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Postoperative laringo-pharyngeal symptoms in elective surgery – Incidence and related factors☆

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ABSTRACT

Introduction: To determine cumulative incidence of sore throat complaints (STCs) which occur with the insertion of the laryngeal mask (LM) and endotracheal tube (ETT) during the first hour and 24 hours after elective surgery. In addition, to establish risk factors associated with its occurrence.

Methods: In a cohort study, a total of 451 patients scheduled for elective non-cardiac surgery were included consecutively for 6 months (ASA I-II-III, >18 years old) who underwent LM or ETT airway management for general anesthesia. Through a questionnaire with indirect and direct questions the presence of sore throat, hoarseness, dysphagia and the composite endpoint STCs were assessed one and 24 hours after surgery. Marginal models were used to identify risk factors.

Results: We found an incidence of STCs of 26.8% and 13.5% at first and 24 postoperative hours respectively. At first hour, they were classified as sore throat (23.9%), hoarseness (6.7%) and dysphagia (6.4%). Each compound was not mutually exclusive. At 24 hours of follow up, incidence of STCs and its compounds decreases significantly but differently to ETT and LM. STCs were associated with female gender (OR=1.53 95%CI 1.00-2.37, p=0.05), ETT intubation (OR=4.20 95%CI 2.19-8.04, p<0.01) and bloodstain on airway device at extubation (OR=2.00 95%CI 1.18-3.36, p<0.01).

Conclusions: The incidence of STCs remains important. There are differences in the pattern of reduction between ETT and LM over time and this study confirms risk factors for post-operative STCs like use of ETT, presence of blood during the airway device extraction and female gender.

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Síntomas laringofaríngeos posoperatorios en cirugía electiva. Incidencia y factores asociados

Palabras clave:
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RESUMEN

Introducción: Los síntomas laringofaríngeos (SLF) son comunes en anestesia. La incidencia de morbilidad laringofaríngea varía en la literatura.
Objetivos: Determinar la incidencia de SLF al usar máscara laríngea y tubo endotraqueal en la primera y a las 24 h posoperatorias y estimar la asociación de factores de riesgo.
Métodos: Estudio de cohorte cerrada que incluyó 451 pacientes. Se indagó la presencia deodinofagia, disfonía y disfagia. Se utilizaron modelos marginales para estimar asociación con variables en estudio.
Resultados: La incidencia de SLF durante la primera y 24 h postoperatorias fue del 26 y del 13%, respectivamente. A las 24 h, la incidencia disminuyó significativamente.
Conclusiones: La incidencia en un centro hospitalario colombiano de SLF en cirugía ambulatoria es importante. Existen diferencias en la reducción con el tubo endotraqueal y la máscara laríngea en el tiempo.

Introduction

Many authors and professionals consider these symptoms as minor complications, however, such things do affect the recovery of the patient and are linked to patient dissatisfaction.[1,2]

The incidence of LPS has been reported at between 5 and 70% and is higher with the use of the endotracheal tube (ETT) than with the laryngeal mask (LM).[1] The data on the incidence of laryngo-pharyngeal morbidity vary considerably in the literature; survey methods, as well as the definitions applicable to these symptoms shall be taken into account for analysis and interpretation.[3,4]

Several authors report the following risk factors for the postoperative presentation of LPS: type of airway device (AW) used, being a female, young age, size and shape of the ETT, use of lubricants, pneumoplug pressure, succinylcholine relaxation, long endotracheal intubation (ETI), history of smoking or preexisting pulmonary disease, presence of blood in the AW device used, having natural teeth and certain types of surgical procedures.[1,3,5,6] All the above-mentioned factors and their association with the occurrence of LPS have not been studied in the Colombian population.

The purpose of the study was to establish the incidence of LPSs associated with the insertion of the LM and the EET during the first hour and 24 h after elective surgery and additionally estimating the level of association of known risk factors with the occurrence of LPS.

Methods

Following the approval by the ethics committee of the Caldas University and the Santa Sofía State Hospital of Manizales, Colombia, the informed consent was obtained from all patients admitted to this observational, prospective, closed-cohort trial.

Patients were included consecutively for six months (May through October 2010), as part of our daily clinical practice. The patients included were over 18 years of age, ASA I, II or III classification and were scheduled for elective surgery under general anesthesia with ETT or LM.

All patients admitted for emergency surgery, head and neck surgery, patients previously using oro/naso-gastric catheter or during the procedure, requirement for extended intubation (>24 h) and compromised mental function that could limit the evaluation of the results, were excluded.

Every patient received general anesthesia in accordance with the criteria of the treating anesthesiologist. Inhaled anesthetics were used (sevofluorane, isofluorane), intravenous induction agents (propofol, pentothal, etomidate and ketamine), opioids (remifentanil, fentanyl), benzodiazepines (midazolam) and muscle relaxants (succinylcholine, rocuronium, vecuronium and cisatracurium).

The AW used and its size were determined based on the surgical procedure, the patient's condition and the anthropometric characteristics. The people responsible for managing the AW were: the anesthesiologist in charge, the anesthesia resident, medical students doing anesthesia training or surgery general practitioners. All the trainees were under the supervision of the anesthesiology specialist at all times.

The method for evaluating the pneumoplug pressure and the use of the local anesthetic agent (lidocaine in gel) were determined by the anesthesiologist in charge prior to starting the induction. Following the induction the patient was placed in supine, prone or lateral decubitus position depending on the requirements of the procedure. The anesthesia specialist established the extubation technique (profound or awake) and the need for aspiration at the end of the procedure. When AW aspiration was needed, a 40 cmH_2O negative pressure Nelaton catheter was used. The length of time was determined from the start of anesthesia up to the removal of the AW device.

All patients were followed for 24 h postoperatively. At the post anesthesia care unit (PACU) patients were interviewed either by the anesthesiologist in charge of the Unit, the anesthesia resident or a nurse trained by the trial researchers. All interviewers in the PACU were unaware of the anesthetic management received by the patients. Two interviews were held.