Comparison of neuromuscular action of recuronium, a new steroidal non-depolarizing agent, with vecuronium.

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摘要

Abstract

BACKGROUND: Rocuronium is a new nondepolarizing muscle relaxant. It features a rapid onset and lack of histamine release: It has an intermediate onset of action as vecuronium. The purpose of this study was to compare the neuromuscular action and condition of intubation after a bolus dose of rocuronium or vecuronium (2 x ED90). We also compared the duration of relaxation after intubation and maintenance doses of each drug. METHODS: Sixty male or female patients, age 18-65, scheduled for elective surgery under general anesthesia were divided randomly into two groups (rocuronium and vecuronium group). All patients were ASA class I-II and pre-operative laboratory data were normal. Anesthesia was performed with fentanyl, isoflurane and O2. Rocuronium 0.6 mg/kg (2 x ED90) or vecuronium 0.1 mg/kg (2 x ED90) was given during induction of anesthesia. The response of adductor pollicis was measured with acceleromyography. Neuromuscular block was maintained by bolus injection of rocuronium 0.15 mg/kg or vecuronium 0.025 mg/kg when T1 reached 25% of control. Onset time, duration, recovery indices, intubation condition and T4/T1 ratio to 70% were recorded. Side effects were recorded during the study. RESULTS: The onset time was significantly longer in vecuronium group than that of rocuronium group (102.8 +/- 26.9 s vs. 54.9 +/- 10.9 s, $p < 0.05$). The clinical durations of action were respectively 44.2 +/- 13.2 min in rocuronium group and 42.5 +/- 9.1 min in vecuronium group (T1 to 25%). The duration of the maintenance were respectively 28.8 +/- 9.5 min in rocuronium group and 26.1 +/- 6.8 min in vecuronium group (T1 to 25%). No adverse effect occurred with either drug. The intubation condition was similar in both groups. CONCLUSIONS: We conclude that rocuronium provides a more rapid onset of action than that of vecuronium. Rocuronium is an intermediate-acting muscle relaxant as vecuronium with good to excellent intubation condition. It may be an useful alternative to vecuronium for rapid tracheal intubation.