Rocuronium Safe and Effective for RSI

Succinylcholine, a depolarizing neuromuscular-blocking agent, is the most commonly used paralytic agent for rapid-sequence intubation (RSI) in the emergency department. These authors compared ED use of succinylcholine and rocuronium, a nondepolarizing agent, in a prospective, 1-year study.

Guidelines were available for rocuronium use, but the choice of drug was based on physician preference; succinylcholine was used in 382 cases and rocuronium in 138. The average dose was 1.7 mg/kg for succinylcholine and 1.0 mg/kg for rocuronium. Although succinylcholine had faster onset than rocuronium (mean, 39 seconds vs. 44 seconds) and slightly more relaxation, neither difference was clinically significant, and physician satisfaction was high with both agents but significantly higher with succinylcholine. One patient receiving succinylcholine had unpredicted baseline hyperkalemia and developed a widened QRS complex that responded to treatment. No patient suffered a significant adverse event attributable to RSI. The duration of paralysis was not reported.

**Comment:** Succinylcholine, with its rapid onset and short duration of action, has ideal pharmacokinetics for RSI in the emergency setting. Unfortunately, it has several potentially serious complications and contraindications that limit its use in certain situations. Nondepolarizing agents circumvent most of these problems, but none has the same pharmacokinetic profile as succinylcholine. Rocuronium and the newer rapacurium come close, but both have longer lasting effects than succinylcholine.

— DM Birnbaumer

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