EVALUATING A NOVEL PRE-OPERATIVE BARIATRIC GERD ALGORITHM

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INTRODUCTION

- Sleeve gastrectomy remains the most common bariatric procedure performed in the United States.[1]
- However, patients are at increased risk of developing or exacerbating gastric reflux postoperatively compared with gastric bypass.[2]
- Currently, there is no standardized pre-operative workup to determine which patients are appropriate candidates for sleeve gastrectomy versus bypass.[3]
- We created an algorithm and analyzed the results of the various gastrointestinal studies patients received along with their GERD Impact Scale (GIS) to assess their utility in this process.

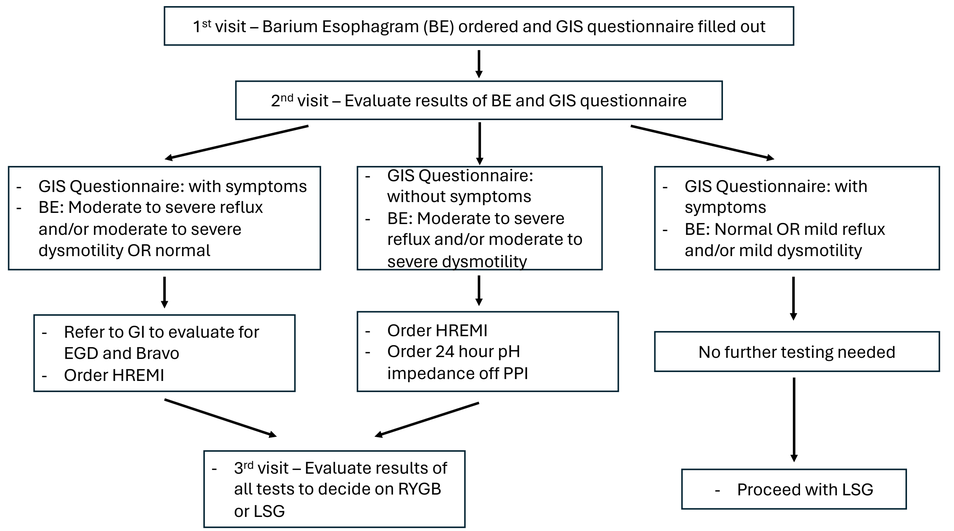
METHODS

- 208 patients who underwent bariatric surgery at Temple University Hospital between 2013 and 2023 were identified. The algorithm for determining testing and recommending which bariatric surgery procedure can be found in the figure.
- The GIS score and upper GI fluoroscopy (UGI) results (presence of reflux, dysmotility, and hiatal hernia) of patients were compared to EGD (presence of esophagitis, hiatal hernia, Barrett's esophagus, and eosinophilic esophagitis), manometry (presence of dysmotility, hiatal hernia), and pH impedance (DeMeester score and acid percent time).
- Analysis was done through either logistic regression or correlation depending on the variables.

RESULTS

- 208 patients (20 males and 188 females) were included in the analysis.
- There were 25 (12%) Caucasian, 94 (45%) African American, and 89 (43%) Hispanic patients.
- The average age at time of surgery was 44.2 years.
- Higher GIS scores were significantly associated with hiatal hernias (OR 1.07, $p = 0.04$) and a marginally significant probability of dysmotility (OR 1.07, $p = 0.057$) on manometry.
- Patients exhibiting reflux or hiatal hernia on UGI had hiatal hernias detected on EGD ($p = 0.05$) or manometry ($p < 0.01$) respectively.
- The other comparisons were not significant.

Figure 1: Proposed pre-operative GERD algorithm



CONCLUSION

- The pre-operative workup for reflux for sleeve gastrectomy is varied among practices.
- Subjective symptomology (GIS score), manometry, pH impedance, and EGD have all been used to quantify reflux prior to surgery.
- Our data suggests that GIS score is related to hiatal hernias and dysmotility.
- Hiatal hernia on upper GI correlated with manometric hiatal hernia.
- Reflux seen on UGI is positively correlated with hiatal hernias.
- Notably, pH impedance did not correlate with any screening tests.
- Our results indicate that some preoperative testing in our current algorithm may not be necessary, which would decrease costs.
- Further studies are needed to identify the ideal pre-operative reflux workup.

NEXT STEPS

- Determine if GIS score changed depending on which type of procedure was performed (sleeve gastrectomy or gastric bypass)
- When controlling for various preoperative testing results, establish if surgery type has an impact on postoperative GIS score.
- Determine if preoperative testing results are an indicator for postoperative GIS score.

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