

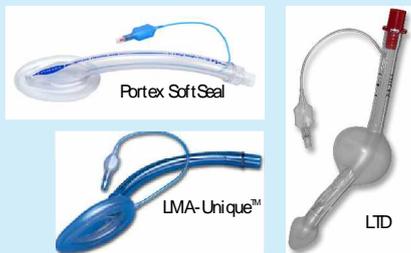
LMA-Unique, SoftSeal and Laryngeal Tube Disposable (LTD): Comparison of ventilation and airway leak pressure during short interventions



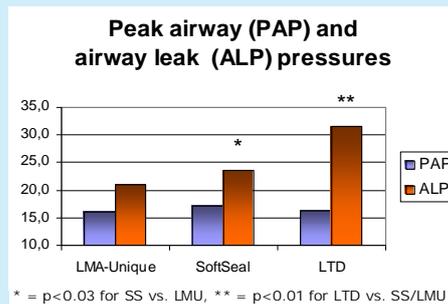
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Background and goal of study:

Materials and Methods



Results and Discussions



Conclusion(s):

References:

Acknowledgements:

Single use supraglottic airway devices may play a more important role in airway management due to a growing concern of infections caused by improper sterilization. (1, 2)

Success rates and airway seal of three single-use devices are compared during short interventions.

After obtaining approval of the local ethics committee and patient consent, 60 women scheduled for elective short gynaecologic interventions were randomized to be ventilated with either LMA-Unique (LMU), SoftSeal (SS) or LTD.

General anaesthesia was induced with fentanyl and propofol. A maximum of 2 insertion attempts was allowed. Time until first tidal volume and airway leak pressure (cuff pressure 60cmH₂O) were measured. Intraoperative tidal volume and peak airway pressure with an etCO₂ of 35mmHG were recorded. Devices were inspected for signs of blood after removal. The t-test was used for comparison of data were applicable.

Demographic data was comparable. Insertion was successful in all patients (second attempt: 2 patients LMU, 1 patient SS, 0 LTD). Time until first tidal volume (mean±standard deviation) was 21.1 ± 7.6 s for LMU, 26.4 ± 12.0 s for SS and 13.8* ± 2.8 s for LTD ($p < 0.05$).

Mean (±SD)	LMU	SS	LTD
Height (m)	1.65 ± 0.06	1.64 ± 0.06	1.66 ± 0.06
Weight (kg)	66.7 ± 10.8	70.9 ± 11.9	66.9 ± 7.9
BMI (kg m ⁻²)	24.3 ± 3.6	26.4 ± 4.6	24.2 ± 3.3
Mallampati I/II	11/9	12/8	13/7

Airway leak pressure was 31.6 ± 2.2 cmH₂O for LTD, 23.4 ± 1.9 cmH₂O for SS and 20.9 ± 1.8 cmH₂O for LMU ($p < 0.01$ for LTD vs. SS/LMU, $p < 0.03$ for SS vs. LMU). Tidal volumes and resulting peak airway pressures were comparable (LMU 8.7 ± 1.8 mL kg⁻¹/15.6 ± 2.3 cmH₂O, SS 7.9 ± 2.3 mL kg⁻¹/16.6 ± 2.6 cmH₂O, LTD 9.2 ± 1.2 mL kg⁻¹/16.2 ± 3.5 cmH₂O).

Mean anaesthesia time was 34.8 min for LMU, 39.7 min for SS and 33.4 min for LTD. Traces of blood after removal were found in one SoftSeal patient, but not in the other two groups.

While success rates were comparable for all devices, the airway leak pressure serving as an estimate of quality of airway seal differed.

(1) Miller DM, Youkhana I, Karunaratne WU, et al. Anaesthesia 2001;56:1069-1072
(2) Clery G, Brimacombe J, Stone T, et al. Anesth Analg 2003;97:1189-1191

Airway devices were provided by the respective manufacturers.



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Vienna Airway Symposium & Workshop 2004, November 19 to 20, Vienna