

MEETING ABSTRACT

Open Access

Anaesthesiologist-provided pre-hospital advanced airway management in children

M Tarpgaard*, TM Hansen, L Rognås

From London Trauma Conference 2014
London, UK. 9-12 December 2014

Background

Pre-hospital advanced airway management has been named one of the top-five research priorities in physician-provided pre-hospital critical care [1]. Few studies have been made on paediatric pre-hospital advanced airway management. The aim of this study was to investigate first-pass success rates and complications related to pre-hospital advanced airway management in patients younger than 16 years of age treated by pre-hospital critical care teams in the Central Denmark Region (1.3 million inhabitants).

Method

A prospective descriptive study based on data collected from eight anaesthesiologist-staffed pre-hospital critical care teams between February 1st 2011 and November 1st 2012.

Results

Of a total of 25 000 pre-hospital critical care missions, the pre-hospital critical care anaesthesiologists attempted endotracheal intubation in 25 children, 13 of which were less than 2 years old.

In one patient, a neonate (600g birth weight), endotracheal intubation failed. The patient was managed by uneventful bag-mask ventilation.

All other children had their tracheas successfully intubated by the pre-hospital critical care anaesthesiologists.

Over-all first pass success-rate was 75.0 %. In the group of patients younger than 2 years old, first pass success-rate was 53.8 %.

The overall rate of airway management related complications was 20 % in children younger than 16 years of age and 38 % in children younger than 2 years of age

(n=13). No deaths, cardiac arrests or severe bradycardia (heart rate <60) occurred in relation to pre-hospital advanced airway management.

Discussion

Compared to the adult population [2] the overall first-pass success rate is low. The complication rates (hypoxia, hypotension, aspiration and oesophageal intubations) in the paediatric population are higher than previously described in our pre-hospital advanced airway management patient population as a whole [2]. This illustrates that young children may represent a substantial pre-hospital airway management challenge even for experienced pre-hospital critical care anaesthesiologists.

Published: 11 September 2015

References

1. Fevang E, et al: *The top five research priorities in physician-provided pre-hospital critical care: a consensus report from a European research collaboration*. *Scand J Trauma Resusc Emerg Med* 2011, **19**:57.
2. Rognas L, et al: *Pre-hospital advanced airway management by experienced anaesthesiologists: a prospective descriptive study*. *Scand J Trauma Resusc Emerg Med* 2013, **21**:58.

doi:10.1186/1757-7241-23-S2-A22

Cite this article as: Tarpgaard et al: Anaesthesiologist-provided pre-hospital advanced airway management in children. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine* 2015 **23**(Suppl 2):A22.

* Correspondence: tarpgaard@dadlnet.dk
Department of Pre-hospital Medical Services, Central Denmark Region, Denmark