

## Effect of Xylocaine 4% Solution on Patient's Anxiety with Nasal Packing After Septoplasty

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### ABSTRACT

**Background:** Removal of nasal pack after septoplasty causes pain and anxiety in patients. Xylocaine 4% solution used as topical anesthetic reduces pain and anxiety if infiltrated postoperatively into nasal packing.

**Objective:** To evaluate the effect of xylocaine 4% solution on patient's anxiety infiltrated in to nasal pack after septoplasty.

**Material and Methods:** This prospective case control study conducted at the ENT and Psychiatry departments of Gajju Khan Medical College (GKMC) Swabi from June 2019 to December 2019. A total of 100 patients who underwent septoplasty with bilateral antibiotic ointment soaked nasal packing were randomly divided in to two groups, A & B. Xylocaine 4% solution (5ml in each nostril) was infiltrated into nasal pack in 50 patients in group A while group B including 50 patients were infiltrated with liquid paraffin (5ml in each nostril) fifteen minutes before nasal pack removal. Patient anxiety levels were measured using Hamilton Anxiety scale 24 hr pre and post op and 20 minutes after pack removal.

**Results:** A total of 100 patients were included with age ranging from 18 to 40 years with a mean age of 25.2 years with male predominance. Hamilton anxiety scale scores in Xylocaine group were 11.81±3.47, 15.05±2.99 and 10.6±3.51 at 24 hrs before surgery, 24 hrs after surgery and 20 minutes after pack removal while 10.4±4.34, 14.21±4.13 and 12.6±4.54 were in the liquid paraffin group which suggests that anxiety was less in the xylocaine group at 20 minutes after pack removal.

**Conclusion:** There was significant reduction in anxiety after infiltration of xylocaine 4% solution into nasal pack post septoplasty.

**Keywords:** Xylocaine, Anxiety, Septoplasty.

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### INTRODUCTION

Septoplasty is one of the most commonly performed nasal surgeries in otolaryngology around the globe and is frequently done either for symptomatic deviated nasal septum or as an access to other key areas like pituitary, sinuses and skull base. Symptomatic deviated nasal septum causes nasal obstruction, headache, postnasal drip and Epistaxis. Septoplasty can be done under local or general anesthesia.<sup>1</sup> After nasal surgery nasal packing is done to keep the flaps apposed to septum and to reduce the dead space between septum ad flaps thus preventing septal hematoma and adhesions. Before nasal packing splits are also placed on both sides of septum.<sup>2</sup> Different materials are used for nasal packing like traditional antibiotic soaked rolled gauzes, gloves fingers filled with cotton, spongoston and merocele.<sup>1,3</sup> Nasal packing and its removal after septoplasty is very painful and patients are worried about it. Patient's anxiety increases due to their concern about nasal packing and its removal after surgery.<sup>4</sup> For pain reduction different methods have been adopted and still research is going on in this context. In the

past Liquid paraffin and intramuscular painkiller, sphenopalatine ganglion block has been tried to reduce the pain.<sup>5</sup> The use of xylocaine over nasal pack before removal may reduce the pain as shown in various studies. Anxiety level of patients increases as they are mostly concerned about pain before nasal pack removal. If this anxiety is relieved it has a positive outcome on patients quality of life.<sup>2,6</sup> Various scales are used to measure Patient's anxiety level like Hamilton Anxiety Scale, State Trait Anxiety Inventory and Hospital Anxiety and Depression Scale.<sup>7</sup> The objective of the study is to determine the effect of xylocaine 4% solution over nasal pack before its removal in reducing patient's anxiety by using Hamilton anxiety scale.

### MATERIAL AND METHODS

A non randomized clinical study conducted at the ENT and Psychiatry Department, Gajju Khan Medical College, Swabi, Pakistan from 1st June 2019 to 31<sup>st</sup> December 2019 including one hundred patients who underwent septoplasty for deviated nasal septum. Effect of Xylocaine means change or improvement in symptoms after its use. Patients having DNS of either gender with age ranging from 18 to 40 years were included. DNS means septum not straight in midline but deviated which was picked on nasal examination and causing nasal obstruction, post nasal drip and epistaxis. Patients with nasal polypi, tumors and those having history or taking medications for any psychiatric illness were excluded from the study.

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Informed written consent was taken from every patient before procedure as part of ethical practice. (2-7/2020-Admin/GKMCS 4176 dated 16/1/2020). Septoplasty was done under general anesthesia by the qualified ENT specialist (FCPS with 5 years experience). Septoplasty mean reconstruction of nasal septum surgically and making the deviated septum straight by septal incision and elevating the flaps over it. After completing the procedure nasal cavity was packed. Nasal packs meant the rolled pieces of surgical gauze soaked in antibiotic ointment (Polyfax) and were kept for 24 hours. Anxiety is feeling of fear or apprehension about what to come. Hamilton anxiety score was used to measure anxiety level at 24 hr before surgery.

Demographic information like name, age and gender were obtained. After surgery patients were divided by simple random technique in to two groups, A & B including 50 patients in each. In group A, Xylocaine 4% solution (5ml in each nostril) was infiltrated into nasal pack while in group B, liquid paraffin (5ml in each nostril) was infiltrated fifteen minutes before nasal pack removal. Hamilton anxiety score was used to measure anxiety level at 24 hr Pre and Postop septoplasty, before liquid paraffin and Xylocaine infiltration and 30 minutes after infiltration into the nasal pack. A Syringe was used to infiltrate 5 ml of liquid paraffin and Xylocaine 4% solution in to nasal pack in each nostril in either group and thus septum and nasal mucosa was in contact with it.

Descriptive statistics like mean±standard deviation was calculated for quantitative variables

like age and Hamilton Anxiety score. Frequency and percentages were calculated for categorical variables like Gender. A p value of <0.05 was considered statistically significant. All the results were represented as tables/charts. The data was stored and analyzed in SPSS version 16.

**RESULTS**

A total of 100 patients were included in the study. The age range was 18 to 40 years with mean age of 25.2 and majority of patients were in 3<sup>rd</sup> decade. Gender wise 70 (70%) were male and 30 (30%) were female. In group A there were 36 males and 14 females while group B included 34 males and 16 females.

The Hamilton Anxiety Score (mean ± standard deviation) for patients with xylocaine 4% solution group (group A) were 11.81±3.47, 15.05±2.99 and 10.6±3.51 at 24 hours before surgery, 24 hours after surgery and 20 minutes after nasal pack removal respectively while in group B (Liquid paraffin group) scores were 10.4±4.34, 14.21±4.13 and 12.6±4.54 respectively at the mentioned time period. There was no significant difference in the Hamilton Anxiety score between two groups at 24 hours before and after surgery (p value=0.12 and 0.26 respectively) while significant difference was seen between the two groups at 20 minutes after pack removal (p value=0.015) with higher anxiety score in the liquid paraffin group as compared to xylocaine group. This means that anxiety was more in the liquid paraffin group while anxiety was less in the xylocaine group at 20 minutes after pack removal.

Hamilton Anxiety Score	Group A (Xylocaine 4% Solution Group) (Mean + SD)	Group B (Liquid Paraffin Group) (Mean + SD)	P Value
24 hours before surgery	11.81+3.47	10.4+5.34	0.12
24 hours after surgery	15.05+2.99	14.21+4.13	0.26
20 minutes after pack removal	10.6+3.51	12.6+4.54	0.015

**DISCUSSION**

In this study 100 cases of septoplasty who underwent nasal packing and randomly divided into two groups were included. In one group nasal pack was infiltrated with xylocaine 4% solution with a syringe while other group with liquid Paraffin fifteen minutes before its removal. Patients are worried about pain while removing nasal pack after 24 or 48 hours and it increases anxiety.

Infiltration or instillation of topical anesthetic decreases pain.<sup>7,8</sup>

Our study results are similar with that of sainulabid<sup>1</sup> and Younas<sup>2</sup>. In the present study the effect of Xylocaine 4% on relieving anxiety was measured using Hamilton Anxiety Scale after pack removal. In study done by Sahin C<sup>6</sup> Stait Trait Anxiety Inventory (STAI) scale was used and the results of

the study were  $44.2 \pm 7.4$  preoperatively,  $45.1 \pm 7.1$  postoperatively before pack removal and  $37.4 \pm 6.7$  after pack removal. There was a statistically significant difference in anxiety after pack removal ( $p < 0.05$ ) and the Patients' anxiety levels decreased significantly after removal of nasal pack which is compatible with our study results. Another study by Vlastarakos PV<sup>11</sup> showed that anxiety level were increased preoperatively in patients undergoing endoscopic sinus surgery who were informed before surgery and were female however in our study the preoperative anxiety level were increased in both male and female. While the study of Rózańska-Kudelska<sup>12</sup> showed no significant difference in the anxiety level of patients before and after surgery who underwent endoscopic sinus surgery. Another study by Stershavit S<sup>4</sup> also showed decreased level of anxiety in patients postoperatively after endoscopic sinus surgery which is like our study. In past intramuscular opiate, liquid paraffin, infiltration of xylocaine into nasal pack, the use of analgesics and sphenopalatine ganglion blockage before nasal pack removal have been studied in various studies in literature. Analgesics and anesthetic decrease pain after pack removal and increases patient comfort. Our study results are consistent with others studies<sup>1,2,9,10</sup> so we advocate the use of xylocaine 4% solution before removal of nasal pack.

## CONCLUSION

Patient's anxiety increases as they are concerned about nasal pack removal which diminishes after its removal significantly. Anxiety reduces after instilling xylocaine 4% solution in to nasal pack before its removal.

## REFERENCES

1. A sainulabid, Motwani G, Bhardwaj R, Shareef M, chandra A, Topno N. Effect on patient anxiety of lidocaine infiltration into nasal packing after septoplasty: a prospective, Case Control Study. JMR. 2019; 5(1): 12-14.
2. Younas M. Efficacy of 5% lignocaine ointment in reducing the post-operative pain due to intra-nasal packs. Medical Forum Monthly 2014;25(2):15-17.
3. Tsai SC, Lai MT, Kao YL, Wu CC. Effect of infiltrating nasal packing with local anesthetics in postoperative pain and anxiety following sinonasal surgeries: a systemic review and meta-analysis. Braz J Otorhinolaryngol. 2020
4. SternShavit S, Nachalon Y, Leshno M, Soudry E. Middle meatal packing in endoscopic sinus surgery to pack or not to pack? A decision analysis model. Laryngoscope. 2017;127:1506-12.
5. Kim KS, Yeo NK, Kim SS, Park WS, Kwak SH, Cho SH, et al. Effect of Fentanyl nasal Packing treatment on patients with acute postoperative pain after nasal operation: a randomized double-blind controlled trial. Ann Otol Rhinol Laryngol. 2018;127:297-305.
6. Sahin C, Aras HI. Effect on patient anxiety of lidocaine infiltration into nasal packing after septoplasty: prospective, controlled study. J Laryngol Otol. 2015; 129:784-787.
7. Kim JS, Kwon SH. Is nonabsorbable nasal packing after septoplasty essential? A meta-analysis. Laryngoscope. 2017;127:1026-31.
8. Sahin C, Aras HI. Influence of nasal pack removal on patient,s anxiety after septoplasty. Kulak Buru Bogaz Ihtis Derg. 2015;25(5):266-270.
9. Mutlu V, Kaya Z. Comparison of the effect of the lidocaine, tetracaine, and articaine application into nasal packs on pain and hemorrhage after septoplasty. Eur Arch Otorhinolaryngol. 2018;275:2481-5.
10. Yilmazer C, Sener M, Yilmaz I, ErkanAN, Cagici CA, Donmez A, et al. Pre-emptive analgesia for removal of nasal packing: A double blind placebo controlled study. Auris Nasus Larynx. 2017;34(4):471-475.
11. Vlastarakos PV, Iacovou E, Fetta M, Tapis M, Nikolopoulos TP. How effective is postoperative packing in FESS patients? A critical analysis of published interventional studies. Eur Arch Otorhinolaryngol. 2016;273:140-71.
12. Rózańska-Kudelska M, Szulc A, Matulka M, Simonienko K, Rogowski M. Quality of life, depression and anxiety symptoms in patients with chronic rhinosinusitis with polyps treated by endoscopic sinus surgery. Pol Merkur Lekarski 2012;32:228-31.

**DATA SHARING STATEMENT:** The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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## AUTHOR'S CONTRIBUTION

The following authors full fill authorship criteria as per ICMJE guidelines;

**Muhammad R, Kamal A:** Idea conception, drafting the work, final approval, agreed to be accountable for all the work.

**Wahid F, TarandAA:** Design of the work, data acquisition, critical revision, final approval, agreed to be accountable for all the work.

**Iqbal J:** Data analysis, drafting of the work, final approval, agreed to be accountable for all the work.

**Abbas A:** Data interpretation, critical revision, final approval, agreed to be accountable for all the work.