Implementation of point of care ultrasound to confirm intraoperative placement of gastric tubes

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Background: Over a million gastric tubes are placed yearly for varying medical reasons including gastric decompression to decrease aspiration risk. In the OR, this is performed blindly and position is confirmed by auscultation, aspiration, or palpation by a surgeon. There is limited data in anesthesia literature about the incidence of intraoperative malpositioned gastric tubes, as well as feasibility of using Point-of-Care ultrasonography (POCUS) to confirm gastric tube placement in the OR.

Methods: Prospective observational study with a total of 82 subjects, all over 18 years of age, undergoing surgery with general endotracheal anesthesia and intraoperative blind placement of a gastric tube by an anesthesia provider. The primary objective of this study is to examine the feasibility of using POCUS to determine the position of gastric tubes placed intraoperatively, as well as estimate the incidence of malposition of blindly placed gastric tubes by anesthesia providers.

Results: In our analysis, we found that out of 89 patients 69 patients were successfully visualized; the incidence of malposition was 0.16 [95% CI, 0.09-0.26]. We did not find age, BMI, or sex to be associated with predisposing patients to intraoperative malposition of gastric tube. However, increasing years of experience of anesthesia provider correlated with higher malposition rates.

Conclusions: In summary, we demonstrate that use of POCUS to visualize insertion of gastric tube is a feasible and reliable method to determine the real-time correct placement of gastric tube in the intraoperative setting.

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