IS LAPAROSCOPICALLY ASSISTED PERCUTANEOUS ENDOSCOPIC GASTROSTOMY SUPERIOR TO STANDARD PEG PLACEMENT?

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INTRODUCTION

- Percutaneous Endoscopic Gastrostomy (PEG) tube placement is often required in patients with dysphagia following traumatic brain injury or stroke (CVA)
- Since first described in 1980, there has been little change to the procedure
- The addition of laparoscopy has been proposed as an adjunct to reduce complications
- We hypothesized that the LAPEG technique reduces major complications when compared to standard PEG

METHODS

- We performed a retrospective analysis of all gastrostomy tubes placed by the acute care surgery service at our level I trauma center database from May 2019 to December 2021 using either technique
- All adult patients were included if they had complete data
- The primary outcome measure was major complication, such as perforated transverse colon, necrotizing fasciitis, abscess, etc.
- Secondary outcome measures included minor complications, time in OR, and mortality.
- Chi squared testing was used for statistical comparisons between groups and t-testing was used for continuous variables

Major Complications	Minor Complications
• Percutaneous gastrostomy crossing transverse colon prior to entering stomach	• Clogged G tube
• G-tube in peritoneal cavity communicating with chest wall abscess	• Simple tube dislodgement
• Pneumoperitoneum and septic shock	• PEG tube malfunction
• Abdominal wall abscess	• Bleeding at site of PEG placement
• Necrosis of abdominal wall	• Skin erosion
• Necrotizing fasciitis	• PEG-site infection
• Type II MI	• Rash around PEG site
• PEA	• Esophageal mucosal injury during EGD

RESULTS

- 413 patients were identified for analysis; 265 males and 148 females
- 50 patients underwent LAPEG
- 363 patients underwent standard PEG placement
- 99% of all procedures were done in the OR
- Only 5 patients required conversion to open, all in the PEG group
- Patients who underwent PEG had a higher rate of major complications compared to LAPEG
    - 5.2% vs. 0%, although this was not statistically significant (P = NS)
- The minor complication rate was also lower, but again not statistically different
- Total complication rate was 16%
- OR time was significantly longer with LAPEG vs. PEG (38 minutes vs. 25 minutes, $P < 0.05$)
- Overall in-hospital mortality was 21%, higher in the PEG group - 22.6% vs. 10% ($P<0.05$)
- Bumper height was not different between LAPEG and PEG (3cm, P = NS) and there was no association with complication rates

CONCLUSIONS

- LAPEG was associated with a trend towards decreased major complication rates compared to standard PEG
- This was at the cost of an increase in operative time
- Further research: cost benefit analysis of LAPEG versus PEG to evaluate if the increase in time and cost of disposables is offset by the decreased costs of fewer complications