

LMA-PROSEAL AND LARYNGEAL TUBE SUCTION (LTS): COMPARISON FOR VENTILATION DURING LAPAROSCOPIC SURGERY

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Background.

Both ProSeal™ Laryngeal Mask (PLMA, LMA Company) and Laryngeal Tube Suction™ (LTS, VBM Medical) are supraglottic airway devices allowing gastric drainage. In a prospective, randomized study the devices are compared for airway management under conditions with elevated intraabdominal pressure induced by capnoperitoneum.

Methods. 50 patients undergoing elective gynaecologic laparoscopic surgery were included. After induction of general anaesthesia, devices were inserted (25 PLMA, 25 LTS), correct placement was verified, airway leak pressure was measured, and a gastric tube was inserted. Patients were placed in a Trendelenburg position. Ease of insertion, quality of airway seal, risk of gastric insufflation and patient comfort were investigated.

Results.

There were no differences in demographic data for both groups. First-time insertion success rates were comparable: 92 % first attempt, 8 % second attempt for PLMA and LTS. Time until delivery of the first tidal volume (mean±SD) for PLMA and LTS was 23.2±6.1 and 23.5±6.6 seconds, airway leak pressure was 45.4±4.9 cm H₂O and 45.6±6.7 cm H₂O, cuff pressures adjusted to 60 cm H₂O. Placement of a gastric tube was successful in all patients. Ventilation was possible during the complete intervention (PLMA 65.9 min, LTS 55.5 min). No gastric insufflation, gas loss or signs of regurgitation were detected. Sore throat was stated in 1%/0% (PLMA) and 8%/4% (LTS) after 6/24 hrs, dysphagia in 4%/4% (PLMA) and 12%/4% (LTS).

Conclusion.

Both devices provide a secure airway even under conditions of elevated intraabdominal pressure. No differences concerning handling or quality of airway seal were detected between PLMA and LTS.