A Review of Emergent Inpatient Intubations

This large observational study reveals a 10% incidence of difficult intubation.

In a large, prospective observational study of adult emergent intubations performed outside the operating room by senior anesthesiology residents (an attending anesthesiologist also was present for 33%) at a U.S. academic hospital between 2001 and 2009, researchers assessed rates of difficult intubation, complications, and rescue airway maneuvers. Awake fiber-optic intubations and intubations performed by emergency department (ED) staff without anesthesiology involvement were excluded.

Of 3423 intubations reviewed, 351 (10%) were difficult intubations — defined as Cormack-Lehane grade III or IV laryngoscopic view or three or more attempts. Sixty percent of intubations were performed in the intensive care unit, 39% on the floor, and 1% in the ED. In the difficult-intubation group, 68% of patients received neuromuscular blocking agents. Bougie-guided intubation was the definitive airway technique in 52% of difficult intubations; fiber-optic intubation, GlideScope, and Lightwand were used rarely. Surgical airways were performed in nine patients, three of whom died. Complications occurred in 144 patients (4.2%) and consisted of 95 aspiration events, 46 esophageal intubations, 6 dental injuries, and 4 pneumothoraces; complication rates were similar for intubations performed with an attending anesthesiologist present.

Comment: The high incidence of difficult intubation in this inpatient study speaks to the importance of adjuvant airway techniques during emergency tracheal intubation. Use of newer video laryngoscopes and expertise with devices such as the intubating stylet and laryngeal mask airway should minimize the likelihood of a failed airway or bad outcome.

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