EFFECT OF BILATERAL TRUNCAL VAGOTOMY AT THE TIME OF PRIMARY ROUX-EN-Y GASTRIC BYPASS ON POSTOPERATIVE MARGINAL ULCER RATES

Benjamin J Smith, MS3; Mark Mahan, MD; Vladan Obradovic, MD; David Parker, MD; Alexandra Falvo, MD; James Dove, BA; Anthony T Petrick, MD
Geisinger Medical Center, Danville, PA

Background

- **Marginal ulcer (MU) incidence after primary RYGB is 5-10%[1]**
- **Bilateral truncal vagotomy (BTV)**
  - **Reduces gastric acid**
  - **Associated with weight loss[2]**
  - **Reserved for patients with high risk of gastric acid related complications**

Objectives

- **Primary aim: compare MU incidence in patients who underwent RYGB with and without BTV**
- **Secondary aims: compare MU complication rates, GERD, PPI use, and percent body weight loss**

Methods

- **Single-institution, retrospective review at a tertiary academic medical center**
- **BTV selection criteria**
  - **Low dose pre-operative PPI use with continuation of GERD symptoms or**
  - **High dose pre-operative PPI use**
- **Inclusion Criteria: All patients undergoing primary RYGB, with or without BTV from 2015-2020**
- **Exclusion Criteria: Patient records with incomplete data**
- **Patients with post-operative EGD were considered symptomatic for GERD**
- **Statistical Analysis: Fisher's exact test**
- **Percent postoperative PPI use was calculated accordingly based upon patient follow-up at the selected time intervals for study duration**
- **Major complications: anastomotic bleed, GI bleed, organ space SSI, unplanned ventilation, on ventilator within 48 hours of surgery, acute renal failure, CVA, cardiac arrest, MI, sepsis, septic shock, unplanned ICU admission, bowel obstruction**

References

1. Pyke O, et al. *Surgical Endoscopy.* 2018
2. Kral JG, et al. *Surgical Clinics of North America.* 1979

Geisinger

Results

Table 1: Patient Demographics

Demographics	RYGB (n = 1940)	RYGB with BTV (n = 55)	p-value
Age	44.5 ± 11.0	47.7 ± 11.1	**0.034**
BMI	46.1 ± 7.4	44.1 ± 6.1	**0.044**
Sex			0.201
Female	1600 (82.5%)	49 (89.1%)	
Male	340 (17.5%)	6 (10.9%)	
DM	558 (28.8%)	15 (27.3%)	0.810
HTN	822 (42.4%)	30 (54.6%)	0.072
Hyperlipidemia	677 (34.9%)	16 (29.1%)	0.373
COPD	60 (3.1%)	2 (3.6%)	0.688
Asthma	333 (17.2%)	11 (20%)	0.583
Cancer	55 (2.8%)	1 (1.8%)	0.999
Smoking (ever/never)	937 (48.3%)	27 (49.1%)	0.908
Preoperative PPI use	1835 (94.6%)	55 (100%)	0.115

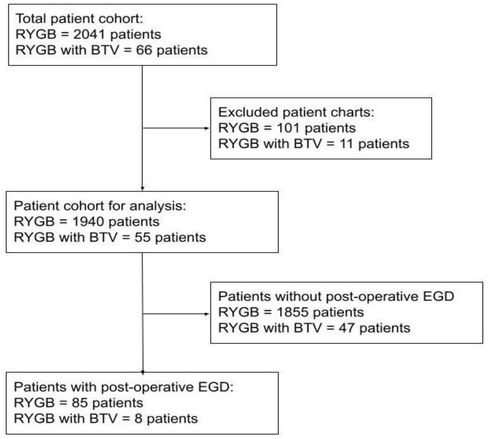
Table 2: Patient Outcomes

Outcomes	RYGB (n=1940)	RYGB with BTV (n=55)	p-value
Marginal Ulcers			0.999
No	1905 (98.2%)	54 (98.18%)	
Yes	35 (1.80%)	1 (1.82%)	
Any Complication	78 (4%)	5 (9.1%)	0.075
Minor Complication	55 (2.8%)	2 (3.6%)	0.670
Major Complication	36 (1.9%)	5 (9.1%)	**0.005**
GJ Anastomosis Stenosis	34 (1.7%)	3 (5.4%)	0.080
GG fistula	2 (0.1%)	0 (0%)	0.999
GJ Anastomosis Bleed	6 (0.3%)	0 (0%)	0.999
Percent Weight Loss			
1 Year	30.4	25.2	**<0.001**
2 Years	30.6	25.8	**0.003**
3 Years	28.2	27.5	0.769

Table 3: Patients with Postoperative EGD Outcomes

Outcomes	RYGB (n=85)	RYGB with BTV (n=8)	p-value
Postoperative PPI use			
6 Months	64 (75.3%)	7 (87.5%)	0.675
1 Year	59 (96.7%)	7 (100%)	0.999
2 Years	47 (100%)	6 (100%)	n/a
GERD Evidence on EGD	22 (25.9%)	4 (50%)	0.213

Figure 1: Patient Distribution



Key Findings

- **RYGB with BTV patients were older and had lower pre-operative BMIs**
- **RYGB with BTV did not reduce the risk of post operative MU or GJA complications**
- **RYGB with BTV was associated with a higher incidence of major complications**
- **RYGB without BTV was associated with significantly better percent body weight loss in the first two years post-procedure**

Conclusions

- **Despite implementation in a higher risk population, RYGB with BTV had similar postoperative MU incidence, GJ anastomosis complications, postoperative PPI use, and GERD incidence as RYGB alone.**
- **RYGB with BTV has a higher rate of major complications**
- **Advise against concomitant RYGB with BTV**