maxillary sinus. *International forum of allergy and rhinology*. 2013 Feb;3(2):94-8.
3. Hashemi SM, Mokhtarinejad F, Karim M, Okhovat SH. Does amphotericin B nasal douching help prevent polyp recurrence following functional endoscopic sinus surgery. *Journal of respiratory medical sciences*. 2011 January;16(1):74-8.
4. Zhao K, Craig JR, Cohen NA, Adappa ND, Khalili S, Palmer JN. Sinus irrigations before and after surgery-Visualization through computational fluid dynamics simulations. *Laryngoscope*. 2016 March;126(3):90-3.