Rocuronium Is Best for Fasciculations

Administration of a non-depolarizing neuromuscular blocking agent (NMBA) can attenuate muscle fasciculations after succinylcholine (SCh) administration. Which of these agents is most effective?

Researchers from Quebec randomized 120 healthy women undergoing laparoscopic surgery to saline placebo or one of five non-depolarizing NMBAs: d-tubocurarine (0.05 mg/kg), vecuronium (0.01 mg/kg), atracurium (0.05 mg/kg), mivacurium (0.02 mg/kg), or rocuronium (0.06 mg/kg). All agents were followed three minutes later by fentanyl (1 µg/kg) and propofol (2.5 mg/kg) and another minute later by SCh (1.5 mg/kg). Ease of intubation (attempted 90 seconds after the SCh) and fasciculations were each graded on a 4-point scale.

Fasciculations occurred in 19 of 20 placebo patients, versus 3 of 20 rocuronium patients. The other four agents were statistically better than placebo, inferior to rocuronium, and similar to one another. Intubating conditions were significantly better with placebo than with any active agent. Muscle pain, evaluated at 1, 24, and 48 hours, was similar among the six groups.

Comment: This study suggests that rocuronium is a better defasciculating agent but reinforces that pretreatment with a competitive NMBA impairs SCh paralysis. Muscle pain was not reduced by any agent, contrary to the report's title. ED defasciculation is only recommended in cases of elevated ICP or penetrating eye injury. In other cases, it has no real benefit and is unnecessarily complicating.

— RM Walls, MD

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