

Original Research Article

The study of oropharyngeal pack soaked in lignocaine with dexamethasone in patients undergoing nasal surgeries

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ABSTRACT

Background: The aim of this study determines the efficacy of lignocaine with dexamethasone used topically in form of oropharyngeal pack in reducing postoperative sore throat (POST), hoarseness and throat irritation.

Methods: This retrospective study total of 70 adult patients included in the lignocaine and dexamethasone (LD) group. LD group patients received combination of 5 ml lignocaine 2% and 2 ml (8 mg) dexamethasone in oropharyngeal packing.

Results: There is no significant difference in age, gender, and American society of anesthesiologists (ASA) grade I and II. There was no significant difference the studied group in term of measured hemodynamic indices Systolic blood pressure, diastolic blood pressure, pulse rate, and respiratory rate. Post extubation incidence of mild sore throat was occurred in patients 11 (31.4%) at 30 min, 13 (37.1%) at 2 hours, 6 (17.1%) at 6 hours, and 5 (14.2%) at 5 (14.2%). Moderate sore throat and severe sore throat was not present. Hoarseness of voice was present only 4 (11.4%) at 30 min. There was significant deference in throat irritation. A decrease in incidence of hoarseness was also seen in group LD.

Conclusions: In LD group a positive benefit is seen in form of reduction of POST, hoarseness and throat irritation helping in better recovery of patients.

Keywords: Postoperative sore throat, Oropharyngeal pack, Hoarseness, Post extubation

INTRODUCTION

Postoperative sore throat (POST) is the commonest patient complaint, significant to patients and frequent postoperative complication.^{1,2} The incidence of POST after general anaesthesia varies from institution to institution and has been reported to be up to 90%.³⁻⁸ Postoperative hoarseness varies from 4 to 43%.^{9,10} It varies with size of endotracheal tube, anesthetic skill, duration of procedure, cuff design, high suction pressures, lack of humidification, and high airflow.¹ Local anaesthetics produced a reversible loss of sensation in a portion of the body. Local anaesthetics may be used as the sole form of anesthesia, in combination with general anaesthesia, and

provide postoperative analgesia. The patient notices symptoms, which include difficulty in swallowing, sore throat, hoarseness and aphonia even though these are all minor complications of endotracheal anaesthesia. The incidence of sore throat may be up to 90% depending on the institution.³⁻⁸ Postoperative throat complaints frequently grow after tracheal intubation for general anaesthesia in the first 2 postoperative days. The main symptom reported after tracheal intubation is sore throat, but patients also report hoarseness and throat irritation. Pharyngeal packs are commonly used during oral and ENT (ear nose throat) surgeries to prevent aspiration, tracheal contamination and passage of blood into the stomach. They are disputed to increase the incidence of POST, but

are necessary as surgery in and around the oral cavity necessitates them to debris and soak blood that result as consequence of surgery itself as well as to clear the surgical field. The aim of this study was to determine the efficacy of lignocaine lignocaine with dexamethasone used topically in form of oropharyngeal pack in reducing POST, hoarseness and throat irritation.

METHODS

This retrospective study was conducted at Department of Anesthesiology in Sri Aurobindo medical college and PG institute, Indore Madhya Pradesh and after approval from the ethical and research committee. The duration of this study was June 2019 to July 2020. Total of 70 adult patients included in the lignocaine and dexamethasone (LD) group. According to age, gender and weight these ASA I and II patients were assessed for postoperative haemodynamic changes for set age group. Patients undergoing various nasal surgeries like septoplasty, functional endoscopic sinus surgery (FESS), septorhinoplasty etc. Patients were randomly allocated into LD Group. All the recruited patients were explained about the study and written consent was taken from every patient dually signed by her.

Inclusion criteria

The Age group was 30 to 50 years, ASA I and ASA II grades, no previous significant preexisting laryngotracheal disease, patients undergoing nasal surgeries under GA.

Exclusion criteria

Patients not fulfill inclusion criteria, allergy to medication, and diabetic patients, active disease of the cardiovascular or central nervous system.

Technique

Patients was shifted to the operation room and all mandatory monitors were attached like ECG lead, pulse-oximeter, blood pressure cuff, venturi mask for oxygen administration and larg bore IV access where be secured. Patients were premeditated with IV glycopyrrolate 0.2 mg and IV midazolam 1 MG and IV fentanyl 2 mcg/kg. preoxygenation with 100% oxygen was done. Incubed by IV propofol 2 Mg/kg followed by atracurium 0.5 mg/kg. LD group patients received 5 ml lignocaine 2% and 2 ml

(8 mg) dexamethasone in oropharyngeal packing. Post intubation patients were orally packed appropriate oropharyngeal pack using maggils forceps. After surgery oropharyngeal pack was removed and gentle suction was done. Vitals were noted 5 min before, 5 min and 15 min after extubation.

Postoperatively at 30 min, 2 hours, 12 hours and 24 hours patients were invited to find out if any sore throat, hoarseness of voice, or throat irritation was present. A person who was blinded to the drug used did the scoring using verbal analogue scale for sore throat with 0 for no sore throat, 1 for mild, 2 for moderate and 3 for severe sore throat.

Statistical analysis

Data was conducted with the statistically analyzed. Continuous variables presented as mean±SD and categorical variables are presented as absolute numbers and percentage. Significance of difference between means was observed by using student t test in case of normal. Chi-square test and Fisher's exact test as appropriate were used to compare sore throat, dysphagia, hoarseness and throat irritation in the two groups. A p value<0.05 was taken to indicate a significant difference.

RESULTS

A total of 70 adult patients were enrolled in the study. LD group divided in two groups male and female. The mean age of male group was 41.8±14.5 and female group 40.7±12.3. There is no significant difference in age, gender, and ASA grade I and II (Table 1).

Table 1: Demographic characteristics according to gender in LD group.

	Male (n=35)	Female (n=35)	P value
Mean age	41.8±14.5	40.7±12.3	
ASA grade			
ASA I	26 (74.2%)	27 (77.1%)	0.780
ASA II	9 (25.7%)	8 (22.8%)	
Sore throat			
Present	18 (51.4%)	18 (51.4%)	
Absent	17 (48.5%)	17 (48.5%)	

Table 2: Demographic characteristics according to gender in LD group.

Parameters	Before 5 minutes	After 5 minutes	15 minutes	P value
SBP	127.9±11.8	124.8±21.5	108.3±13.1	0.124
DBP	86.3±10.5	78.3±15.7	70.71±8.72	0.434
PR	92.5±12.2	96.0±16.4	78.81±9.87	0.321
RR	13.79±2.42	18.31±2.32	17.74±2.33	0.642

SBP: systolic blood pressure; DBP: diastolic blood pressure; PR: pulse rate; RR: respiratory rate

Table 3: Post-extubation incidence according to time duration.

	30 minutes	2 hours	6 hours	24 hours	P value
	N (%)	N (%)	N (%)	N (%)	
Mild sore throat	11 (31.4)	13 (37.1)	6 (17.1)	5 (14.2)	0.077
Moderate sore throat	0 (0)	0 (0)	0 (0)	0 (0)	-
Severe sore throat	0 (0)	0 (0)	0 (0)	0 (0)	-
Dysphagia	2(5.7)	2 (5.7)	0 (0)	0 (0)	
Hoarseness of voice	4 (11.4)	0 (0)	0 (0)	0 (0)	-
Throat irritation	17 (48.5)	13 (37.1)	6 (17.1)	6 (17.1)	0.007

Hemodynamic parameters of systolic blood pressure (SBP), diastolic blood pressure (DBP), pulse rate (PR), respiratory rate (RR) were recorded at 5 minutes before extubation and 5 and 15 minutes after extubation, and were assessed for any changes in emergence phenomenon. No significant difference was found in the hemodynamic parameters (Table 2).

Post extubation incidence of mild sore throat was occurred in patients 11 (31.4%) at 30 min, 13 (37.1%) at 2 hours, 6 (17.1%) at 6 hours, and 5 (14.2%) at 5 (14.2%). Moderate sore throat and severe sore throat was not present. Hoarseness of voice was present only 4 (11.4%) at 30 min. There was significant difference in throat irritation. All the patients were examined for hoarseness of voice at 30 minutes, 2 hours, 6 hours and 24 hours post intubation, they were also asked if they themselves had observed any change in voice at these point of time post extubation (Table 3).

In the nasal surgery patients included were 27 FESS, 3 excision biopsy, 9 septoplasty, 5 chonchoplasty, 6 rhinolithectomy, 6 maxillectomy, 4 nasal cyst excision, 3 fracture reduction and 7 FESS and septoplasty of total 70 patients (Table 4).

Table 4: Type of surgery.

Type of surgery	Frequency (n=70)	Percentage
FESS	27	38.5
Excision biopsy	3	4.2
Septoplasty	9	12.8
Chonchoplasty	5	7.1
Rhinolithectomy	6	8.5
Maxillectomy	6	8.5
Nasal cyst excision	4	5.7
Fracture reduction	3	4.2
FESS + septoplasty	7	10

FESS: Functional endoscopic sinus surgery

DISCUSSION

In this study the mean age was 41.8±14.5 in male and 40.7±12.3 female. There was no significant difference male and female according to age. ASA grade I and II in male 26 (74.2%), 9 (25.7%), and female 27 (77.1%), 8

(22.8%). There was no significant difference seen between ASA. Hemodynamic parameters of SBP, DBP, PR, and RR were recorded at 5 minutes before 2 extubation and 5 minutes 15 minutes after extubation, no significant difference was found in the hemodynamic parameters. Similarly, in previous study there was no significant difference between the studied groups in measured hemodynamic indices SBP, DBP, or HR in the study by Tabari et al. in which the three groups comprised of 75 patients who were given betamethasone gel, 75 patients IV dexamethasone and 75 patients as the control group.¹¹ In present study there was no significant difference in incidence of sore throat in the male and female population of the study group. The results are similar to results obtained in the study Kadar et al who also found no significant gender difference in incidence of sore throat and hoarseness.¹² In a study done by Valentine et al their data did not show any gender difference in the incidence of post intubation sore throat.⁸ Similarly in study by Hakim et al no gender difference was seen in incidence of sore throat.¹³ Overall incidence of sore throat in this study was 36 (51.4%). It was comparable to study by Winkel et al.⁹ Hoarseness in the group LD was 4 (11.4%). These results are comparable to the results of previous study In their study they found an incidence of hoarseness of 18% in the placebo/control group, 20% in the group who received topical lignocaine and 23% in the group who received topical dexamethasone with a calculated p value of 0.676 (p>0.05) showing no significant difference in the incidence of hoarseness in the three groups.¹² Yildiz et al had observed that lignocaine or dexamethasone infiltrated in merocel pack provides analgesic effect following septoplasty and total analgesic consumption is reduced when dexamethasone is combined with lignocaine.¹⁴ In this study found a significant decrease in incidence of sore throat in group LD. Tabari et al had concluded in their study that betamethasone gel was more effective in preventing sore throat incidence and severity in the 24th hour postoperatively and needed a 24 hour period to manifest.¹¹

Similar results were obtained by Kazemi and Amini, as they considered betamethasone gel in reducing sore throat, cough, and hoarseness after tracheal intubation.¹⁵ In present study we found a decreasing incidence of sore throat in the group LD in form of infiltration into oropharyngeal pack during nasal surgeries with time i.e.

less incidence of sore throat at 24 hr and 6 hr as compared to 30 minutes and 2 hours post extubation.

CONCLUSION

In this study no significant association was seen between the incidence of sore throat and gender. There was no significant difference the studied group in term of measured hemodynamic indices SBP, DBP, PR, and RR. In group LD a positive benefit is seen in form of reduction of POST, hoarseness and throat irritation helping in better recovery of patients. Decrease of hoarseness through not statically significant was seen in lignocaine with dexamethasone.

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