

Frequency of sore throat in patients undergoing endotracheal anaesthesia by giving dexamethasone and lidocaine

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Objective: To determine the frequency of sore throat in patients undergoing intubation as part of general anesthesia using intravenous dexamethasone and lidocaine before endotracheal intubation.

Methodology: In this randomized controlled trial, total of 200 patients equally divided into two groups were selected. Group A was given inj dexamethasone 8mg i/v and Group B was given inj lidocaine 1mg/kg body weight i/v. Mean ages in both the groups were 40.20±13.12 and 47.21±10.68, respectively. Patients with sore throat were mild 25(25%), moderate 28(28%) and severe 12(12%) in dexamethasone group and mild 25(25%), moderate 28(28%), severe 14(14%) in lidocaine group. Patients with no sore throat in Group A were 35(35%) and patients in Group B

with no sore throat were 33(33%). We considered mild sore throat as no sore throat, this complaint is only by asking the patient according to scoring of sore throat. Chi-square test was used to compare the frequency of sore throat between two groups.

Results: The frequency and severity of sore throat in Group A (dexamethasone) was 40% and Group B (Lidocaine) was 42% (p=0.998).

Conclusion: Dexamethasone and lidocaine before endotracheal intubation reduced the frequency and severity of postoperative sore throat in patients receiving general anesthesia with endotracheal intubation. However, the difference was not statistically significant. (Rawal Med J 201;43:298-300).

Key Words: Sore throat, endotracheal intubation, dexamethasone, lidocaine

INTRODUCTION

Endotracheal intubation during general anesthesia is associated with post-operative sore throat (POST).¹⁻³ Various drugs like paracetamol, ketorolac, trimethamine and dexamethasone have been used to minimize this.⁴ Previous studies showed that 40% of the patients in the dexamethasone group had postoperative sore throat as compared to 20-23% in the lidocaine group.^{5,6} Non-pharmacological method to reduce the incidence of POST includes careful laryngoscopy, intubation after complete paralysis of vocal cords, lubricating the ETT with water soluble gel, small size ETT, shape of cuff,⁷ gentle suction, extubation after tracheal tube cuff is fully deflated and laryngeal mask airway cuff pressure are closely related to development of sore throat.⁸ Armoured endotracheal tube reduced the incidence of POST as compared to polyvinyl endotracheal tube.⁹ Pharmacological measures used to decrease incidence of POST include use of aspirin gargles, benzydamine hydrochloride gargles,¹⁰ and ketamine

gargles.¹¹ Dexamethasone is a potent glucocorticoid with analgesic and anti-inflammatory effects and its pre-operative administration reduces frequency of POST.^{12,13} The prophylactic effect of I/v dexamethasone and lidocaine with regards to POST were studied separately.¹⁴ The aim of this study was to determine the frequency of sore throat in patients undergoing intubation as part of general anesthesia using intravenous dexamethasone and lidocaine before endotracheal intubation.

METHODOLOGY

This randomized controlled trial was conducted in Fauji foundation Hospital, Rawalpindi, Pakistan from January 2017 to June 2017. A total of 200 patients of ASA class-I and ASA class-II, between 18-60 years of age were taken and were divided into 2 groups. Group A (100) received (inj Dexamethasone 8mg i/v) and Group B (100) received inj lidocaine 1mg/kg i/v before induction of anesthesia. All patients of other ASA classification and outside the age mentioned and all who did not

consent were excluded from the study. Sample size was calculated by using WHO sample size calculator and level of significance was 5%. Consecutive non-probability sampling technique was used. An informed consent was obtained from all the patients. Each patient was monitored by electrocardiography, continuous pulse oximetry, non-invasive blood pressure and end tidal CO₂. Premedication with i/v midazolam 2.5mg and nalbuphine 10mg was used. After induction of anesthesia with propofol 1.5mg/kg and atracurium 0.6mg/kg, trachea was intubated using 7.5mm internal diameter for male patients and 7.0 internal diameter for female patients. Assessment for POST at 1 hour and 24 hour after surgery were carried out by the anesthetist in charge of the postoperative care unit. Chi-square test was applied for comparison of efficacy. $p < 0.05$ was considered significant.

RESULTS

Frequency and severity of sore throat in Group A (dexamethasone) was mild in 25(25%), moderate in 28(28%) and severe in 12(12%) patients and in Group B (Lidocaine) mild 25(25%), moderate 28(28%), severe 14(14%). Patients with no sore throat were 35% in Group A (dexamethasone) and 33% in Group B (Lidocaine) (Table 1).

Table 1. Score of sore throat in both the groups.

Score	Group A (Dexamethasone)	Group B (Lidocaine)
0 No sore throat	35(35%)	33(33%)
1 Mild	25(25%)	25(25%)
2 Moderate	28(28%)	28(28%)
3 Severe	12(12%)	14(14%)
Total	100(100%)	100(100%)

Table 2. Frequency of gender of patients.

Gender	Number	Percent
Female	114	57.0
Male	86	43.0
Total	200	100

Patients with sore throat in Group A 40% and Group B 42%. The frequency and percentage of male were 50(50%) and 36(36%) in Group A and percentage of male 50(50%) and 64(64%) in Group B (Table 2).

DISCUSSION

Sore throat is a common postoperative complaint that can lead to morbidity and patient's dissatisfaction. The incidence of sore throat has been reported to be between 21% and 65%^{15,16} even under optimal intubating conditions. There are several factors that have been shown to contribute to postoperative sore throat such as patient related factors, gender,¹⁷ type of anesthesia and type of surgery.^{2,18}

In our study, the frequency of sore throat was 40% with dexamethasone and 42% with lidocaine. Our findings suggest that dexamethasone 8mg i/v and lidocaine 1mg/kg body weight before endotracheal intubation would be effective for reducing the frequency and severity of sore throat after tracheal extubation. As the mild sore throat was complain only by asking, so excluded this score of postoperative sore throat during assessment of postoperative sore throat.

Park et al studied the prophylactic effect of dexamethasone in reducing POST in the elective laproscopic cholecystectomy and found its incidence during the 24hr after operation of 39.40%,¹² which is similar to our study. In our study, frequency and severity of POST after lidocaine was 42%. In contrast, Takewava et al⁴ reported 20% patients experienced sore throat. A study by Xu et al⁵ POST was observed among 23% of the patients. The dose of lidocaine in this study was 50% more as compared to our study.

CONCLUSION

Administration of dexamethasone and lidocaine intravenously, before endotracheal intubation reduced the frequency and severity of postoperative sore throat in patients receiving general anesthesia with endotracheal intubation.

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 Drafting of the article: Muhammad Danyal
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