Perioperative Respiratory Adverse Events in Infants: LMA vs. Endotracheal Intubation

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Infants who underwent endotracheal intubation had three times greater risk for perioperative respiratory adverse events than those with a laryngeal mask airway.

Investigators prospectively compared the incidence of perioperative respiratory adverse events among infants (ages 0–12 months) randomized to receive either a laryngeal mask airway (LMA) or endotracheal intubation for airway management during minor elective surgery at a tertiary pediatric hospital in Australia.

Of 177 infants enrolled over 5 years, 83 were assigned to the LMA group and 94 to the intubation group. Overall, 65 patients (37%) experienced perioperative respiratory adverse events. Infants in the intubation group had a greater risk of adverse events than those in the LMA group (53% vs. 18%; relative risk [RR], 2.9). The intubation group had a higher risk of major adverse events (laryngospasm and bronchospasm; RR, 5.3) as well as minor adverse events (RR, 2.9), including desaturation <95% (RR, 7.1), persistent cough (RR, 3.0), stridor (RR, 1.8), and partial airway obstruction (RR, 1.6).

Comment: As it is in adults, the LMA is a suitable alternative for airway management in infants when a definitive airway is not required or endotracheal intubation is not successful. Because endotracheal intubation provides a better seal, an LMA is not optimal for patients requiring high ventilator pressures to maintain adequate oxygenation and ventilation.

Citation(s):
Drake-Brockman TF et al. The effect of endotracheal tubes versus laryngeal mask airways on perioperative respiratory adverse events in infants: A randomised controlled trial. Lancet 2017 Jan 17; [e-pub].
(http://dx.doi.org/10.1016/S0140-6736(16)31719-6)