Sux Redux: How Much to Intubate?

Further evidence for using succinylcholine at a dose of 1.5 mg/kg for rapid sequence intubation

The optimal dose of succinylcholine for rapid sequence intubation remains controversial (see JWEM Mar 16 2005; JWEM Oct 25 2005). These authors randomized 180 healthy patients (mean age, 30.9) who were undergoing elective anesthesia to receive either saline placebo or one of five doses of succinylcholine (from 0.3 to 2.0 mg/kg) after induction with fentanyl (2 µg/kg) and propofol (2 mg/kg). The study drug was administered immediately after propofol-induced loss of consciousness. Intubating conditions (ease of laryngoscopy, position and movement of vocal cords, reaction to intubation [limb movement or coughing]) at 50 seconds after study drug administration were graded as excellent (all parameters excellent), good (all parameters good or some good and some excellent), or poor (any parameter poor).

All patients in the succinylcholine groups and all but seven (23.3%) in the control group were successfully intubated. Each of the five succinylcholine groups had a significantly higher incidence of excellent intubating conditions than the control group. In the control group, no patients had excellent intubating conditions, 30% had good conditions, and 70% had poor conditions or failed intubation. With succinylcholine, excellent intubating conditions occurred in 43% of the 0.3-mg/kg group, 60% of the 0.5-mg/kg group, 63% of the 1.0-mg/kg group, 80% of the 1.5-mg/kg group, and 87% of the 2.0-mg/kg group; the difference between the 0.3-mg/kg and the 2.0-mg/kg groups was significant. Duration of neuromuscular block was 4.4, 5.2, 5.9, 7.2, and 7.5 minutes, respectively, and was significantly longer with the two larger doses than with the three smaller doses.

Comment: Once again, the argument is strengthened for using 1.5 mg/kg (or more!) of succinylcholine for emergency RSI. Intubating conditions correlate strongly with succinylcholine dose, and in the ED, we seek the best conditions possible. This study adds yet another proscription of induction without paralysis, as 70% of patients in the control group had poor intubating conditions or failed intubation altogether.

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