Video Laryngoscopy Reduces Force on Maxillary Incisors

The video laryngoscope outperforms the conventional laryngoscope yet again.

Laryngoscopy for intubation should not apply force to the patient's maxillary incisors, but pressure often is applied when intubation is difficult. Researchers compared pressure exerted on the maxillary teeth during conventional direct laryngoscopy using a Macintosh 3 blade with that exerted during video laryngoscopy using a Storz video laryngoscope. Anesthesiologists who were experienced with both instruments (>30 previous uses) performed laryngoscopy with each instrument, in random order, after induction of anesthesia in 24 women and 20 men who were healthy and undergoing elective general anesthesia for nonfacial surgery. The sequence was performed by 2 of 10 anesthesiologists for each patient. Laryngoscope blades were equipped with special pressure transducers.

By design, patients were intubated during the fourth laryngoscopy; all patients were successfully intubated. No dental trauma was observed. The force exerted on the maxillary incisors was significantly less with video laryngoscopy than with direct laryngoscopy (median, 2.1 N vs. 15.3 N; range, 0 to 45.2 N vs. 0 to 87.4 N). The glottic view was Cormack-Lehane grade III or IV in none of the video laryngoscopies and in 17% of direct laryngoscopies, a highly significant difference.

Comment: The authors conclude that the usual markers of difficult laryngoscopy (e.g., Mallampati score, thyromental distance) are of little use with video laryngoscopy, because video laryngoscopy almost always provides a Cormack-Lehane grade I or II glottic view (JW Emerg Med May 2 2008). How many studies showing clear superiority of video laryngoscopes over conventional direct laryngoscopes will be required before we move beyond the Mesozoic era of intubation and abandon use of these archaic instruments?

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Lee RA et al. Forces applied to the maxillary incisors during video-assisted intubation. *Anesth Analg* 2009 Jan; 108:187.