Rapacuronium Matches Succinylcholine (Again)

Rapacuronium (RAPA) may be the competitive neuromuscular blocking agent that we have been seeking as a clear alternative to succinylcholine (SCh) for rapid sequence intubation in the ED.

Researchers randomized 125 ASA class I, II, or III patients undergoing elective surgery to receive 1.5 or 2.5 mg/kg RAPA, 1.0 mg/kg SCh, or 0.25 mg/kg mivacurium (MC) after anesthesia with midazolam, fentanyl, and propofol. Neuromuscular blockade at 60 seconds, measured by train-of-four stimulation, was similar in both RAPA groups and the SCh group, and was significantly greater than in the MC group. Time to 80% blockade was similar in both RAPA and the SCh groups, and was significantly longer in the MC group. Time to peak blockade was similar in the 2.5-mg RAPA and SCh groups, significantly longer in the 1.5-mg RAPA group (compared to SCh), and longer in the MC group than in either RAPA group. Clinical duration was 9.3, 15.4, 21, and 25 minutes in the SCh, 1.5-mg RAPA, MC, and 2.5-mg RAPA groups. Blood pressure changes were similar in all groups; 2.5-mg RAPA caused more tachycardia than any other regimen. One patient in each RAPA group developed intra-operative bronchospasm.

Comment: These researchers did not assess intubating conditions, but provide more evidence that 1.5 mg/kg rapacuronium has neuromuscular blockade onset characteristics indistinguishable from those of succinylcholine. Recovery time can be shortened to 11 minutes by reversing rapacuronium (see JWEM Oct 1999, p. 76.) Bronchospasm has been reported in other rapacuronium studies and bears watching. This study was partly funded by the manufacturer of rapacuronium.

— RM Walls

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