Value of the Laryngeal Mask Airway during Thoracotomy

To the Editor.—The use of double-lumen tubes is common during thoracic surgery. However, changing these tubes intraoperatively is rare and not without risk of losing airway control. We report a case of this alarming event and its subsequent management.

A 64-yr-old man was scheduled for thoracotomy for excision of a tumor of the right upper lobe. Physical examination was unremarkable except for a reduced mandible-thyroid distance. Anesthesia was induced with propofol and fentanyl, and vecuronium was used to achieve muscle relaxation. Ventilation via mask was considered to be easy. Rigid bronchoscopy was then performed by a surgeon who commented that tracheal intubation was moderately difficult.

When bronchoscopy was completed, the instrument was removed and ventilation via mask was resumed. Hemoglobin oxygen saturation remained 98% or greater throughout the procedure. Laryngoscopy was performed, and only the most posterior portion of the vocal cords could be seen. A 39-Fr left-sided plastic double-lumen tube was inserted, and the patient was turned to the left lateral position. The position of the tube was confirmed using a flexible bronchoscope. The edge of the endobronchial cuff was visible just below the carina.

Surgical dissection of the collapsed right upper lobe began. About 30 min later, the surgeon remarked that the right lung was now being ventilated and further surgery was impossible. Flexible bronchoscopy was repeated, and the endobronchial cuff was now positioned above the carina. Despite numerous attempts to advance the tube distally, with a “blind” technique or with bronchoscopic guidance, the cuff could not be returned to its previous position. It was decided to change to a smaller double-lumen tube. A 16-Fr Neopilex bougie (Porges, France)—kept in each operating room—was lubricated, and introduction through the endobronchial lumen was attempted. However, it could not be easily passed down this lumen, so a 10-Fr bougie was found and easily introduced into the endobronchial tube. The 39-Fr tube was removed, and a 37-Fr double-lumen tube was inserted over the bougie. There was some resistance during its passage, and then removal of the bougie was impossible, even with moderate force. It was suspected that the 37-Fr double-lumen tube had entered the esophagus and taken the flexible bougie with it. The bougie and double-lumen tube were easily removed as a single unit. A 180° bend of the bougie confirmed our suspicion of the failure of the bougie to guide the double-lumen tube into the trachea. Urgent laryngoscopy was performed, but the larynx could not be seen. Bag-mask ventilation was commenced with some difficulty, and a laryngeal mask airway (LMA) was requested. With the patient still in the lateral position, a size-4 LMA was passed easily, and manual ventilation continued. The surgeon was requested to cover the open chest in preparation for turning the patient back to the supine position. Following the turn, a 37-Fr double-lumen tube was introduced easily and positioned with the aid of flexible bronchoscopy. Hemoglobin oxygen saturation remained greater than 90% throughout the airway manipulation.

The LMA has been useful for emergency airway management during failed intubation in both obstetric and the general surgical population. In the case we describe where a patient was in the lateral position without a secure airway, the LMA proved a valuable tool to “buy time” while preparation was made to cover a large chest wound and then return the patient to the supine position for reintubation. We suggest that this easy technique should be considered whenever airway management proves difficult. Also, a greater range of bongies should be available for exchanging tracheal tubes.


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High-frequency Oscillation May Be Useful in Perioperative Respiratory Management of Neonates with Congenital Cystic Adenomatoid Malformation

To the Editor.—Recently Nakano et al. described the successful management of ventilation in two neonates with congenital cystic adenomatoid malformation (CCAM) using high-frequency oscillatory ventilation (HFOV). We describe a case confirming the effectiveness of HFOV in perioperative ventilatory management of a neonate with CCAM.

Case Report. A pregnant woman, with polyhydramnios and a tumor in the fetal left hemithorax detected by routine prenatal ultrasound