Laryngeal Mask Airway and Bougie Intubation Failures: The Combitube as a Secondary Rescue Device for In-Hospital Emergency Airway Management

Thomas C. Mort, MD

When conventional intubation methods fail, an accessory rescue airway device must be immediately available and rapidly deployed to assist the clinician in managing the airway. I reviewed an emergency intubation database to determine whether airway devices were used as a backup rescue device for primary rescue device failures. The bougie and the laryngeal mask airway each have an intrinsic failure rate. The Combitube®, commonly used in the emergency prehospital setting, appeared to be a useful secondary rescue device in the hospital setting when the bougie and laryngeal mask airway failed.

The esophago-tracheal airway (Combitube®, ETC) is recognized as an adjunct for emergency rescue of the airway when encountering a difficult laryngoscopy, a difficult intubation or a “cannot ventilate, cannot intubate” situation (1-4). The ETC has gained acceptance by prehospital personnel, a position in the “emergent pathway” ASA Guidelines, and in select operating room (OR) situations, but remains underutilized within the hospital environments (5,6). There are no collective reports on its use in emergency intubation within the hospital (7,8). Anesthesiologists are more likely to pursue accessory airway devices such as the laryngeal mask airway (LMA), specialty blades, or the flexible fiberscope when difficulties arise (8). Emergency airway management teams should be facile with several rescue devices, because each has an intrinsic failure rate, reflecting the operators’ experience and judgment and the patient’s airway character.

Rescue airway devices, as suggested by the ASA guidelines, were used in an aggressive manner by incorporating them early in the airway management process with the goal of reducing repetitive conventional intubation attempts (1,11-14). End-tidal CO₂ detection was used in all clinical areas.

Data recorded included the age, gender, induction medication used, Cormack grade of the laryngeal view, location of the patient during the airway intervention, any rescue devices that were used in attempts to control the airway, number of ETC attempts, and disposition of the ETC after its use. Advanced airway devices were immediately available via a portable airway bag or difficult airway cart which included the bougie (Eschmann-Smith Medical), various models of LMAs (LMA North America), Verlair cuffed orotracheal kits (Cook Critical Care), the ETC (Tyco Healthcare Nellcor Mallinckrodt), and the flexible fiberoptic bron-