Wake Forest University School of Medicine

Laparoscopic Paraesophageal Hernia Repair with Pan-Gastropexy: A Novel Technique and Propensity Matched Analysis

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BACKGROUND:

- The recurrent paraesophageal hernia presents a challenge for surgeons, and the relative benefits of mesh implantation, fundoplication, and gastropexy in preventing recurrence are unclear.

- We present a novel approach, Pan-gastropexy (PGX), in which the cardia and majority of the greater curvature are affixed to the diaphragm and abdominal wall with hopes of mitigated recurrence

METHODS:

- Retrospective chart review of patients who underwent type II-IV paraesophageal hernia repair between 2012-2023.

- Paired propensity matched cohorts were created for PGX group and traditional gastropexy group based on age, diabetes, BMI, sex, and prior foregut surgeries.

- Primary outcome measured was objective evidence of recurrence.

- Secondary outcomes were ICU admission within thirty days, length of stay, dysphagia, gastro-esophageal reflux symptoms, proton pump inhibitor use at three months, and thirty day mortality.

- Wilcoxon sign rank test was applied to both groups for heterogeneity. A chi squared analysis was applied to each outcome metric to assess for significance.

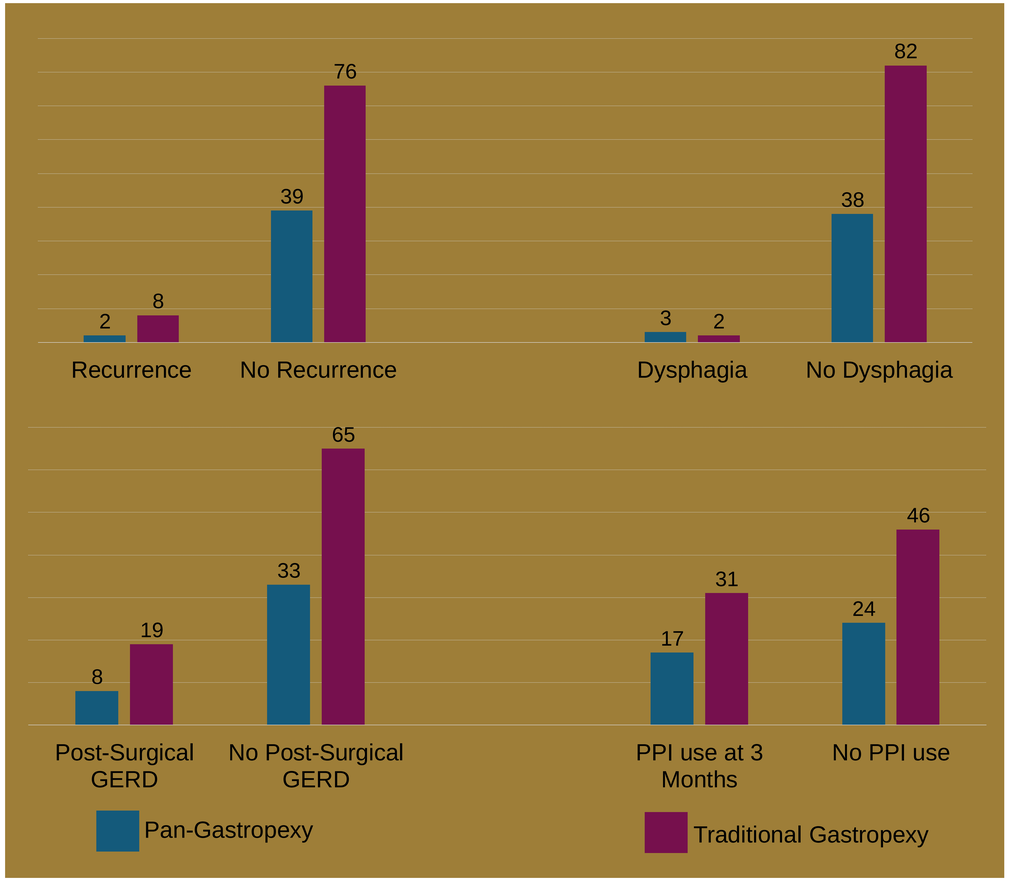


Figure 1: Comparing rates of outcomes in PGX versus traditional gastropexy group

RESULTS:

- Forty one patients underwent PGX, eighty two patients underwent traditional gastropexy.

- The recurrence rate in the traditional group was 9.5% and 4.9% in the PGX group.

- There were no statistically significant differences in the likelihood of recurrence, dysphagia (7%), GERD symptoms (19.5 %), PPI use (41%), ICU admission (4.8%), or thirty day mortality (0%).

CONCLUSION:

- Pan-gastropexy (PGX) presents a safe and novel repair strategy with recurrence rates that are comparable to existing literature.