

Rapid Tracheal Intubation with Atracurium : Comparison Between Timing and Priming Techniques

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The priming technique of non-depolarizing muscle relaxant has been advocated as a rapid sequence induction. However, the onset time is not similar to succinylcholine with undesirable clinical weakness. Timing technique utilizing a single bolus of non-depolarizing neuromuscular blocking drug followed by thiopentone has been advocated as an alternative. The purpose of this study is to compare the intubation condition between timing and priming techniques with atracurium in term of onset time and side effects. Sixty patients ASA I-II, age 15-60 years old undergoing elective surgery under general anesthesia were randomly divided into two groups. Exclusion criteria were the patients with cardiovascular disease, neuromuscular disease and difficult intubation. Both groups were premedicated with midazolam 7.5 mg orally 1-1.5 hours and fentanyl 1-2 mg/kg intravenously 3 minutes before induction. Time group (group 1) received atracurium 0.75 mg/kg intravenously 20 seconds prior to administration of thiopentone 3-5 mg/kg. Priming group (group 2) received atracurium one tenth of total dose (0.075 mg/kg). After 4 minutes, anesthesia was commenced with thiopentone 3-5 mg/kg and the remaining dose of atracurium. The intubation time (time from total dose of intravenous atracurium injection to intubation) was predetermined by the Dixon's up-and-down method (with 5 seconds as a step size) for each patient and started at 80 seconds for the first patient in each group. Result : There were no significant differences in demographic data between groups. The intubation time in group 1 was 65.7 ± 2.18 seconds which was significantly shorter than 69.3 ± 2.41 seconds in group 2. The hemodynamic data were similar in both groups. Clinical weakness prior to induction of anesthesia were 3.33% and 6.66% in group 1 and group 2 respectively, Conclusion : the timing technique with atracurium for tracheal intubation is statistically better than the priming technique in term of onset time with no significant adverse effects, although the result is not clinically significant.

Key words : tracheal intubation, timing technique, priming technique