Impact of Formalized Calling Criteria for a Difficult Airway Management Team on Morbidity and Mortality of Patients with Difficult Airways
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Introduction

Eight to 12% of patients undergoing anesthesia have difficult airways (DA). These patients are at risk for sustaining anoxic brain injury (ABI), cardiopulmonary arrest (CPA) and/or emergency surgical airway (ESA) insertion due to delayed intubation. In 2005, UPMC developed the Difficult Airway Management (DAM) to decrease the morbidity and mortality of patients undergoing emergent endotracheal intubation (ETI). Preliminary suggests that there is a high incidence of patients experiencing ABI and mortality.

Hypothesis

Distribution of a DA Checklist & DAM Team Calling Criteria (CC) to educate all caretakers hospital-wide about DAM Team activation plus a contemporaneous review of events will improve the morbidity and mortality of patients with DA.

Methods

Floor & ICU events in PUH & MUH

Group 1 (experimental): convenience sample of all patients, events (132, 135), Jul 2010-Jul 2013
Group 2 (historical): retrospective of all patients, events (76, 80), Jan 2008-Jul 2010

1° Outcome meas.: composite adverse event (CAE=ESA + CPA +ABI),
2° Outcome meas.: event assoc. mortality, overall hospital mortality, survival to d/c without ABI

Analysis: Fisher exact test, one-tailed p-values; unpaired t-tests, two-tailed p-values

Results

The institution of formalized CC coupled with contemporaneous review of DAM team events improved survival of critically ill patients identified as having a difficult airway outside of the OR and emergency department.

Data further suggest that the intervention reduced important adverse events, notably a downward trend in ESA, occurring during the airway event.

Additional studies are needed to determine factors that influence outcomes in critically ill patients identified as having a difficult airway, for example choice of adjunct measures, number of attempts, and level of training of participants.

Conclusions

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