Predictors of Prolonged Time to Intubation with Hypercurved Videolaryngoscopes

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In a study of operating room intubations with acute-angled videolaryngoscopes, “sniffing” head position, reduced mouth opening, and attending intubators were associated with prolonged intubation times.

To identify predictors of difficult or prolonged intubation with hypercurved video laryngoscopes, investigators conducted a secondary analysis of a randomized controlled trial of 1100 elective surgery patients who were intubated with either GlideScope or C-MAC D-blade video laryngoscopy after anesthesia and neuromuscular blockade. Markers of intubation difficulty (Mallampati score III or IV, reduced mouth opening and neck mobility, large neck circumference) as well as patient and operator-level variables were collected. Difficult intubation was defined as more than one attempt or a single successful attempt that took longer than 60 seconds.

Intubation was deemed difficult in 301 patients: in 27 because it required a second attempt, in 244 because it took longer than 60 seconds, and in 30 for both reasons. Overall, first-attempt intubation success was >95%. In multivariable regression analysis, factors independently associated with difficult intubation were attending (vs. resident) intubator (odds ratio, 1.83), reduced mouth opening (OR, 1.18), cardiothoracic or otolaryngologic (vs. general) surgery (ORs, 6.13 and 1.89, respectively), and sniffing (vs. neutral cervical spine) position (OR, 1.63).

Comment: Practice makes perfect with hypercurved videolaryngoscopes, and attending intubators were less successful likely because they supervise more than they intubate. To maximize intubation success and efficiency, emergency physicians using a hypercurved videolaryngoscope should use it regularly and consider placing the patient in neutral cervical spine position.

Citation(s):

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