Mouth-opening Rescue Manoeuvre to prevent Catastrophic Airway Obstruction Following LMA Breathing Tube Fracture

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ABSTRACT
Following institutional ethics board approval and parental consent, we describe a paediatric case in which a unique mouth-opening rescue manoeuvre was used to prevent catastrophic airway obstruction following laryngeal mask airway (LMA™) breathing tube fracture. Upon emergence from anaesthesia, a 4-year-old patient, having undergone an uneventful circumcision, began clenching his teeth and bit the LMA breathing tube into two pieces. Gentle traction on the LMA™ inflation line caused it to separate from the LMA™ cuff. The attending anaesthesiologist opened the child’s mouth by applying pressure on both cheeks with the thumb and index finger between the upper and lower molars and successfully extracted the remaining half of the LMA™. Following this manoeuvre, the child recovered uneventfully.

Keywords: Anaesthesia, Laryngeal mask airway, Device safety, Airway obstruction.

How to cite this article: Shyam V, Zamora JE. Mouth-opening Rescue Manoeuvre to prevent Catastrophic Airway Obstruction Following LMA Breathing Tube Fracture. Int J Periop Ultrasound Appl Technol 2012;1(2):82-83.

Source of support: Nil

Conflict of interest: None declared

INTRODUCTION
The current case report describes the use of a unique mouth-opening rescue manoeuvre to prevent catastrophic airway obstruction following laryngeal mask airway (LMA™) breathing tube fracture in a paediatric patient.

CASE REPORT
Institutional ethics board approval and parental consent were obtained for presentation of the current case report. A 4-year-old male patient [American Society of Anaesthesiologists status (ASA) 1] underwent a non-eventful circumcision under general anaesthesia. Once breathing independently with a size 2 LMA™ (Vitaid, Toronto, Canada) in situ, he was transferred to the recovery room. Upon regaining consciousness, he began coughing and clenching his teeth. Nursing staff attempted to remove the LMA™ but were unsuccessful and the patient bit the LMA breathing tube into two pieces. Gentle traction on the LMA™ inflation line caused it to separate from the LMA™ cuff (Fig. 1A). The attending anaesthesiologist opened the child’s mouth by applying pressure on both cheeks with the thumb and index finger between the upper and lower molars (Fig. 1B). Using this manoeuvre, the remaining half of the LMA™ was removed and the child recovered uneventfully.

DISCUSSION
This report of LMA™ fracture is similar to one previously reported in the literature. Upon close examination of the LMA™, it became apparent that the situation arose from overuse. The LMA breathing tube showed yellow discoloration and reduced flexibility, likely as a result of repeated autoclaving.

The simple manoeuvre described here proved highly effective. Other strategies for unclenching the teeth would include administration of intravenous induction agents or muscle relaxants but valuable time would be wasted for drug preparation and administration. Insertion of a bite block is recommended to prevent biting obstruction upon emergence but different institutions and anaesthesiologists have different practices regarding their use.

The simple, yet effective manoeuvre described here avoided unnecessary delays in resolving a potentially catastrophic airway obstruction. To our knowledge, this manoeuvre has never been reported in the literature. This case report highlights the importance of inspecting LMA’s prior to use, inserting bite blocks prior to emergence and
for diligence in adhering to the manufacturer’s recommendation to discard the LMA™ after the recommended 40 uses. ²,³

REFERENCES


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