Take a Look: Facial Appearance Helps Predict Difficult Intubation

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The subjective assessment of facial appearance improves accuracy and sensitivity for predicting difficult intubation.

To determine if a patient's facial appearance helps predict difficult intubation, researchers asked 160 anesthesiologists to classify intubation difficulty with and without viewing facial images. Records and facial photographs (head-on and right and left profiles) were obtained for 80 white men who had undergone surgery (40 easy and 40 difficult intubations). Easy intubation was defined as a single intubation attempt with a grade 1 direct laryngoscopic view; difficult intubation was defined as more than one intubation attempt, a grade 3 or 4 direct laryngoscopic view, or use of an alternative airway device or intubation-facilitating maneuver. Anesthesiologists were asked to predict if an intubation would be easy or difficult, first when presented only with Mallampati score and thyromental distance, then when presented with the same data plus facial photographs.

Viewing facial photographs significantly improved respondents' sensitivity for predicting difficult intubations (43% vs. 31%); the greatest effect was seen for patients with very difficult intubations (46% vs. 29%). After viewing photographs, anesthesiologists changed their predictions from easy to difficult more often for obese patients (they were not provided with data on height, weight, or body-mass index). The respondents' behavior indicates willingness to unnecessarily prepare for a difficult intubation 6.5 times for each instance of avoiding an unexpectedly difficult intubation.

Comment: While a “gestalt” airway assessment is valuable, it is overly sensitive for difficult intubations, reflecting the operator's willingness to overprepare to avoid an unexpected difficult airway. Mallampati score, thyromental distance, limited neck extension, and anatomical distortion (including airway obstruction) are other important predictors of difficult direct laryngoscopy.

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