Does Tracheal Intubation Improve In-Hospital Cardiac Arrest Outcomes for Children?

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Observational data support poorer survival outcomes with intubation in this setting.

For cardiopulmonary resuscitation (CPR) in hospitalized children, respiratory support is emphasized, as the predominant cause of cardiac arrest is respiratory failure. In the current observational study, researchers compared survival and neurological outcomes in 1555 children who were intubated and 739 who were not intubated during CPR lasting at least 10 minutes. The mean age of participants was 7 months.

The median time to successful tracheal intubation was 5 minutes after beginning chest compressions. Fifty-one percent of the cohort survived to discharge. Tracheal intubation during CPR was associated with decreased likelihood of survival to discharge in both unadjusted and adjusted analyses. In adjusted analyses, return of spontaneous circulation and neurological outcomes were not significantly different between intubated and nonintubated patients. The decreased survival associated with intubation was observed regardless of whether children had an initial pulse or lost a pulse (although the association was borderline significant in the latter group) and regardless of length of resuscitation.

Comment: These data do not support early tracheal intubation during CPR for children who are in the hospital. The study is observational and is limited by many missing data, although great effort was made to adjust for these deficits. In an accompanying editorial, the author supports the study's conclusions and calls for additional prospective studies while acknowledging the improbability, if not impossibility, of conducting a randomized, controlled trial to examine this question.

Citation(s):