Mallampati Score Predicts Difficult Laryngoscopy and Intubation

*But it doesn’t predict difficult bag-mask ventilation and shouldn’t be used alone.*

The Mallampati score, an assessment of tongue size relative to the oral pharynx, has become a staple among the difficult-intubation assessment tools. To determine its accuracy, these investigators performed a systematic review and meta-analysis of prospective studies that compared preoperative Mallampati scores with subsequent rates of difficult laryngoscopy, intubation, and bag-mask ventilation.

They identified 42 studies that enrolled 34,513 patients. Both the original (3-point scale) and modified (4-point scale) Mallampati scores were assessed.

Performance of the two scores did not differ significantly for predicting difficult laryngoscopy. The original score had a sensitivity of 0.71, a specificity of 0.89, and an area under the receiver-operating characteristic (ROC) curve of 0.89 (indicating a reliable test). Corresponding numbers for the modified score were 0.55, 0.84, and 0.78.

For predicting difficult intubation, the modified score was significantly better than the original score. Phonation did not appear to alter the results. Sensitivity of the original score was 0.55, specificity was 0.89, and area under the ROC curve was 0.58 (indicating a poorly performing test). Corresponding values for the modified score were 0.76, 0.77, and 0.83.

For predicting difficult bag-mask ventilation (assessed in only 3 studies), the modified score had a sensitivity of 0.26 and a specificity of 0.89. Corresponding values for the original score were 0.38 and 0.87. A ROC curve could not be constructed.

The authors concluded that the modified score is superior to the original score overall, that neither score is effective for predicting difficult bag-mask ventilation, and that neither score should be used alone as a screening test for difficult intubation.

**Comment:** In the emergency department, we often must approximate the Mallampati score by inspecting the oral pharynx with a tongue blade or laryngoscope blade and estimating the likelihood of adequate access through the mouth. The authors rightly caution against relying on the Mallampati score alone as a difficult-airway assessment tool. The test is very useful when positive, but must be considered just one of the clinical features that should be evaluated before paralyzing a patient for intubation.

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