

# Albuterol Better than Lidocaine for Preventing Intubation Bronchospasm

Asthmatic patients undergoing endotracheal intubation often develop bronchospasm. Intravenous lidocaine is recommended to prevent this reaction, but studies have been conducted only in animals or in human beings not undergoing general anesthesia and tracheal intubation. To assess the efficacy of lidocaine and albuterol in preventing intubation-induced bronchospasm, researchers in Boston randomized 60 patients to receive either lidocaine (1.5 mg/kg) or placebo intravenously 3 minutes before intubation and 50 patients to receive either 4 puffs of inhaled albuterol or placebo 15 to 20 minutes before intubation. All patients received anesthesia consisting of midazolam, propofol, fentanyl, vecuronium, and nitrous oxide.

Measurements of lower pulmonary resistance after intubation were similar in the lidocaine and placebo groups (8.2 vs. 7.6 cm H<sub>2</sub>O/L/sec) and significantly better in the albuterol group compared to placebo (5.3 vs. 8.9 cm H<sub>2</sub>O/L/sec). The authors considered that response to subsequent inhalation of isoflurane, a known bronchodilator, confirmed the presence of intubation-induced bronchospasm. The frequency of bronchospasm was similar in the lidocaine and placebo groups (6 of 30 lidocaine subjects vs. 5 of 27 placebo subjects) but significantly lower in the albuterol group (1 of 25 albuterol subjects vs. 8 of 23 placebo recipients).

**Comment:** Although well designed, this study was underpowered to detect a small improvement from lidocaine, and the patients were not bronchospastic before intubation, as they usually are in the ED. A previous study showed albuterol plus lidocaine to be better than either drug alone. Nevertheless, the take-home message is clear: Inhaled albuterol is superior to intravenous lidocaine in preventing intubation-induced bronchospasm in asthmatic patients.

— *RM Walls*

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## CITATION(S):

Maslow AD et al. Inhaled albuterol, but not intravenous lidocaine, protects against intubation-induced bronchoconstriction in asthma. *Anesthesiology* 2000 Nov 93 1198-1204.