

Comparative Effectiveness of G-POEM for Post-Esophagectomy Gastroparesis Versus Other Post-Surgical Etiologies

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Background

- Gastroparesis affects 10–50% of patients after esophagectomy, driven by multifactorial and incompletely understood mechanisms including vagal denervation & functional pyloric obstruction
- Most perform prophylactic pyloric drainage at esophagectomy; no consensus on optimal approach — pyloroplasty, pyloromyotomy, and Botox each carry distinct tradeoffs
- G-POEM is an effective treatment for refractory post-surgical gastroparesis, serving as a rescue option for post-esophagectomy patients who fail prophylactic drainage
- Outcomes of G-POEM in this physiologically distinct population remain poorly defined

Methods

- Single-center retrospective cohort, Cleveland Clinic, January 2017–April 2024
- 55 patients: post-esophagectomy (n=21) vs. other surgical etiologies (n=34)
- Other surgical: Hiatal hernia repair (HHR) with fundoplication (70.6%), HHR without fundoplication (14.7%), Heller myotomy (14.7%)
- Clinical success: ≥ 0.5 -point GCSI reduction
- GES: 4-hour solid-phase scintigraphy

Baseline Characteristics

	Post-Esophagectomy (n=21)	Other Surgical (n=34)	P
Age, years	57.5 [49.3, 67.9]	63.1 [45.0, 75.2]	.146
Male	13 (61.9%)	6 (17.6%)	.001
BMI	27.5 [21.9, 33.0]	24.4 [20.6, 29.0]	.033
Malignancy	13 (65.0%)	8 (23.5%)	.004
Time to G-POEM, months	32.5 [11.8, 94.5]	12.7 [7.2, 32.8]	.002
Baseline GCSI	2.1 [1.3, 3.8]	2.6 [1.5, 3.7]	.375
Baseline 4h retention, %	44.0 [1.0, 78.5]	42.5 [7.0, 80.7]	.748
Values are n (%) or median [15th, 85th percentile].			

Pyloric drainage at esophagectomy: pyloromyotomy (57.1%), pyloroplasty (23.8%), botulinum toxin (4.8%), none (9.5%)

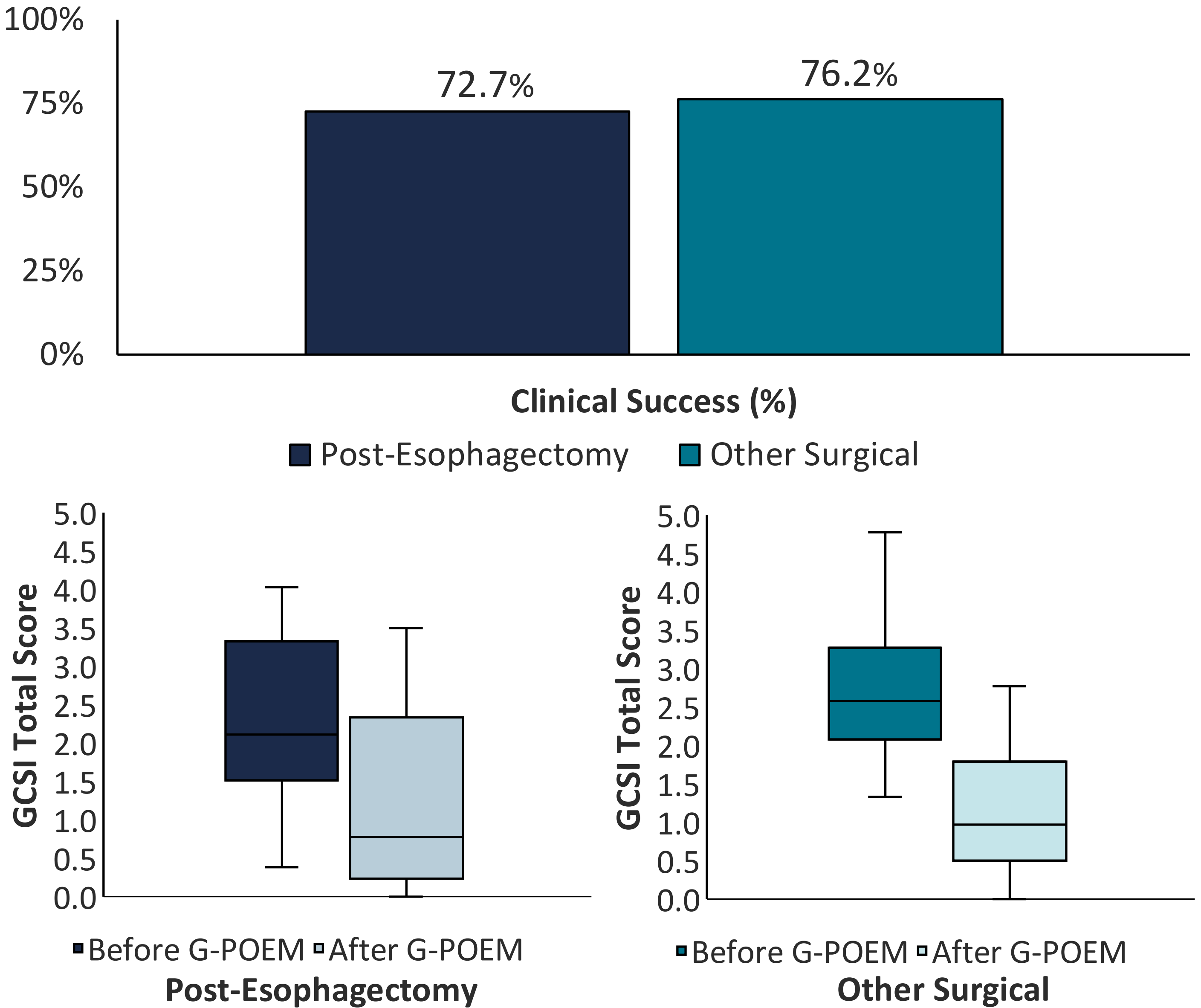
Botox Before G-POEM

- Botox administered prior to G-POEM to confirm absence of dumping syndrome before committing to myotomy: 95.2% of post-esophagectomy vs. 82.4% of other surgical patients ($P=.232$)
- Symptomatic response: 100% of post-esophagectomy vs. 66.7% of other surgical patients ($P=.006$)

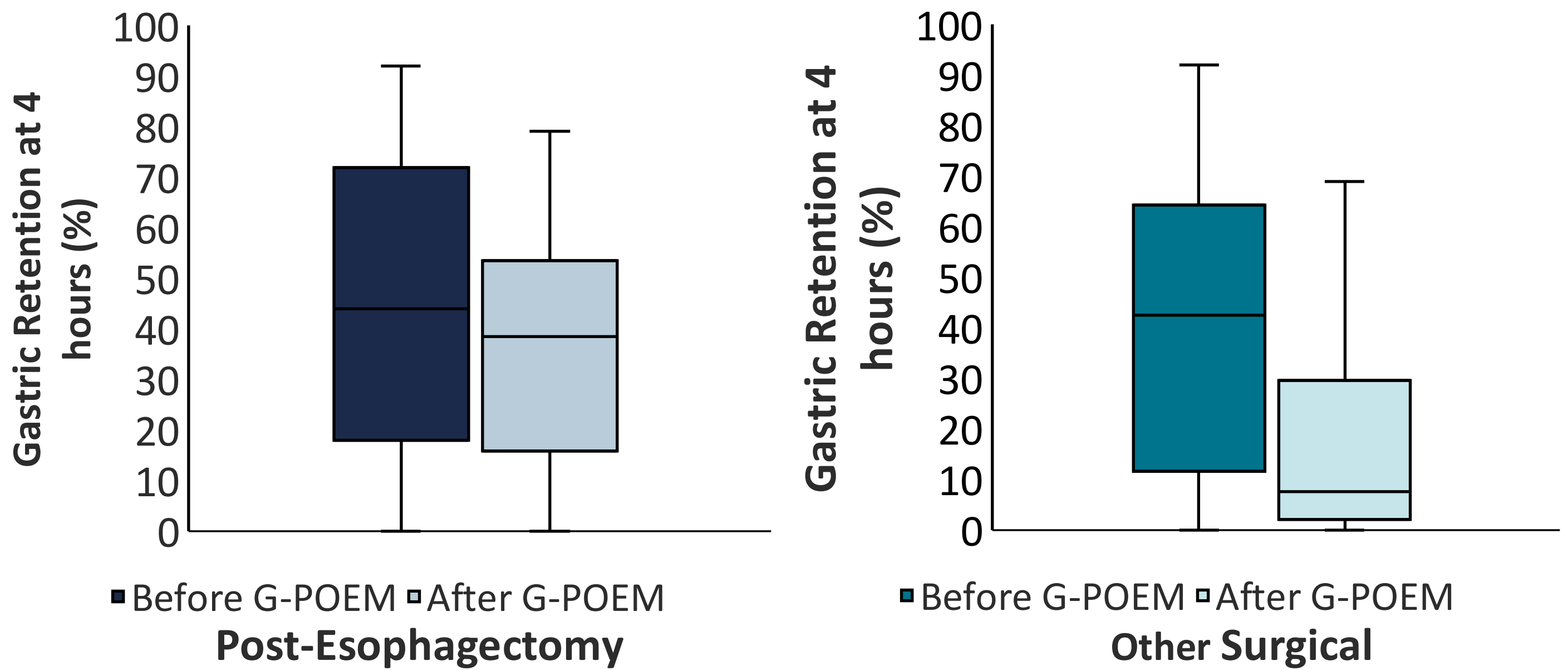
Procedural Outcomes

- Procedure time: 34.0 vs. 35.5 min (post-esophagectomy vs. other surgical, $P=.287$)
- One postoperative contained leak in post-esophagectomy group; no complications in other surgical group
- Length of stay: 1 day both groups ($P=.776$)

Clinical Outcomes



Gastric Emptying Outcomes



GES normalization: 30.8% vs. 50.0% ($P=.324$)

Conclusions

- G-POEM achieves equivalent clinical success in post-esophagectomy gastroparesis compared to other surgical etiologies, with significant improvement in nausea/vomiting and postprandial fullness in both groups
- Botox should be administered prior to G-POEM to exclude dumping syndrome; universal symptomatic response in post-esophagectomy patients warrants prospective evaluation of Botox as a formal selection criterion
- Symptom-emptying discordance in post-esophagectomy patients likely reflects altered conduit anatomy & physiology — standard scintigraphy may underestimate the functional benefit of myotomy in this population
- These findings support G-POEM as a safe and effective rescue therapy for post-esophagectomy gastroparesis following prophylactic pyloric drainage, providing rationale for a more selective and temporary drainage strategy at esophagectomy