EVALUATING THE LONG TERM INTEGRITY OF TRANSORAL INCISIONLESS FUNDOPLICATION (TIF) IN GERD PATIENTS USING QUANTITATIVE MEASURES

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Introduction

Gastroesophageal Reflux Disease (GERD) is a spectrum of disorders involving a variety of anatomic alterations that lead to reflux of gastric contents into the esophagus. Treatment typically includes lifestyle modification, medication, and finally procedural correction. Nissen fundoplication has historically been standard procedural treatment for GERD. However, this procedure is invasive and can lead to significant morbidity and bloat from an overcompetent LES. Transoral Incisionless Fundoplication presents an endoscopic solution to surgical GERD correction and consists of an incomplete fundoplication of 270 degrees or less. TIF may be an option for treatment of GERD patients with limited hiatal hernia (<2cm), distensible LES, and who may desire treatment earlier in the disease process. Though there is qualitative outcomes data available (Chimukangara et al, 2018), there is limited objective outcomes data available for TIF; in this study, we retrospectively examine quantitative measures of transesophageal fundoplication success in a small (n=36) 2 year population of TIF patients.

Methods

Patients underwent combination hiatal hernia repair with TIF (C-TIF) between the years 2014 and 2020. Outcome data include DeMeester score and acid exposure time obtained through Bravo pH probe placed during pre and post operative EGD. Intact TIF anatomy was also confirmed during postoperative EGD. Data was examined via applied longitudinal analysis using the program SAS with preoperative values as reference.

Methods



Table1: A) EsophyX device reconfigures GEV through series of plications. B) Esophyx delivers H fasteners C) End result is 270 degree plication.

Results

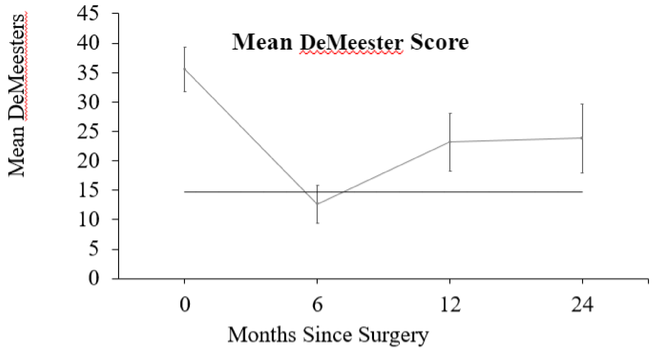


Figure 1: DeMeester score was found to be significantly reduced at 6, 12, and 24 months postoperative ($p < 0.001$, $p = 0.0131$, $p = 0.0176$) with an average preoperative score of 38 ± 4.5 SEM. Line denotes normal DeMeester value of 14.7.

Results

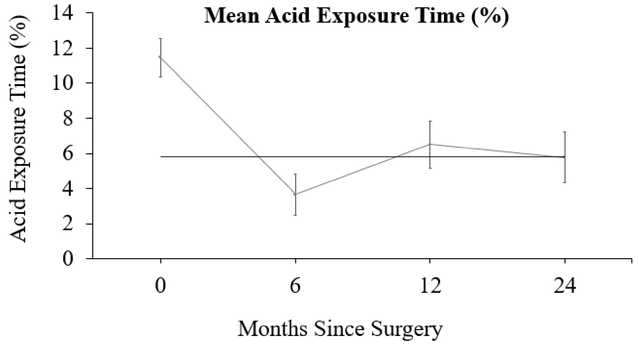


Figure 2: Acid exposure time, defined as % of time at pH <4 over 48 hours, was also significantly reduced at 6, 12, and 24 months ($p < .001$, $p=0.0006$, $p=0.0036$) with an average preoperative value of 11.8 ±1.3 SEM. Line denotes normal value of <5.8% per Pandolfino et al.

Discussion

1.TIF is an effective antireflux procedure at 6 months and 1 year postoperatively by proxy of Demeester score, though differences were largest during the 6 month visit steadily increased for the following two years.
2.TIF is an effective antireflux procedure at 6 months and 1 year postoperatively by proxy of acid exposure time, or time below pH of 4 over 48 hours at <5.8% per Bravo pH capsule.
3. More data is needed to determine the long term integrity of TIF using objective pH data, including longer term time points, chronic PPI use, and access to follow up care.