Impact of Bariatric Surgery on Asthma Severity and Medication Use

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GUNDERSEN HEALTH SYSTEM

INTRODUCTION

- 10% of adults with obesity have asthma[1,2]
- The incidence of GERD in those with obesity ranges from 20-80% [3,4]
- Bariatric surgery is the most effective weight loss therapy[5]
  - Significantly improves or resolves many obesity related comorbidities
- Inconclusive data on asthma, GERD outcomes[6,7]. May depend on operation

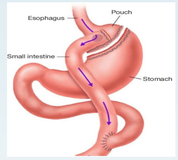


Figure 1: Roux-en-Y Gastric Bypass



Figure 2: Sleeve Gastrectomy

OBJECTIVES

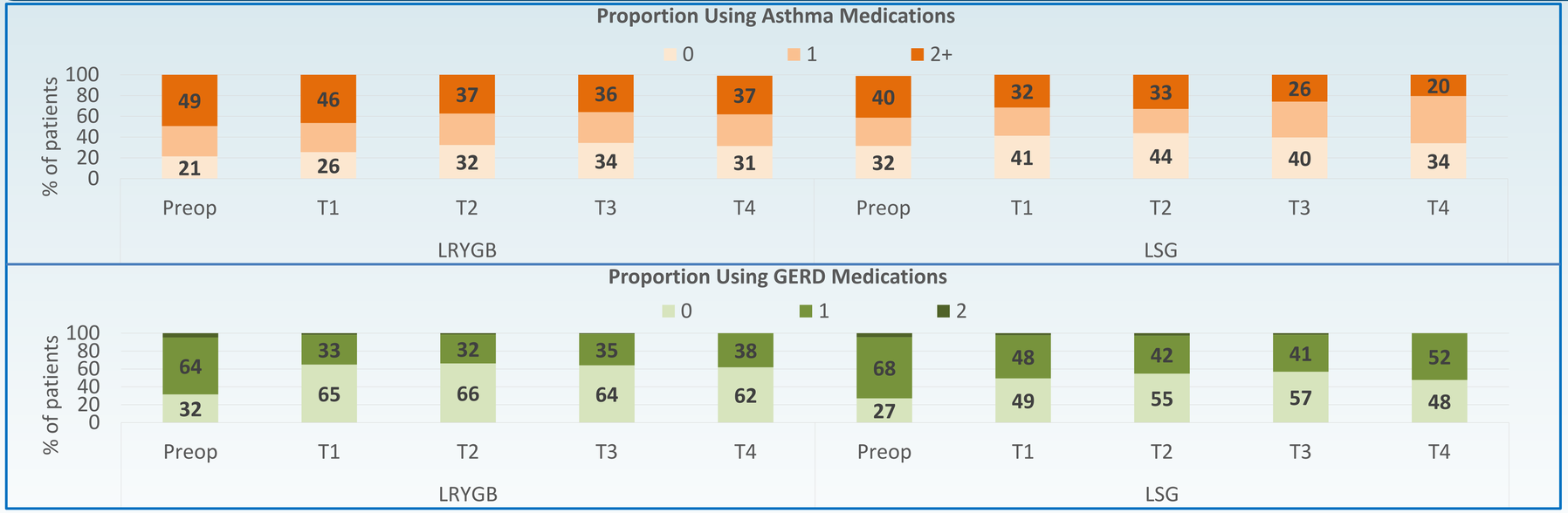
- **Objective:** Define the impact of bariatric surgery on asthma & GERD severity
- **Primary Outcome:** Number of prescribed asthma and GERD medications
- **Secondary Outcomes:** To compare trends in post-surgical BMI and pulmonary function tests between surgery types over 5 years

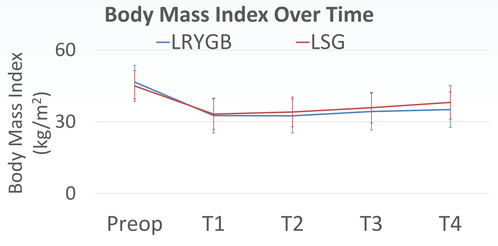
METHODS

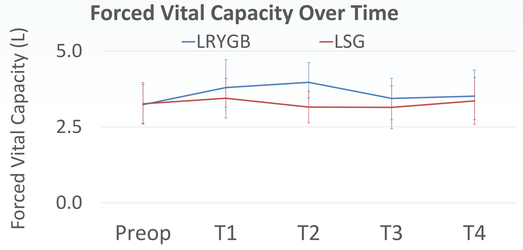
- IRB-approved retrospective study
- Queried health records for patients 2010-2020 with asthma diagnosis
- Conventional statistical analysis
  - Wilcoxon Two-Sample Test, Chi-Square Test, Fisher's Exact Test
- $P < 0.05$ statistical significance
- Recorded BMI, spirometry, prescribed asthma & GERD medications
  - Preoperative (Preop)
  - <18 months post-surgery (T1), 18-36 months post-surgery (T2)
  - 37-60 months post-surgery (T3), 60+ months post-surgery (T4)

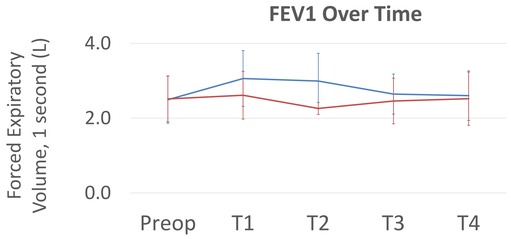
Characteristic	N = 260
Surgery Type, n (%)	
Laparoscopic Roux-En-Y Gastric Bypass (LRYGB)	168 (65.0%)
Laparoscopic Sleeve Gastrectomy (LSG)	92 (35.0%)
Complications, n (%)	2 (0.8%)
Available Spirometry Data, n (%)	128 (49.0%)

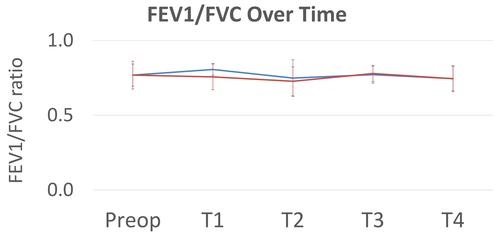
RESULTS











CONCLUSIONS

- Less asthma and GERD medication use after bariatric surgery
  - Decreased use persists at 5 years
  - No significant difference between LRYGB and LSG
- Weight loss does not directly result in improvements of measures of lung restriction (FVC) or measures of obstruction (FEV1/FVC), which remained largely unchanged

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