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Background

- Transoral incisionless fundoplication (TIF) is a minimally invasive procedure for treatment of gastroesophageal reflux disease.
- Serious adverse events, primarily bleeding and perforation, have been estimated around 2.4%^{1,2} Minor adverse side effects are frequent, but less well-established.
- The main aim of this study is to evaluate efficacy and short term outcome of the TIF procedure at a tertiary academic center in the United States.

Methods

- This is a retrospective study with prospective enrollment of patients who underwent a TIF procedure January 2018 to December 2021.
- All TIF procedures were performed using the EsoPHYX-Z device (EndoGastric Solutions, Redmond, WA) and were divided into 3 sequential group for statistical analysis.
- Technical success was defined as the ability to create a $\geq 270^\circ$ partial wrap with estimated longitudinal length of ≥ 2 cm.
- Immediate post procedure symptoms or procedure related adverse events up to 2 months post procedure were collected retrospectively.

Table 1- Baseline Characteristics

Age [mean \pm SD]	52.3 \pm 15.7
Female	67.6% (n=46)
White	79.4% (n=54)
Hispanic	32.4% (n=22)
Average BMI [mean \pm SD]	27.7 \pm 5.1
ASA Score	
II	69.1% (n=47)
III	29.4% (n=20)
IV	1.5% (n=1)
Hx of Barrett's ablation	4.4% (n=3)
Hx of esophageal surgery	
Nissen	8.8% (n=6)
Nissen and POEM	1.5% (n=1)
POEM	2.9% (n=2)
Indication for TIF	
Typical GERD	83.8% (n=57)
Atypical GERD	16.2% (n=11)
HILL Grade (if available)	
I	25% (n=14)
II	62.5% (n=35)
III	8.9% (n=5)
IV	3.6% (n=1)
pH Impedance or Bravo	
Acid	82.3% (n=51)
Non-acid	17.7% (n=11)

Significant increase in the number of fasteners over time (P-value<0.001)

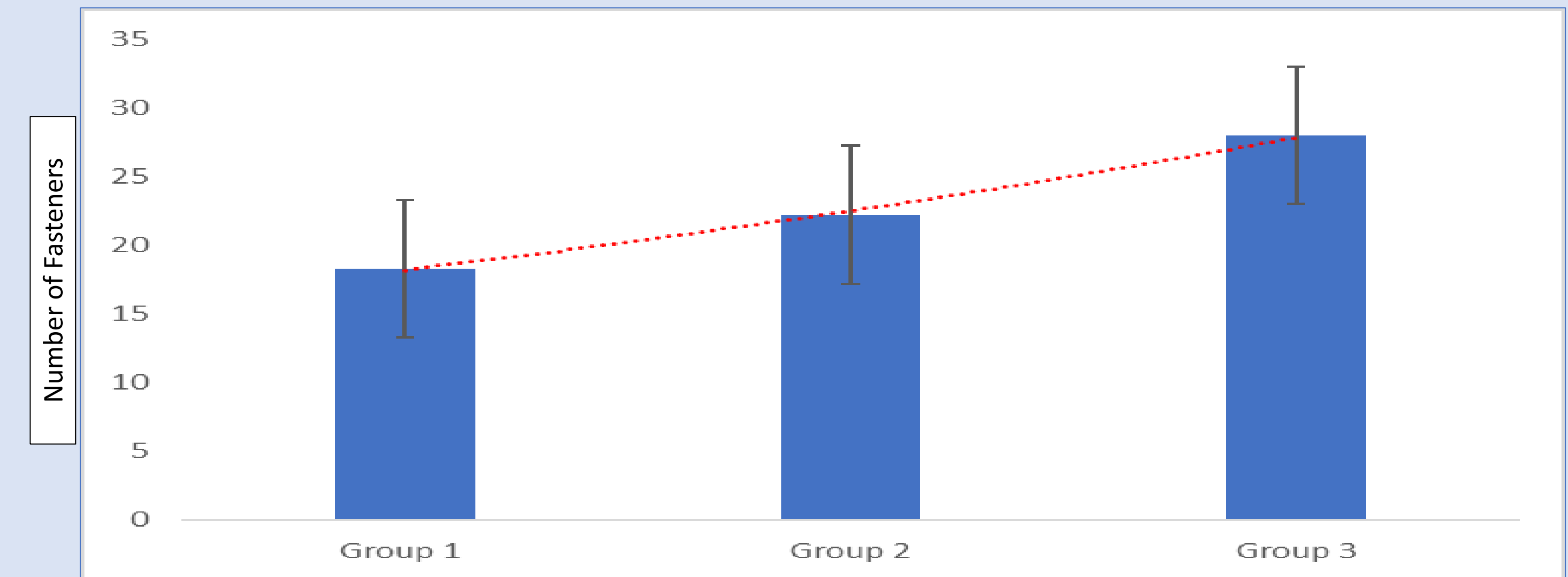


Table 2: Association between adverse event and number of fasteners

	OR (95% CI)	p-value
Immediate abdominal pain	1.13 (1.02-1.24)	0.014
Immediate chest pain	1.00 (0.89-1.12)	0.937
Immediate dysphagia/odynophagia	1.06 (0.92-1.23)	0.434
Immediate sore throat	1.04 (0.90-1.19)	0.608
Immediate nausea or vomiting	1.07 (0.96-1.19)	0.226

Table 3: Follow up EGD

Post-TIF EGD performed	42.6% (n=29)
Time interval between TIF and Follow up EGD	269.8 \pm 205.1 Days
Esophagitis on post-TIF EGD	10.3% (n=3)
Intact wrap on post-TIF EGD	62.1% (n=18)

Results

- 68 patients underwent 77 consecutive TIF procedures.
- Technical success was achieved in 100% of the patients.
- Immediate outcome: Abdominal pain (28.6%), chest pain (10.4%), Dysphagia/odynophagia (6.5%), sore throat (7.8%), nausea/vomiting (14.3%).
- **The more fasteners used, the higher the odds of having abdominal pain (increase in 1 fastener: OR 1.13, 95% CI: 1.02, 1.24).**
- Nine patients (13.2%) underwent redo TIF and 2 (2.9%) proceeded with surgical fundoplication for persistent symptoms

Conclusion

- For PPI refractory GERD with regurgitation as primary feature, 2022 ACG guideline recommends either anti-reflux surgery or TIF in select patients.^{3,4}
- Immediate discomfort post TIF is not uncommon. The higher number of fasteners increases the risk of abdominal pain post TIF. Short term outcomes are consistent with prior studies.



References