Dosing of Succinylcholine and Etomidate in Emergency Department Rapid Sequence Intubation

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A single-center chart review shows that obese patients are at high risk for underdosing.

Current recommendations are that succinylcholine and etomidate be dosed according to total body weight (1–1.5 mg/kg and 0.2–0.4 mg/kg, respectively). Investigators reviewed records from a single emergency department (ED) to determine the frequency of underdosing and overdosing of these medications during rapid sequence intubation.

Of 440 patients in the study, 29% were obese. Succinylcholine was dosed inappropriately in 56% of all patients, etomidate in 24%. Compared with nonobese patients, obese patients were 64 times more likely to be underdosed with succinylcholine, and 178 times more likely to be underdosed with etomidate. Nonobese patients were 63 times more likely to be overdosed with succinylcholine and 167 times more likely to be overdosed with etomidate.

Comment: We can break these results down into two factors: underdosing versus overdosing, and succinylcholine versus etomidate. Overdosing of either agent is of debatable importance. Underdosing of etomidate may also not be such a critical problem, because whether dosed correctly or underdosed, etomidate needs to be followed quickly by appropriate sedation, as it is very short acting. What's important here is underdosing of succinylcholine, because this can lead to incomplete paralysis and poor intubating conditions. When using succinylcholine, give 1–1.5 mg/kg total body weight.

Note to readers: At the time NEJM Journal Watch reviewed this paper, its publisher noted that it was not in final form and that subsequent changes might be made.

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