Efficacy of a Difficult Airway Letter and its Impact on Subsequent Intubation Attempts: A Quality Assurance Study

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Introduction

- Incidence of a difficult intubation is estimated to be 1-18%.
- Best predictor of a difficult intubation (with a PPV of 69-78%) is a history of a previous difficult intubation.\(^1\)
- Patients with a history of difficult intubations often will experience a successful intubation, but then continue to face multiple attempts at subsequent anesthetics.
- This study looks at the efficacy of a difficult airway letter (DAL) to reduce multiple and failed intubations in patients with a history of a difficult airway.

Methods

- IRB approved observational quality assurance study
- DAL template implemented in our institution’s EPIC anesthesia chart in 2013
- Able to save DAL to chart and print hard copy to give to our patients
- Study period: 2013 to the present
- Data collected: number of patients flagged as difficult intubations, number who received a DAL, number of attempts at intubation before and after the receipt of a DAL, and any trauma reported during intubations.
- Statistics: Descriptive statistics.

Results

- 58 patients identified as having a difficult intubation during the study period, 10/58 patients excluded due to insufficient data.
- 12/48 patients received a DAL, of which 4 patients received subsequent anesthetics.
- Prior to receipt of the DAL, mean (and SD) for intubation attempts for patients who received the DAL (group 1) and who did not receive the DAL (group 2) were 2 (1.3) and 1.9 (1.2), respectively (Fig. 1A).
- After receipt of the DAL, group 1’s mean number of attempts decreased to 1.2 (0.3) from 2.4 (2) (Fig. 1B).
- Maximum intubation attempts decreased after receipt of the DAL to 1.1 (1) from 2.8 (2).
- No post-DAL data is available for group 2 as they did not receive the DAL.

Discussion

- Two patients had complications related to traumatic intubation prior to receipt of letter.
- One such patient experienced a traumatic intubation lasting 2 hours followed by PICU admission and ventilation for 2 days.
- The second patient had a failed intubation and was admitted to PICU for observation.
- Both patients had intubations with a first attempt following receipt of a DAL.

Conclusions

- DAL shows a promising influence on number of attempts at intubation and likely decreased trauma to the airway
- An incidental observation is that adhering to procedural details given in the DAL sets the practitioner up for greater success.
- Our data is encouraging and we believe the DAL is an easy, effective strategy of conveying information between anesthesia providers and results in minimizing the difficulty of subsequent intubations.

References


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