OUTCOMES OF ROBOTIC PYLOROPLASTY FOR GASTROPARESIS AND ADULT HYPERTROPHIC PYLORIC STENOSIS: A CASE SERIES

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INTRODUCTION

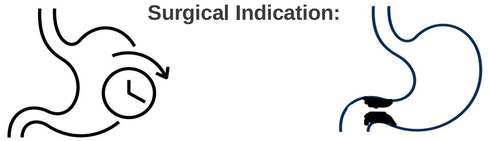
Gastroparesis and adult hypertrophic pyloric stenosis (AHPS) are both characterized by impaired gastric emptying. While laparoscopic pyloroplasty and gastric peroral endoscopic myotomy (G-POEM) are both well-described for the treatment of gastroparesis and infantile hypertrophic pyloric stenosis, data on robotic pyloroplasty (RP) outcomes, particularly in the treatment of AHPS, remains scarce. This study presents the outcomes of RP for these conditions at our institution.

METHODS

1. nausea (feeling sick to your stomach as if you were going to vomit or throw up)
2. retching (heaving as if to vomit, but nothing comes up)
3. vomiting
4. stomach fullness
5. not able to finish a normal-sized meal
6. feeling excessively full after meals
7. loss of appetite
8. bloating (feeling like you need to loosen your clothes)
9. stomach or belly visibly larger

We retrospectively reviewed patients who underwent RP for any indication at our institution from April 2022 to August 2024 (n = 10 patients). Baseline demographics, perioperative outcomes, and pre- and post-operative symptom scores using the Gastroparesis Cardinal Symptom Index (GCSI) were analyzed. Statistical significance of decrease in GCSI score was determined using paired T-tests.

RESULTS



gastroparesis
n=4 (40%)

pyloric stenosis
n=6 (60%)

Baseline Characteristics

Variable	Outcome
Sex (Female)	9 (90%)
Age (±SD, years)	47.9 ± 14.6
Race	
White	8 (80%)
Hispanic	1 (10%)
African American	1 (10%)
BMI (±SD, kg/m2)	26.26 ± 6.72
DM	1 (10%)
HTN	2 (20%)
COPD	0 (0%)
GERD	10 (100%)
PPI/H2 Blocker Use	10 (100%)
GLP-1 Agonist Use	1 (10%)
Any previous intervention	9 (90%)
G POEM	3 (30%)
Dilation	5 (50%)
Stent	2 (20%)
Botox	1 (10%)

All cases of gastroparesis were idiopathic. For pyloric stenosis, 50% (n = 3) were idiopathic, 33.3% (n = 2) were peptic ulcer disease (PUD) related, and 16.7% (n = 1) had inflammatory bowel disease (IBD).

Average operative time was 139.6 minutes, or 105.8 minutes when performed without concomitant procedures. Median length of stay was 2.0 days, with one notable outlier due to postoperative delirium.

The 30-day complication rate was 10% (1 unplanned ICU admission), with no complications of bleeding, leak, SSI, or reoperation.

Total GCSI	All (n=9/10)	Gastroparesis (n=3/4)	Pyloric Stenosis (n=6/6)
Pre	3.76 ± 0.68	4.17 ± 0.24	3.55 ± 0.75
Post	1.61 ± 1.19	2.63 ± 1.35	1.10 ± 0.78
P-value	**<0.001**	0.097	**<0.001**

*Data are displayed as mean ± standard deviation

CONCLUSIONS

Robotic pyloroplasty appears to be a safe and effective procedure for both gastroparesis and adult hypertrophic pyloric stenosis, with clinically significant improvement, particularly in pyloric stenosis patients. This study is limited by a small sample size, and larger studies are warranted to confirm these findings.

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