Thyromental Height Predicts Difficult Direct Laryngoscopy

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Thyromental height was a better predictor of difficult direct laryngoscopy than the modified Mallampati class, thyromental distance, or sternomental distance.

Thyromental height is the vertical distance between the thyroid cartilage and the anterior border of the mentum in a supine patient. Researchers recorded several anatomic measurements in 314 adult elective surgery patients to determine if thyromental height is a better predictor of difficult direct laryngoscopy than the modified Mallampati test, thyromental distance, or sternomental distance. Difficult direct laryngoscopy was defined as a Cormack-Lehane grade view of III or IV. The laryngoscopist was blinded to anatomic measurements.

At a cutoff value of 5cm, thyromental height was 83% sensitive and 99% specific for predicting difficult direct laryngoscopy. All other measurements had poor sensitivity (<26%) but good specificity (>80%) for difficult direct laryngoscopy, with sternomental distance being the most specific at 91%.

Comment: In this study, thyromental height >5 cm was the best predictor of difficult direct laryngoscopy; however, obtaining this measurement requires proper patient positioning and a special measuring device. We do not know if this single measurement is a more accurate predictor of difficult direct laryngoscopy than the mnemonic LEMON score (NEJM Journal Watch Emerg Med Feb 16), which takes into account several predictors of difficult direct laryngoscopy. Regardless, all operators should perform a difficult airway assessment in non-crash airway scenarios. Also worth noting is that predictors of difficult direct laryngoscopy are not necessarily predictors of difficult video laryngoscopy, which is the standard of care.

Citation(s):