Is Field Intubation of Pediatric Trauma Patients a Bad Idea?

Recent studies report that intubation in the field does not improve -- and may even worsen -- outcomes in children. Using National Pediatric Trauma Registry data from 1994 to 2002, these authors compared outcomes in two groups of patients younger than 20: those who were intubated in the field and those intubated in emergency departments. Patients who had experienced burns, drowning, near drowning, or poisoning were excluded.

Of 50,119 patients in the registry, 5460 (11.6%) had been intubated (1930 in the field, 1654 in nontrauma center EDs, and 1876 in trauma center EDs). Unadjusted mortality rates were significantly higher for patients intubated in the field (38.5%) than in nontrauma center EDs (16.7%) or trauma center EDs (13.2%). In a logistic-regression analysis, the observed death rate was higher than predicted only in patients intubated in the field (an additional 11.4 deaths per 100 patients intubated), regardless of severity of injury, stratified according to the Relative Head Injury Severity Scale and the New Injury Severity Score (NISS). For example, odds ratios for death in field-intubated patients compared with trauma center–intubated patients were 12.3 in those with a NISS <15 and 5.1 in those with mild or no head injury. Transport times were significantly longer for field-intubated patients than for trauma center–intubated patients (119 vs. 88 minutes).

Comment: The findings of this large, retrospective, observational study call into question again the practice of intubating pediatric trauma patients in the field. Of note, transport times in this study were exceptionally long and were about 30 minutes longer for field-intubated patients. Paralytic agents that might have permitted easier intubations were used in only 61% of field cases. Although reasons for poor pediatric field-intubation outcomes cannot be gleaned from this study, possible explanations are that airway anatomy varies with age and that emergency medical personnel typically have considerably less experience with pediatric than adult airways. This and similar papers point out the need for more precise indications for pediatric airway management in the field and for enhancement of paramedic training, with particular focus on use of alternative or rescue airway devices.

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