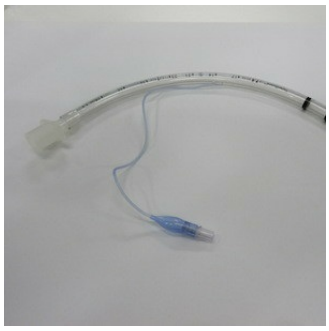
ICU
MANAGEMENT & PRACTICE

Tracheal Intubation after In-Hospital Cardiac Arrest in Children, Significant Survival Difference



An observational study of 2294 patients from a large registry found decreased survival to hospital discharge in paediatric patients who were tracheally intubated during in-hospital cardiac arrest.

Lars W. Andersen, MD, MPH, of the Research Center for Emergency Medicine, Aarhus University Hospital, Denmark, and colleagues, analysed data from the United States Get With the Guidelines–Resuscitation registry . on paediatric patients with in-hospital cardiac arrest with 1 minute or more of chest compressions between January 2000 and December 2014.

The study also measured the secondary outcomes of return of spontaneous circulation (ROSC) and neurologic outcome. The researchers matched patients being intubated at any given minute with patients at risk of being intubated within the same minute (ie, still receiving resuscitation).

Results

2294 patients
1555 (68%) intubated
Overall 1162 (51%) patients survived to hospital discharge.

In the propensity score–matched cohort (n = 2270), survival was lower in those intubated compared with those not intubated (411/1135 [36%] vs 460/1135 [41%]; risk ratio [RR], 0.89 [95%CI, 0.81-0.99]; P = .03).

There was no significant difference in ROSC or favourable neurologic outcome between those intubated and not intubated. The researchers explain that this association between intubation and decreased survival was observed in the majority of the sensitivity and subgroup analyses, including when accounting for missing data and in a subgroup of patients with a pulse at the beginning of the event.

The researchers conclude that although the study design does not eliminate the potential for confounding, “these findings do not support the current emphasis on early tracheal intubation for paediatric in-hospital cardiac arrest.” Their analysis showed that 68% of children who were not already intubated or receiving assisted ventilation at the time of cardiopulmonary resuscitation (CPR) were intubated during CPR.

In an accompanying editorial, Allan R. deCaen, MD and colleagues write: “The results are highly provocative, but the study design precludes an ability to provide a definitive answer to the question of whether physicians and respiratory therapists should withhold intubation during resuscitation of children with inhospital cardiac arrest.”

Source: JAMA
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Published on : Wed, 5 Oct 2016