Comparing Three Video Laryngoscopes for Intubation of Obese Patients

Intubation without a stylet was more often successful with the Storz V-MAC than with either the GlideScope Ranger or McGrath video laryngoscopes.

Some video laryngoscope manufacturers recommend routine use of a stylet to shape the endotracheal tube for optimal insertion through the glottis, but, given that palatal perforation has been reported in this setting, are stylets always required? Researchers in the Netherlands randomized 150 obese (body-mass index, >35 kg/m²) adult elective anesthesia patients to undergo standard direct laryngoscopy to assess laryngoscopic view, followed by tracheal intubation performed without a stylet with one of three video laryngoscopes: GlideScope Ranger, Storz V-MAC, or McGrath. If intubation was not successful after two attempts (defined as an approach to the glottic entrance), then a rigid stylet was used. All intubations were performed by anesthesiologists who were experienced with the video laryngoscopes; an independent anesthesiologist performed direct laryngoscopy.

All patients were intubated successfully with the video laryngoscopes. Glottic view was significantly better with each video laryngoscope than with direct laryngoscopy (mean Cormack-Lehane grade, 1.1 vs. 2.0; proportion of cases with Cormack-Lehane grade 3 or 4, 0% vs. 30%). Rates of intubation success without a stylet were significantly higher with the Storz V-MAC than with either the GlideScope Ranger or McGrath video laryngoscopes (90% vs. 40% and 24%, respectively). Ninety percent of users of the Storz V-MAC gave the highest satisfaction rating versus 42% and 22% of users of the GlideScope Ranger and McGrath video laryngoscopes, respectively.

Comment: In these obese patients, the Storz V-MAC achieved better glottic views and higher intubation success rates than the GlideScope Ranger and McGrath video laryngoscopes. The reduced need for a stylet and ease of use of the V-MAC are attributable to its conventional Macintosh-style blade. The more exaggerated angle of the GlideScope Ranger and McGrath blades might aid visualization in certain difficult airways but necessitates use of a stylet.

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