Abstract:
Background: Anesthetic management for pediatric patients undergoing direct laryngoscopy and/or bronchoscopy (DLB) is often administered based on the anesthesiologist’s preference. This variability may influence a specific time in the operating room called surgical end-to-transport (SET) time.

Objectives: To examine how various aspects of anesthetic management affect SET time and how SET time influences postoperative outcomes.

Methods: DLB cases were queried from the Anesthesia Information Management System. After exclusions, a logistic regression was performed to determine any significant impacts of extubation status and airway device on SET time for 967 cases. Spearman correlation was performed to evaluate the relationship between SET time and PACU duration.

Results: Patients with a tracheostomy were 4.85 times more likely to have a SET time higher than 14 minutes compared to those with a laryngeal mask airway (LMA) and a mask airway device respectively. There was a weak positive correlation between SET time and PACU duration.

Discussion: Airway management for DLB procedures is a significant indicator of SET time. Decreasing SET time does not negatively impact PACU duration.

Background:
- Previous studies have examined the impact of surgical duration and operating room utilization on perioperative performance and resource utilization.
- However, it is undetermined how variances in anesthetic management can influence these outcomes. Differences in anesthetic practice may lead to significant variation in total OR time.
- One component of this time is described as surgical end-to-transport (SET) time.

Objective:
- To examine how specific aspects of anesthetic management can impact SET time and if SET time has any association with the postoperative outcome PACU duration.

Methods:
- After IRB approval, DLB procedures performed by ORL from June 2012 to December 2014 were queried from the Anesthesia Information Management System (n=2419).
- Exclusion Criteria: patients with ASA status >2, age > 21, nerve blocks, tracheostomy, and unknown airway device or extubation status.
- Remaining cases (n=967) were dichotomized by the calculated median SET time (14 minutes) into two groups (≤14 minutes and >14 minutes).
- Multivariate logistic regression was performed to examine the impact of airway device and extubation status on SET time when controlling for ASA status, gender, age, and surgery duration.
- Due to the collinear relationship between airway device and extubation status, separate regression models were performed.
- Spearman Correlation was performed to evaluate the correlation between SET time and PACU duration.

Discussion: Airway device has a significant impact on surgical end-to-transport time.
- Patients with an ETI were 4.85 times more likely to have a SET time higher than 14 minutes compared to those with a LMA device (p=0.0023, 95% CI: 1.76, 13.33).
- Patients with an ETI were 2.89 times more likely to have a SET time higher than 14 minutes compared to those with a mask airway device (p=0.0015, 95% CI: 2.09, 3.98).
- Spearman Correlation shows a positive but very weak (r=0.09406) correlation between SET time and PACU duration.

Conclusion:
- Airway device has a significant impact on surgical end-to-transport time.
- Patients with an ETI are more likely to have a SET time higher than 14 minutes compared to patients with a LMA or mask airway.
- The weak positive association indicates that decreasing SET time does not negatively impact PACU duration.
- Future analyses will focus on commonly used anesthetics in patients with shorter SET times and positive postoperative outcomes.

References:

Table 1 and 2: Logistic regression output and odds ratio calculations (p<0.05)

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