Remifentanil, Alfentanil, or Succinylcholine for Intubation?

Remifentanil is a new, ultra-short acting opioid with peak effect in 60 to 90 seconds and a 35-minute terminal half-life. Alfentanil, another potent opioid, has been shown to achieve intubating conditions comparable to those with 1.0 mg/kg succinylcholine (SCh), but has a terminal half-life of 94.5 minutes. Investigators from Duke University compared the 3 agents.

Sixty elective anesthesia patients were randomized to receive either remifentanil (2 µg/kg), alfentanil (50 µg/kg), or succinylcholine (1.0 mg/kg) immediately after an IV bolus of propofol (2 mg/kg). Sixty seconds after administration of the study drug, intubation was performed by an anesthesiologist blinded to drug assignment. Intubating conditions were good or excellent in significantly fewer patients in the remifentanil group (7 of 20) than the alfentanil (17 of 20) or SCh (20 of 20) groups. Coughing during intubation occurred in 12, 3, and 1 patient in each of the 3 groups, respectively. Mean arterial blood pressure and mean heart rate decreased significantly with both remifentanil and alfentanil but not SCh. Four patients in the remifentanil group required ephedrine for hypotension. One patient in the remifentanil group and 1 in the alfentanil group required SCh to achieve intubation. None of the patients developed chest wall rigidity.

Comment: This study should not be taken as evidence that these potent opioids are equivalent to succinylcholine for rapid sequence intubation in the ED. When SCh is contraindicated, a competitive neuromuscular blocker, such as rocuronium (or soon rapacuronium) should be used.

— RM Walls, MD

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