

## Licorice Gargle

### Dataset Introduction

#### Abstract

This study enrolled 236 adult patients undergoing elective thoracic surgery requiring a double-lumen endotracheal tube. Gender, physical status, BMI, age, Mallampati score, smoking status, preoperative pain, surgery size, intervention and the outcomes (cough, sore throat and pain swallowing at various time points) are provided. The dataset is cleaned and complete (missing outcomes for 2 patients). There are no outliers or data problems. These are data from a study by Ruetzler et al. "A Randomized, Double-Blind Comparison of Licorice Versus Sugar-Water Gargle for Prevention of Postoperative Sore Throat and Postextubation Coughing". *Anesth Analg* 2013; 117: 614 - 21.

#### Background

Postoperative sore throat is a common and annoying complication of endotracheal intubation. Intubation with double-lumen tubes, which are much larger than conventional single-lumen tubes, are especially likely to provoke sore throats, with a reported incidence up to 90%. Presumably, postoperative sore throats are a consequence of local tissue trauma, due to laryngoscopy and/or endotracheal intubation, leading to inflammation of pharyngeal mucosa.

Nonpharmacological methods for preventing an intubation-related sore throat include using smaller-sized endotracheal tubes, lubricating the endotracheal tube with water-soluble jelly, and careful airway instrumentation as examples. Pharmacological measures for attenuating postoperative sore throats include inhalation of beclomethasone or fluticasone propionate; gargling with azulene sulfonate, aspirin, or ketamine; and gargling or spraying benzydamine hydrochloride on the endotracheal cuff for example. Each of these approaches and others not listed, however, has limitations and variable success rates; thus none has become established or is in routine clinical use.

Recently, a study reported that gargling with licorice halves the risk of sore throat after intubation with conventional endotracheal tubes, based on a study of just 40 patients. A number of active ingredients have been isolated from licorice, including glycyrrhizin, liquilitin, liquiritigenin, and glabridin. The glycyrrhizin component reportedly has anti-inflammatory and antiallergic properties. Liquilitin and liquiritigenin have peripheral and central antitussive properties. Glabridin has significant antioxidant and ulcer-healing properties, which might help heal pharyngeal and tracheal mucosa after minor injuries that often complicate laryngoscopy, intubation, and endotracheal tube cuff inflation.



### **Study Objective**

This study therefore tested the hypothesis that gargling with licorice solution immediately before induction of anesthesia prevents sore throat and postextubation coughing in patients intubated with double-lumen tubes.

### **Study Design**

Randomized Clinical Trial

### **Subjects & Variables**

The study enrolled 236 adult patients undergoing elective thoracic surgery requiring a double-lumen endotracheal tube. Patients were enrolled between October 2010 and May 2011 at the General Hospital of Vienna. Patients were randomly assigned to 1 of 2 groups: (1) licorice 0.5 g; or, (2) sugar 5 g, which is a solution with a similar degree of sweetness. Thirty minutes and 1.5 hours after arrival in the postanesthesia care unit (PACU), and 4 hours after extubation and the morning of the first postoperative day, sore throat using an 11-point Likert scale (0 = no pain; 10 = worst pain) and cough severity was assessed. Thirty minutes after arrival in the PACU, pain with swallowing was assessed with the same 11-point Likert scale. Sore throat was defined as a visual analog scale score exceeding 0.

N = 236 subjects

19 variables

### **Additional Information [OPTIONAL]**

### **Citation(s)**

Ruetzler et al. "A Randomized, Double-Blind Comparison of Licorice Versus Sugar-Water Gargle for Prevention of Postoperative Sore Throat and Postextubation Coughing". *Anesthesia Analgesia* 2013; 117: 614-21.

