Intubation in C-Spine Injury: Is a Fiberoptic Stylet Better?

Intubating patients who might have cervical spine injuries causes much consternation among emergency physicians. In a prospective, randomized study, researchers compared ease of intubation with a fiberoptic stylet (FOS) and a conventional metal stylet (CMS) during laryngoscope-guided intubation with concomitant application of manual in-line stabilization. The specific instruments used were the StyletScope, a new fiberoptic metal stylet with a maneuverable tip and a proximal eyepiece, and the Satin Slip.

One hundred ninety-three adult patients (American Society of Anesthesiologists class I and II) scheduled to undergo elective surgery were randomized to FOS or CMS. Exclusion criteria were known or predicted difficult airway, cervical spine or airway pathology, cardiorespiratory or cerebrovascular disease, mouth opening <2.5 cm, body-mass index >35kg/m², and risk for aspiration. All patients were intubated by the same experienced anesthesiologist while a trained assistant applied manual in-line stabilization. Before intubation, ease of mask ventilation was graded, and laryngeal view was categorized according to the Cormack-Lehane (C-L) system. During laryngoscopy in the FOS group, the tube was placed directly (as in conventional intubation) if the C-L score was I or II (good glottic view), and the fiberoptic eyepiece was used if the C-L score was III or IV.

There were no differences in demographics, airway characteristics, or ease of mask ventilation between the FOS and CMS groups. Overall, intubation was successful more frequently in the FOS group than in the CMS group (99% vs. 92%; \( P=0.02 \)) and required fewer attempts in the FOS group (first attempt success rate, 87% vs. 64%; \( P=0.003 \)). The differences were observed mainly in patients with poor glottic (C-L) views. The authors concluded that the FOS is more effective than the CMS for intubation of patients with simulated C-spine immobilization.

**Comment:** This study offers further evidence that rigid fiberoptic or video devices are superior to conventional laryngoscopes under virtually all intubating conditions. If this study had not excluded patients with anticipated difficult intubation, the superiority of the fiberoptic system would likely have been even greater. Rigid fiberoptic intubating stylets are a proven addition to the intubation armamentarium and show great promise for emergency intubations.

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