Association between EndoFLIP measurements and success of per oral pyloromyotomy for gastroparesis

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Background

- Per oral pyloromyotomy (POP) is considered first-line treatment for gastroparesis
- EndoFLIP impedance planimetry system can be used to measure pyloric characteristics before and after POP
- It is unknown how changes in EndoFLIP measurements correlate with postoperative changes in gastroparesis symptoms

Objective

- To evaluate associations between changes in EndoFLIP measurements and changes in gastroparesis symptoms as measured by Gastroparesis Cardinal Symptom Index (GCSI) scores

Methods

- Adult patients with gastroparesis who underwent POP between 2020-2023 were identified using our institution's foregut surgery database
- Patients with both preoperative and postoperative GCSI scores were included
  - Preoperative GCSI scores were obtained prior to surgery
  - Postoperative GCSI scores were obtained at least 3 months after surgery
- EndoFLIP measurements were taken intraoperatively before and after POP, measured at 40 mL balloon filling
  - Pyloric diameter, distensibility, cross-sectional area (CSA), and pressure

Methods

- Success after POP was defined as a decrease in GCSI score greater or equal to 1
- Spearmen correlation coefficients were used to examine relationship between changes in GCSI and EndoFLIP parameters

Results

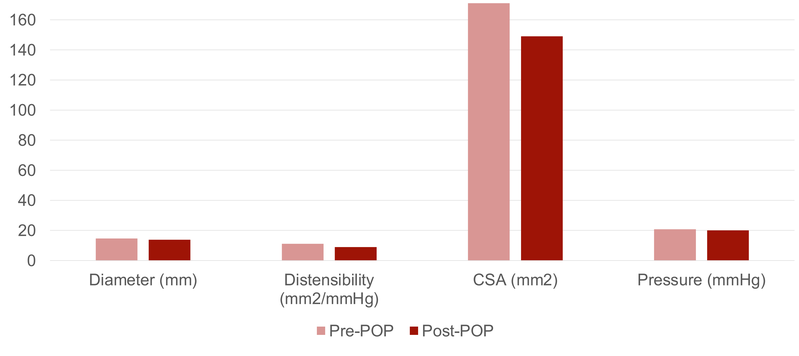
- 7 patients with gastroparesis who underwent POP were included in the study cohort
- 6 patients had "success" (defined as a decrease in postoperative GCSI greater or equal to 1)

Table 1. Characteristics of patients who underwent POP with intraoperative EndoFLIP measurements

	n = 7 patients
Median age (years)	58.0
Sex (n,%)	
Female	6 (85.7%)
Male	1 (14.3%)
Median BMI (kg/m^2)	30.3
Median follow-up time (days)	352 (min: 98; max 652)
Etiology of gastroparesis (n,%)	
Idiopathic	1 (14.3%)
S/p esophagectomy	2 (28.6%)
S/p any foregut surgery	3 (42.9%)
Trauma	1 (14.3%)
Median GCSI scores	
Preoperative	3.4 (IQR 1.7)
Postoperative	1.2 (IQR 1.4)
Change (postoperative – preoperative)	- 2.6 (IQR 2.2)

Results

Figure 1. Median pre- and post-POP EndoFLIP parameters



- There were no statistically significant associations between GCSI score changes and change in EndoFLIP parameters

Conclusions

- In this single institution pilot study, we did not find any association between changes in EndoFLIP parameters and gastroparesis symptoms after POP
- Further studies are indicated to identify the utility of EndoFLIP in per oral pyloromyotomy for gastroparesis

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