

Re-evaluation of the Ambu AuraOnce laryngeal mask after modification of the distal cuff reinforcement

Background and Goal of Study

Due to the modification of the distal cuff reinforcement by the manufacturer in September 2006, the single-use Ambu laryngeal mask "AuraOnce" underwent reinvestigation in our institution following participation in an international multicenter trial (1) and conduction of an own comparative trial (2) with the original device.

Materials and Methods

After approval of the local ethics committee and written consent, 50 ASA I to III patients, 18 to 75 years, scheduled for elective ambulatory interventions were ventilated with the redesigned AuraOnce.



Ambu AuraOnce



Reinforced tip

Following standardized induction of general anaesthesia, the completely deflated airway device was placed and cuffs were inflated according to manufacturer's instructions. Number of attempts (maximum 2), time until first tidal volume, initial cuff pressure, airway leak pressure with cuff pressure adjusted to 60 cmH₂O, intraoperative airway pressures and tidal volumes (goal: petCO₂ of 35 mmHg) were recorded.

Devices were inspected for traces of blood after removal. Patients were questioned for postoperative complaints.

Results and Discussions

The device was successfully inserted in all 50 patients after a maximum of two attempts (first attempt: 96%). 28 patients were male, 22 female. Size 4 was used in 20 patients, size 5 in 30 patients. Average age was 43.5±16.5 years, weight 81.0±14.2 kg, BMI 27.5±4.8 kg m⁻².

Time until first tidal volume was 22.5±6.0 seconds. Initial cuff pressure with recommended inflation volumes was 70.8±19.6 cmH₂O, airway leak pressure was 25.7±5.3 cmH₂O with cuff pressure adjusted to 60 cmH₂O. Peak airway pressure was 14.1±3.2 cmH₂O with tidal volumes of 7.2±0.9 ml kg⁻¹.

No intraoperative dislocation of the device occurred, no traces of blood attachments were found after removal. In the recovery area, 6 patients complained of sore throat (visual analogue scale 1-10: 2 patients VAS 1, 3 patients VAS 2, 1 patient VAS 3); no complaints were stated after 24 hours.

Conclusion(s)

After redesign of the distal cuff portion, the performance of the Ambu AuraOnce remains unimpaired with a high insertion success rate and airway leak pressures comparable to those described in earlier trials. Postoperative complaints are infrequent and minor.

References

- [1] Anesth Analg 2005;101:1862-1866
- [2] Anaesthesist 2006;55:263-269