Rocuronium for RSI: Not Equal to Succinylcholine, but Good Enough

Succinylcholine's pharmacokinetic profile (60-second onset, 6- to 8-minute clinical duration) makes it the neuromuscular blocking agent of choice for emergency department intubations. Unfortunately, this drug has well-known and potentially life-threatening side effects, and no other available nondepolarizing agent offers a similar pharmacokinetic profile. The authors of this study conducted a meta-analysis to compare rocuronium and succinylcholine in rapid sequence intubations.

A literature search for randomized, controlled trials identified 40 studies, 26 of which met the inclusion criteria (the 2 agents were compared; the doses of succinylcholine and rocuronium were at least 1.0 mg/kg and 0.6 mg/kg, respectively; and an intubation score was recorded). A meta-analysis of the 1606 patients in these studies showed that rocuronium was inferior to succinylcholine in providing excellent conditions for intubation (relative risk, 0.87). However, the drugs were equivalent in providing clinically acceptable conditions and in rates of intubation success. Use of 1 mg/kg of rocuronium (instead of 0.6 mg/kg) and propofol (instead of thiopental) for induction brought rocuronium's performance more closely in line with that of succinylcholine.

Comment: Although no other neuromuscular blocking agent has the same profile as succinylcholine, in some cases, succinylcholine is contraindicated, and a nondepolarizing agent must be used instead. In these instances, a 1.0-mg/kg dose of rocuronium appears to provide the best alternative.

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