Mandibular Advancement Improves Laryngoscopic View

Anterior mandibular displacement improves laryngeal view during nasal fiberoptic intubation. These authors in Japan assessed whether similar benefits might be observed during direct laryngoscopy by relatively inexperienced physicians (<100 intubations). Study subjects were 40 adult patients with American Society of Anesthesiologists class I or II status who were scheduled to undergo elective surgery. Laryngoscopy was performed by 14 physicians.

After induction of general anesthesia and neuromuscular blockade with vecuronium, each patient underwent direct laryngoscopy (DL), which was then successively repeated with mandibular advancement (DL-MA), with the BURP maneuver (backward, upward, rightward pressure on the larynx) (DL-BURP), and with mandibular advancement and the BURP maneuver combined (DL-BOTH). Laryngoscopic view was recorded on videotape and graded on the Cormack-Lehane system by an anesthesiologist who was blinded to the method. Grade I was defined as complete visualization of the glottis; grade II, partial visualization of the glottis; grade III, visualization of only the epiglottis; and grade IV, no visualization of the epiglottis. The four methods were also ranked according to view (1=best, 4=worst) within each patient. Ten patients had grade I laryngeal views on simple DL and were excluded from further study. DL-MA and DL-BURP each improved the laryngeal view significantly (by one full grade) over DL alone, and DL-BOTH was superior to DL-MA or DL-BURP alone.

Comment: These results make sense because BURP displaces the larynx into the field of view, whereas mandibular advancement (similar to a jaw-thrust maneuver) enlarges the anteroposterior diameter of the airway, providing more access and moving the tongue anteriorly so that it doesn't interfere as much with laryngoscopic view. During difficult laryngoscopy, if the BURP maneuver does not provide an adequate view of the glottis, mandibular advancement should also be applied. In a tough spot, every little bit helps.

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