

Hyomental Distance Ratio Helps Predict Difficult Direct Laryngoscopy

An increase in hyomental distance of <20% with full extension of the neck predicts poor laryngoscopic view.

Hyomental distance (the distance from the hyoid bone to the mentum) sometimes is used to predict difficult direct laryngoscopy, but it is not accurate. Researchers evaluated the predictive value of the hyomental distance ratio (HMDR) — the ratio of the hyomental distances in neutral and maximal head extension positions — in 213 consecutive adult patients undergoing elective anesthesia at a single hospital in South Korea. The investigators measured hyomental distance, HMDR, thyromental distance in maximal extension, and modified Mallampati score and then compared the results to the Cormack-Lehane glottic view obtained during intubation.

Overall, 26 patients (12%) had difficult laryngoscopy (defined as a Cormack-Lehane grade III or IV view). In analyses of the various predictors alone and in all combinations, HMDR alone had the highest predictive validity for identifying difficult laryngoscopy. Analysis of receiver-operating characteristic curves established an optimal HMDR cutoff point of 1.2; at this cutoff point, HMDR had a sensitivity of 88% and a specificity of 60% for predicting difficult laryngoscopy.

Comment: Each of the many studies of predictors of difficult direct laryngoscopy has yielded a single inalterable fact: No one difficult airway assessment test is sufficiently reliable. If the findings of this small study are validated in a larger population, HMDR might prove to be better to use (when possible) than hyomental distance for predicting difficult direct laryngoscopy. The elephant in the room, though, is the video laryngoscope; studies of these new devices ([JW Emerg Med May 2 2008](#)) suggest that abandoning direct laryngoscopy might be more appropriate than making endless attempts to clarify its faults.

— **Ron M. Walls, MD, FRCPC, FAAEM**

Dr. Walls is scheduled to provide expert testimony on behalf of Verathon Inc., manufacturer of the GlideScope, in a patent infringement lawsuit in Scotland.

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