



STUDY ON BETAMETHASONE GEL AND LIGNOCAINE JELLY APPLIED OVER ENDOTRACHEAL TUBE TO REDUCE POST OPERATIVE SORE THROAT, COUGH AND HOARSENESS OF VOICE

Anesthesiology

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ABSTRACT

Background and Objectives: Controlled comparison between 0.05% betamethasone gel, 2% lidocaine jelly, lubricating gel applied over endotracheal tube to reduce postoperative sore throat, cough, and hoarseness of voice at 0, 6, & 24 hrs. **Materials And Methods:** This study compares the incidence of postoperative sore throat, cough, and hoarseness of voice after general anaesthesia when applying betamethasone gel (betamethasone group-B) or lidocaine jelly (lidocaine group -L) on the tracheal tube. 120 ASA class I and II patients undergoing elective surgeries under general anaesthesia with orotracheal intubation were randomized into three groups: betamethasone gel, lidocaine jelly, and control groups (C group). In the post-anaesthesia care unit, all patients were interviewed on postoperative sore throat, cough, and hoarseness of voice at 0, 6, and 24 h after surgery. **Results and Conclusion:** A wide spread application of betamethasone gel (B) on the endotracheal tube decreases the incidence and severity of postoperative sore throat, cough, and hoarseness of voice as compared to lidocaine group (L) and control group (C).

KEYWORDS

betamethasone, lignocaine, sore throat, hoarseness of voice, cough.

1. INTRODUCTION

Postoperative sore throat, cough and hoarseness of voice though minor sequelae after general anesthesia can be distressing to the patient.

2. AIM

- To evaluate three different methods as regard to their efficacy for controlling the postoperative pharyngo-laryngo-tracheal sequelae.
- To compare the incidence of sore hoarseness of voice, sore throat, cough, after general anesthesia.

3. MATERIALS AND METHODS

- Randomized, single-blind comparative study carried out at madras medical college hospital among 120 ASA I and II patients aged 18–60 years undergoing elective surgery under general anesthesia with endotracheal intubation. Patients were randomly divided into three groups of 40 patients each.

Group B - 40 cases in betamethasone (0.05%) gel group and

Group L - 40 cases in 2% lignocaine jelly and

Group C - 40 cases in control group (water soluble gel) were used.

Ethical committee approval was obtained.

INCLUSION CRITERIA

- Only (ASA) I and II patients
- Age 18-60 years
- Elective procedures requiring endotracheal intubation of both genders

EXCLUSION CRITERIA

- Patients having upper respiratory tract infection preoperatively
- Oronasal surgeries
- Patients on steroids & throat packs
- Surgical duration of >120 mins
- Anticipated difficult airway and more than two attempts at intubation

On arrival of the patient in the operating room, Basic monitors attached, IV line secured. After premedication with inj. Glycopyrrolate 0.2mg, inj Fentanyl 2mcg/kg and induction of anaesthesia with inj. Thiopentone 5mg/kg intubation facilitated with succinylcholine 2mg/kg Betamethasone gel, lidocaine jelly, and KY jelly was applied respectively depending on the group, on the external surface of Endotracheal tube from the distal end of the cuff to a distance of 15 cm from the tip using 2.5 ml of either of the gel spread uniformly with sterile precautions. Single use endotracheal tubes, having low pressure-high-volume cuffs, of size 8.0mm and 7.0 mm internal diameter were used for male and female patients, respectively.

Anaesthesia was maintained by 66% N₂O & 33% O₂, Titrated doses of Atracurium was given. Oral suctioning was done just before extubation, patient was reversed & extubated after deflating the cuff when the patient fully awake. Post operatively patients were assessed at 1, 6 & 24 hours.

4. RESULTS:

No patients were excluded from analysis.

At 24 h following extubation, group B had the lowest incidence of postoperative sore throat among the three groups (group B 5% vs group C: 30% vs group L: 25%; p = 0.036). Severity of postoperative sore throat at 24 h was less with betamethasone (score 0: 88%, 1: 10%).

None of the patients suffered from severe cough or hoarseness of voice.

After this study all patients were followed for one week and there was no history of flaring up of infection with betamethasone group.

- Our study confirms the findings of studies by Ayoub and colleagues proving that widespread application of betamethasone gel significantly reduces the incidence of postoperative sore throat, cough, and hoarseness of voice.
- Ayoub and colleague compared only the betamethasone gel group vs the control group. We included a lidocaine jelly group in addition to the control group, because lidocaine jelly is widely used in clinical practice to lubricate endotracheal tube.
- Stride concluded that 1% hydrocortisone water soluble cream was ineffective reducing the incidence of postoperative sore throat, it was realized that they had applied topical hydrocortisone only from the distal tip to 5 cm above the cuff.

Mechanism of development of post pharyngo-laryngo-tracheal sequelae

Cuff pressure induced mucosal irritation leads to secretion of arachidonic acid and cytokines leading to mucosal edema and inflammatory changes, resulting in post op pharyngo-laryngo-tracheal sequelae. Amount of Betamethasone used in our study was 1-2mg, which is anti-inflammatory dose. We observed that 0.05% Betamethasone was effective in decreasing the frequency of sore throat, hoarseness and cough.

5. CONCLUSION

We conclude that betamethasone gel applied widely over tracheal tube effectively mitigates postoperative sore throat, cough, and hoarseness of voice compared with lidocaine jelly application & KY jelly.

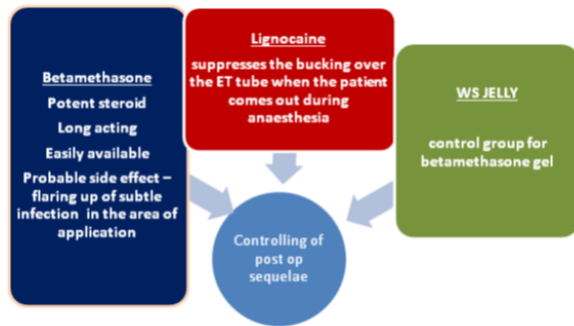


Figure No1: Comparision Of Three Treatment

6. REFERENCES :

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