

New Kid on the Block: Rapacuronium vs. Succinylcholine

Succinylcholine is the muscle relaxant of choice for ED intubations, primarily because of its uniquely rapid onset and short duration. This prospective, randomized, multicenter study directly compared succinylcholine with rapacuronium, a new non-depolarizing agent with rapid onset and short duration. The study was supported by the manufacturer of rapacuronium.

Of 336 patients enrolled, 100 were excluded for protocol violations. Anesthesia was induced with fentanyl, propofol, and either 1.5 mg/kg rapacuronium or 1.0 mg/kg succinylcholine. An experienced anesthesiologist blinded to the agent initiated laryngoscopy at 50 seconds, and intubating conditions were graded at 60 seconds. Recovery was assessed by electromyography. Intubation was achieved in 100% of patients with rapacuronium and 98% with succinylcholine. Conditions were good to excellent in 87% and 95% of patients, respectively ($P < 0.05$). Time to recovery of train-of-four response was 8.0 minutes with rapacuronium and 5.7 minutes with succinylcholine. No difference in adverse events was noted.

Comment: Unfortunately, there was no analysis of the predicted intubation difficulty in the two groups. Exclusion of one third of the subjects and potential unblinding (due to observation of succinylcholine fasciculations) further weaken this study. The recovery times cited do not necessarily predict clinical recovery of spontaneous ventilation in the ED. Further study is warranted to determine if rapacuronium should replace succinylcholine for rapid-sequence intubation in the ED.

— *RJ Vissers*

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Fleming NW et al. Comparison of the intubation conditions provided by rapacuronium (ORG 9487) or succinylcholine in humans during anesthesia with fentanyl and propofol. *Anesthesiology* 1999 Nov 91 1311-1317.