

ABSTRACT

Background: In emergency surgeries requiring endotracheal intubation, the time to effect of neuromuscular blocking drugs is a crucial time in which patients are predisposed to hypoxia and aspiration into the lungs. Various strategies have been undertaken to shorten this time, including the timing and the priming techniques, dose changes and use of a flush following the muscle relaxant. All these methods had positive results but some are associated with side effects. The effectiveness of a muscle relaxant can either be assessed using the train of four or intubating conditions on the Goldberg scale. In this study, the plan is to investigate the effects of a 20 ml saline bolus following intravenous rocuronium at 0.6 mg/kg on the proportions of patients with excellent intubating conditions at one minute.

Methodology: Fifty-two patients were randomly allocated to the saline bolus group or the no saline flush group. Anaesthesia was induced using propofol and remifentanyl via target-controlled infusion (TCI) and maintained with the same. Rocuronium 0.6 mg/kg intravenous (IV) was administered followed by a 20 ml saline flush in the study group compared to administration of 0.6 mg/kg rocuronium without a saline bolus in the control group. Intubation conditions were assessed using the Goldberg scale filled by the intubating doctor. The onset of neuromuscular block was assessed by the train of four T1 height depression with an accelerometer attached to the adductor pollicis muscle.

Results: There were 25 patients in each group. Patients in both groups were comparable with respect to demographic profiles. In the group with a flush, 18(62.1%) patients had “excellent” and seven (33.3%) patients had “good” intubating conditions as opposed to 11 (37.9%) having “excellent” and 14 (66.7%) having “good” intubating condition in the group without a flush. The distribution of intubating conditions for the two groups showed a difference of 24.2% in the proportion of patients with excellent intubating conditions which was statistically significant ($P=0.042$). There was no association between twitch height at one minute and intubating conditions.

Conclusion: In this group of patients studied, the administration of a 20 ml saline flush after 0.6mg/kg rocuronium significantly increases the proportion of patients with excellent intubating conditions as compared to rocuronium without a saline flush.