Fiberoptic vs. Video Laryngoscopy for Difficult Intubation

The two techniques performed similarly in this small study of patients with predictors of difficult intubation.

Awake flexible fiberoptic intubation is standard care for elective anesthesia patients with predictors of difficult airways. Researchers at three hospitals in Denmark randomized 93 adult elective surgery patients to awake intubation with a flexible fiberoptic endoscope or the McGrath video laryngoscope. All intubations were performed by attending anesthesiologists with expertise in both techniques.

All patients had anticipated difficult laryngoscopy or intubation, with a modified simplified airway risk index score \( \geq 4 \) (the index assigns values of 0 to 2 for previous difficult intubation, Mallampati classification, cervical spine mobility, mouth opening, thyromental distance, prognathism ability, and body-mass index). All patients received premedication with glycopyrrolate, topical oral lidocaine, and transtracheal lidocaine. Patients with mouth opening <15 mm, severe comorbidities, poor dentition, impossible cricothyroid membrane identification, or contraindication to transtracheal lidocaine administration were excluded from the study. Nine patients were randomized but were excluded from the analysis because transtracheal injection was not possible (7) or they could not tolerate McGrath intubation (2).

Baseline characteristics were similar between groups. The fiberoptic and McGrath groups did not differ significantly in median time to tracheal intubation (80 and 62 seconds) or first-attempt success (79% and 71%). Oxygen desaturation to <90% developed in 21% of the fiberoptic group and 10% of the McGrath group.

Comment: Awake fiberoptic and awake McGrath video laryngoscopic intubations by experienced operators were equally fast and successful, but a substantial proportion of patients developed hypoxia. Use of supplemental oxygen by nasal cannula during awake intubations likely would decrease the rates of hypoxia. Regardless, topical anesthesia is critically important for all awake intubations, and either device is a good choice for experienced providers.

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