

## **Laryngeal mask airway and laryngeal tube: a prospective, randomized comparison in paediatric patients**

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**Background and Goal of Study:** While the laryngeal mask airway (LMA, LMA Company) has been used in a large number of paediatric patients (1), reports on the use of the laryngeal tube (LT, VBM Medical) in this age group are limited. The two devices are compared for ease of insertion and quality of airway seal in a prospective clinical trial.

**Materials and Methods:** After obtaining approval of the local ethics committee and parental consent, 40 children, aged 2-8 years, scheduled for elective surgical interventions, were randomized to be ventilated with either LMA or LT. After induction of general anaesthesia with fentanyl and propofol, airway devices were placed according to manufacturer's instructions. Number of attempts (maximum 2), insertion time, time until first tidal volume and intraoperative tidal volumes with an etCO<sub>2</sub> of 35 mmHg were recorded. Airway leak pressure was measured with cuff pressures set to 60 cmH<sub>2</sub>O. After removal, devices were inspected for traces of blood and patients were questioned for hoarseness or soar throat.

**Results and Discussions:** 16 boys/4 girls were ventilated with LMA, 17 boys/3 girls with LT. Demographic data as well as baseline heart rate, blood pressure and peripheral oxygen saturation were comparable for both groups, mean age was 5.2(±2.0) years for LMA and 5.5(±1.8) years for LT. Insertion was successful for LMA in 95% of patients (1 attempt 15, 2 attempts 4) and for LT in 100% (1 attempt 17, 2 attempts 3). Insertion time and time until first tidal volume for LMA/LT were 12.7/11.2 and 24.5/21.9 seconds. Peak airway pressures were 15.6 and 17.6 cmH<sub>2</sub>O with tidal volumes of 12.0 and 12.6 ml/kg for LMA and LT. Airway leak pressure with LT was higher than with LMA: 25.8(±6.2) vs. 19.8(±3.5) cmH<sub>2</sub>O (p<0.001). Anaesthesia time was 74.2 min for LMA and 89.1 min for LT. Traces of blood after removal were found in 5 LMAs and 3 LTs, mild complaints of hoarseness or soar throat were found in the recovery room in 3/6 patients and after 24 hours in 1/2 patients for LMA/LT.

**Conclusion(s):** Both laryngeal mask airway and laryngeal tube allow ventilation in the age group studied. The airway leak pressure, serving as an estimate to judge quality of airway seal, is higher with the laryngeal tube.

### **References:**

(1) Lopez-Gil M Anaesthesia 1996;51:969-72