Single-Bolus Etomidate in Trauma Patients Remains a Viable Option

This small study does not support the authors' claim that etomidate increases the rate of hospital-acquired pneumonia.

Despite repeated lack of evidence for clinical significance of the transient corticosteroid insufficiency associated with a single bolus of etomidate for rapid sequence intubation, controversy remains. To assess the effect of etomidate on incidence of hospital-acquired pneumonia, researchers analyzed data from the HYPOLYTE trial — a French multicenter randomized, double-blind, placebo-controlled trial of hydrocortisone in 149 intubated trauma patients who remained on ventilators for at least 48 hours (JW Hosp Med Apr 21 2011). Ninety-five patients received etomidate.

Corticotropin testing was performed in all patients before hydrocortisone or placebo administration (at least 8 hours after etomidate injection in etomidate recipients). Although basal cortisolemia did not differ between patients who received etomidate and those who did not, corticosteroid insufficiency was significantly more frequent in etomidate recipients (83% vs. 63%). Hospital-acquired pneumonia developed within 28 days in 52% of etomidate recipients versus 30% of nonrecipients (hazard ratio, 2.48).

Among etomidate recipients, pneumonia developed in 40% of those treated with hydrocortisone versus 62% of those given placebo. Overall, mortality was similar between etomidate recipients and nonrecipients (6.3% and 7.4%). The researchers state that "etomidate increases susceptibility to pneumonia in trauma patients" and suggest that hydrocortisone administration be considered after etomidate use in trauma patients.

Comment: The association between single-dose etomidate and hospital-acquired pneumonia identified in this study is just that, and the authors' claim that etomidate was the cause is not supported. The reasons for etomidate use were not documented. Until more data are collected, etomidate should remain in our armamentarium as an excellent option for rapid sequence intubation in trauma patients.

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