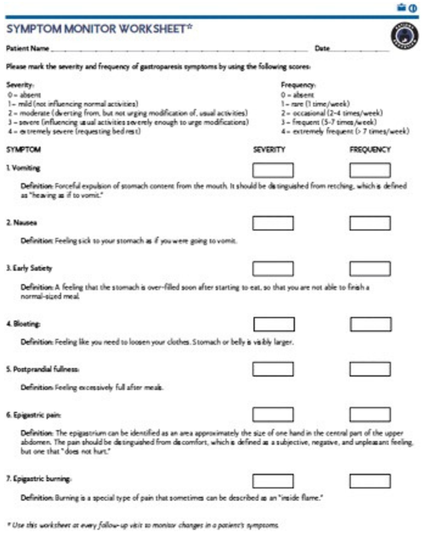
SURGICAL TREAMENT OF REFRACTORY GASTROPARESIS IS SUCCESSFUL IN SELECTED PATIENTS

Min Kang, MD, Alhasan Alaini, MD, Pryia Puri, MD, Cruz Velasco-Gonzalez, PhD, William S. Richardson, MD

Introduction

Gastroparesis is a complex, debilitating motility disorder defined as delayed gastric emptying without known mechanical obstruction.[1,2] Surgical treatment options include pyloromyotomy, pyloroplasty, gastric stimulator placement, and various types of gastrectomy.[3] Gastric electrical stimulation is FDA-approved as a HUD for medically refractory idiopathic and diabetic gastroparesis.[4] However, our preliminary research from a study in 2018 suggested promising results for gastric stimulation as the initial surgical management of gastroparesis.[5] However, the small sample size limits the validity of these results. Thus, we have expanded the preliminary study to include a larger sample size.

Methods



SYMPTOM MONITOR WORKSHEET*

Patient Name _____ Date _____

Please mark the severity and frequency of gastroparesis symptoms by using the following scores:

Severity:
0 – absent
1 – mild (not influencing normal activities)
2 – moderate (deviring from, but not urging modification of, usual activities)
3 – severe (influencing usual activities severely enough to urge modifications)
4 – extremely severe (requesting bed rest)

Frequency:
0 – absent
1 – rare (1 time/week)
2 – occasional (2-4 times/week)
3 – frequent (5-7 times/week)
4 – extremely frequent (> 7 times/week)

SYMPTOM	SEVERITY	FREQUENCY
1. Vomiting		
Definition: Forceful expulsion of stomach content from the mouth. It should be distinguished from retching, which is defined as "heaving as if to vomit."		
2. Nausea		
Definition: Feeling sick to your stomach as if you were going to vomit.		
3. Early Satiety		
Definition: A feeling that the stomach is over-filled soon after starting to eat, so that you are not able to finish a normal-sized meal.		
4. Bloating:		
Definition: Feeling like you need to loosen your clothes. Stomach or belly is visibly larger.		
5. Postprandial fullness:		
Definition: Feeling excessively full after meals.		
6. Epigastric pain:		
Definition: The epigastrium can be identified as an area approximately the size of one hand in the central part of the upper abdomen. The pain should be distinguished from discomfort, which is defined as a subjective, negative, and unpleasant feeling, but one that "does not hurt."		
7. Epigastric burning:		
Definition: Burning is a special type of pain that sometimes can be described as an "inside flame."		

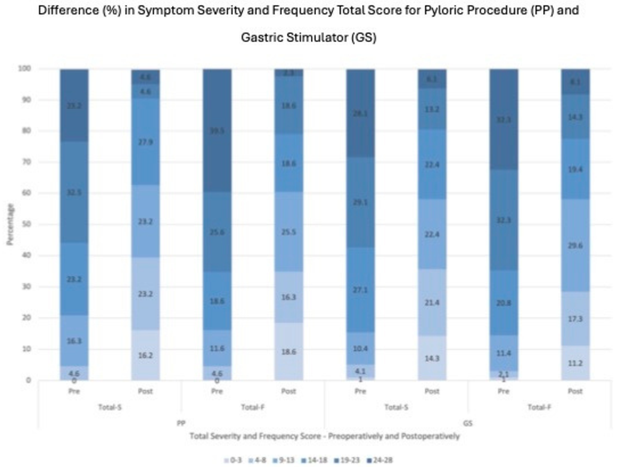
Use this worksheet at every follow-up visit to monitor changes in a patient's symptoms.

A prospective cohort study utilizing GSCI surveys administered preoperatively and two weeks postoperatively for adults undergoing pyloric procedure(PP) and gastric stimulator(GS) between 2020 and 2024. 43 PP and 98 GS patients included. The survey assessed severity(S) and frequency(F) of vomiting(V), nausea(N), early satiety(ES), bloating(B), postprandial fullness(PF), epigastric pain(EP), and epigastric burning(EB). Symptoms rated from 0 to 4, with a maximum total of 28. P-value calculated using proportional odds ordinal logistic regression, with odds-ratio and 95% confidence interval.

Results

There was a statistically significant reduction in all scores on the GSCI survey for both PP ($p<0.005$) and GS ($p<0.0005$). The highest odds of reporting a lower score was B-F (8.53, 3.53-20.6) and V-F (7.05, 2.99-16.6) for PP, and N-F (6.15, 3.44-11.0) and N-S (6.12, 3.49-10.7) for GS.

For PP, the odds ratio of reporting a lower score ranges from 3.31 (1.50-7.31) for ES-F to 8.53 (3.53-20.6) for B-F; and for GS it ranges from 3.02 (1.79-5.09) for EB-S to 6.15 (3.44-11.0) for N-FF. Graph 1 shows the percentage change in total scores.



Discussion

Our preliminary results suggest that both PP and GS improve symptoms similarly in a short term period of 2 weeks. GS showed better results in reducing nausea severity and frequency while PP showed a greater reduction in bloating and vomitting. In the 2018 study, GS significantly improved frequency and severity for all symptoms except frequency of bloating and postprandial fullness while PP significantly improved nausea and vomiting severity, frequency of nausea, and early satiety. The larger sample size in this study suggests both treatment modalities are effective in significantly reducing all symptoms with similar results for both groups.

Further follow up of duration 2-6 months is needed to analyze efficacy of surgical treatment long term to better tailor surgical modatily to patients' symptoms.

Conclusion

There was significant improvement in severity and frequency of symptoms postoperatively for PP and GS. The results show improvement over a prior study, suggesting better patient selection.

References

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