

Efficacy of 5 % Lignocaine Ointment in Reducing the Post-Operative Pain due to Intra-Nasal Packs

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ABSTRACT

Objective: To determine the efficacy of 5% lignocaine ointment in reducing the post-operative pain following nasal surgery with bilateral intra - nasal packs.

Study Design: Randomized, Prospective, Control study.

Place and Duration of Study: This study was conducted at the ENT Department, Benazir Bhutto Shaheed Teaching Hospital Abbottabad from July 2011 to June 2012.

Patients and Methods: A total of 120 patients, who underwent Septoplasty were included in the study. Patients were separated into Group A (n- 40), these patients were having intranasal packs soaked with Liquid paraffin. Group B (n- 40), these patients were packed with 5% lignocaine ointment, and Group C, (n - 40), in this one side of the nasal cavity was packed with liquid paraffin (C1) and the other side with 5 % lignocaine ointment (C2). In all three groups the intranasal packs were removed after 24 hrs. The severity of post operative pain and the amount of analgesics required by each group calculated.

Results : In group B (n- 40) the mean VAS was 5.60 ± 2.40 as compared to 7.27 ± 1.881 in group A and 7.40 ± 1.033 (C1), 6.62 ± 1.764 (C2). In group C at 6hrs post operatively. The mean VAS at 24 hrs post operatively in group B was 6.63 ± 1.125 , significantly lower than group A (7.15 ± 1.252) and group C1 (6.07 ± 1.023), C2 (4.90 ± 1.236).

The mean time to first request for rescue analgesia was significantly prolonged in group B, 220.53 ± 42.12 min as compared to 148.32 ± 32.45 min. (group A), and 190.61 ± 35.45 min. (group C). The total analgesia (Diclofenac sodium) required post-operatively was 175.32 ± 14.13 mg in group B, as compared to 225.14 ± 25.73 mg (group A) and 200.16 ± 41.89 mg (group C).

Conclusion : Topical use of lignocaine ointment is safe and may have a significant role in the relief of pain due to post-operative nasal packing.

Key Words: Septoplasty, Intranasal packs, Pain, Lignocaine ointment.

INTRODUCTION

Difficulty in nasal breathing is probably the most common complaint in rhinologic practice. About 80% of the general population has a deviated nasal septum (DNS) to some degree¹.

The Septoplasty surgery began in 19th century and it has been modified and enhanced ever since.²

Packing of the nasal cavity following intra nasal surgery is still widely practiced. Post-operative complications, while uncommon, are frequently pack related. Patients for whom the nasal packs are used may face some problems like nasopulmonary reflex, intractable pain, sleep disorder, post-operative infection and very dangerous complication like toxic-shock syndrome.³

The most frequent problem that Septoplasty patients worry about, is the pain and discomfort that they have to go through during nasal packing and its removal. This short period of discomfort stays clearly in patient's mind.

Wrapping the packs with gel foam, blocking the sphenopalatine ganglion⁴, keeping packs for a

shorter time⁵, and moistening packs with topical anesthetics are some procedures to reduce pain.

The primary objective of this randomized double-blind controlled study is to determine the role of 5% lignocaine ointment soaked nasal packs in reducing post-operative pain.

MATERIALS AND METHODS

This study was conducted at Benazir Bhutto Shaheed Teaching Hospital from July 2011 to June 2012. 120 patients who were due to undergo Septoplasty, were enrolled in the study. Patients were selected based on their complaint of nasal obstruction and diagnosis was solely made on rhinologic findings. Patients undergoing other simultaneous surgical procedures e.g. turbinectomy, polypectomy or rhinoplasty were excluded. Patients with cardiac conduction problems, concurrent treatment with anti-arrhythmic drugs, history of recent local or systemic infection, reported allergy to lignocaine and patients with history of use of analgesic medications in the three days before surgery were also excluded from the study.

After obtaining written informed consent, the study was conducted on 120 patients of either sex, aged 18-55 years. All surgeries were executed under general anesthesia, the naso septal access with Cottle's technique. Nasal splints were placed. The nose was packed for 24 hrs. The patients were randomly divided into 3 groups of 40 patients each. Group A; Nasal packs with liquid paraffin

Group B; Nasal packs with 5% lignocaine ointment
Group C; One side of the nasal cavity was packed with liquid paraffin (C1) and the other nasal side was packed with 5% lignocaine ointment (C2), thereby acting as their own control.

Pain intensity was assessed post-operative by using visual analog score (VAS), (0, no pain, 10, excruciating pain). VAS was performed at 6 hrs post-operative and 24 hrs post-operative. Diclofenac sodium 50 mg oral was given BID and Diclofenac sodium 75 mg was given I/M if requested.

The total consumption of analgesic used in the first 24 hrs post-operative was calculated.

Statistical Analysis: The data were analyzed using SPSS. Paired t-test was used to compare VAS in each group. A p value < 0.05 was considered significant. Post-Hoc tests and ANOVA test were applied to compare the VAS between different groups.

RESULTS

Table No 1: Mean VAS at 6hrs and 24 hrs post-operatively

Group		Visual Analog Scale 6 hours	Visual Analog Scale 24 Hours
Group A	Mean	7.27	7.15
	N	40	40
	Std. Deviation	1.881	1.252
Group B	Mean	5.60	6.63
	N	40	40
	Std. Deviation	2.405	1.125
Group C1	Mean	7.40	6.07
	N	40	40
	Std. Deviation	1.033	1.023
Group C2	Mean	6.62	4.90
	N	40	40
	Std. Deviation	1.764	1.236
Total	Mean	6.72	6.19
	N	160	160
	Std. Deviation	1.955	1.424

A total of 120 patients who underwent the Septoplasty were studied. Out of 120, 63 (52.5%)

were male and 57 (47.5 %) were female. The age range was from 18 years to 55 years.

Pain scores post-operative were significantly lower in group B, (5.60±2.40) (p<0.000), compared to group A (Table I). The mean time to first request for analgesia was significantly prolonged in group B, (220.53±42.12 min. p<0.005), much less than group A and group C (Table 2)

There was a clear difference in the VAS in patients having mixed nasal packs, the VAS was significantly lower on the lignocaine side as compared to liquid paraffin packs.

The total consumption of analgesia post-operative was also less in group B (175.32±14.13mg, p<0.000) as compared to group A and group C (Table 3). No systemic complications were observed in any of the group.

Table No 2: Mean Time to request for Analgesia post-operatively

Group A	Group B	Group C
148.50±32.45 min.	220.53±24.12 min.	190.61±36.45 min.

Table No 3: Mean Diclofenac sodium consumption in first 24 hrs post-operatively

Group A	Group B	Group C
221.14±25.73 mg	175.32±14.13 mg	200.16±41.89 mg

DISCUSSION

Pain has been called the silent epidemic of our times. Topical anesthetics work by reversibly blocking sodium channels and preventing propagation of painful nerve impulses. It reduces post-operative pain, improves patient comfort and diminishes the need for further parenteral medications such as opioids and non-steroidal anti-inflammatory drugs.⁶ Lignocaine is one of the most widely used local anesthetic agents. Lignocaine is a tertiary amine that is an amide derivative of diethylaminoacetic acid. Allergic reactions to amide group of anesthetic are extremely rare.⁷ Lignocaine is variably and incompletely (less than 50 %) absorbed when administered by intra nasal route.⁸

Recent studies indicate that nasal packs significantly contribute to post-surgical pain.⁹ Topically applied 5% lignocaine ointment significantly improved post-operative analgesia in the 1st 24 hrs after Septoplasty. Kuo et al have found that the post-operatively applied lignocaine ointment packs caused less pain in Septoplasty patients compared to gauze packs alone.¹⁰

Pain scores were significantly lower in the 1st 6 hrs as compared to 24 hrs and this may be due to the short duration of action of lignocaine.

Several experimental studies demonstrated that various antinociceptive techniques applied before injuries are more effective in reducing post injury central sensitization phenomena compared to administration after injury.¹¹

Absorption of lignocaine varies according to both the site and the mode of delivery and fluctuates with the use of vasoconstrictor or cholinergic drugs.¹² Hala and Ghaffar¹³ has also confirmed that pre-emptive topical 2% lignocaine gel soaked pledget improves post operative analgesia.

Buchanan et al.¹⁴ has also provided clinically based evidence for the use of bupivacaine as a local anesthetic in reducing pain following nasal surgery with packing.

CONCLUSION

Topical use of 5% lignocaine ointment is safe and may have a significant role in the relief of pain due to post operative nasal packing.

REFERENCES

1. Gery LP. Deviated nasal septum: Incidence and etiology. *Ann Otol Rhinol Laryngol* 1978; 87:1-20.
2. Ardehali MM, Bastaninejad S. Use of nasal packs and intra nasal splints following Septoplasty. *Int J Oral Maxillofac Surg* 2009; 38:1022-4.
3. Naghibzadeh B, Peyvandi AA, Naghibzadeh G. Does post Septoplasty nasal packing reduce complications? *Acta Med Iran* 2011;9(4): 9-11.
4. Hwang JH, Liu CM, Liu TC, Hsu MC. Sphenopalatine ganglion block before removal of nasal packs. *Laryngoscope* 2003;113(8): 1423-4.
5. Thomas DM, Tiemey PA, Samuel D, Patel KS. Audit of pain after nasal surgery. *Ann R Coll Surg Eng* 1996;78(4):380-2.
6. Granier M, Dadure C, Bringuier S, Bonnet – Boyer MC, Ryckwart Y, Capdevila X. Intra nasal lidocaine plus naphazoline nitrate improves surgical conditions and peri Operative analgesia in sphenopalatine surgery. *Can J Anes* 2009; 56(2):102- 8.
7. Donald MJ, Derbyshire S. Lignocaine toxicity; a complication of local anesthesia administered In the Community. *Emerg Med J* 2004;21: 249-50.
8. Scavone JM, Greenblatt DJ, Fraser DG. The bioavailibilty of intra nasal lignocaine. *Bri J Clin Pharmacol* 1989;28(6):722-24.
9. Chheda N, Kartz AE, Gyniziol L, Singer AJ. The pain of nasal tampon removal after nasal surgery: a randomized control trial. *Otolaryngol Head Neck Surg* 2009;140:215-7.
10. Kuo MJ, Zeitoun H, Macnamara M, Wagstaff K, Carlin WV, Turner N. The use of topical 5% lignocaine ointment for the relief of pain associated with Post-operative nasal packing. *Clin Otolaryngol Allied Sci* 1995;20(4):357-9.
11. Katz J, Kavanagh BP, Sandler AN, et al. Pre-emptive analgesia, Clinical evidence of neuroplasticity contributing to post- Operative pain. *Anesthesiol* 1992;77(3):439-46.
12. William KA, Barker GL, Harwood RJ, Woodall NM. Combined nebulization and spray as you go topical local anesthesia of the Airway. *Br J Anes* 2005;95:549-53.
13. Hala S, Abdel Ghaffar. Pre-emptive topical 2% lignocaine gel soaked pledget improves post-operative Analgesia after endoscopic nasal surgery. *J Am Sci* 2012;8(7):795-798.
14. Buchanan MA, Dunn GR, Macdougall GM. A prospective double blind randomized controlled trial of the effects of topical Bupivacaine on post-operative pain in bilateral nasal surgery with bilateral nasal Packs inserted. *J Laryngol Otol* 2005;119(4):284-8.

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