Blind Intubation through Self-pressurized, Disposable Supraglottic Airway
Laryngeal Intubation Masks: An International, Multicenter, Prospective Cohort Study

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Abstract

INTRODUCTION:

Supraglottic airway devices commonly are used for securing the airway during general anesthesia. Occasionally, intubation with an endotracheal tube through a supraglottic airway is indicated. Reported success rates for blind intubation range from 15 to 97%. The authors thus investigated as their primary outcome the fraction of patients who could be intubated blindly with an Air-Qsp supraglottic airway device (Mercury Medical, USA). Second, the authors investigated the influence of muscle relaxation on air leakage pressure, predictors for failed blind intubation, and associated complications of using the supraglottic airway device.

METHODS:

The authors enrolled 1,000 adults having elective surgery with endotracheal intubation. After routine induction of general anesthesia, a supraglottic airway device was inserted and patients were ventilated intermittently. Air leak pressure was measured before and after full muscle relaxation. Up to two blind intubation attempts were performed.

RESULTS:

The supraglottic airway provided adequate ventilation and oxygenation in 99% of cases. Blind intubation succeeded in 78% of all patients (95% CI, 75 to 81%). However, the success rate was inconsistent among the three centers (P < 0.001): 80% (95% CI, 75 to 85%) at the Institute of Anesthesia and Pain Therapy, Kantonsspital Winterthur, Winterthur, Switzerland; 41% (95% CI, 29 to 53%) at the Department of Anesthesiology and Intensive Therapy, Medical University of Lodz, Lodz, Poland; and 84% (95% CI, 80 to 88%) at the Institute of Anesthesiology, University Hospital Zurich, Zurich, Switzerland. Leak pressure before relaxation correlated reasonably well with air leak pressure after relaxation.

CONCLUSIONS:

The supraglottic airway device reliably provided a good airway and allowed blind intubation in nearly 80% of patients. It is thus a reasonable initial approach to airway control. Muscle relaxation can be used safely when unparalyzed leak pressure is adequate.

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