5 YEAR COMPARISON OF ROUX-EN-Y GASTRIC BYPASS VS. VERTICAL SLEEVE GASTRECTOMY FOR DIABETIC PATIENTS WITH BMI LESS THAN 50

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Introduction

Bariatric surgery is one of the most effective treatment strategies for obesity and its associated comorbidities. Previous data suggest that diabetic control is best achieved with RYGB. Whether this holds true for those presenting with lower pre-operative BMIs is not well understood.

Methods

Ontario Bariatric Registry data was retrospectively reviewed to compare 5-year outcomes in diabetic patients with pre-operative BMIs less than 50 who underwent Roux-en-Y gastric bypass (RYGB) with those who underwent vertical sleeve gastrectomy (VSG) between 2010 and 2021. Outcomes were analyzed with an intention-to-treat analysis.

Characteristics	RYGB	VSG
N	3419	475
Age, mean(sd)	49.2 (8.8)	54.1 (9.3)
Female, n (%)	2587 (75.7)	341 (71.8)
Ethnicity, n (%)		
Aboriginal	109 (3.2)	15 (3.2)
Caucasian	2378 (69.6)	357 (75.2)
Other	429 (12.5)	44 (9.3)
Unknown	503 (14.7)	59 (12.4)
BMI, mean(sd)	43.4 (3.9)	43.8 (4.0)
DM, n (%)	3419 (100.0)	475 (100.0)
Dyslipidemia, n (%)	2132 (62.4)	289 (60.8)
Hypertension, n (%)	2284 (66.8)	321 (67.6)
GERD, n (%)	1577 (46.1)	224 (47.2)
OSA, n (%)	1844 (53.9)	272 (57.3)
MSK pain, n (%)	2322 (67.9)	310 (65.3)

Table 1. Baseline Demographic Characteristics

Results

- In total, 3894 diabetic patients underwent bariatric surgery; 3419 (88%) had RYGB and 475 (12%) underwent VSG. The average BMI was 43.4 in RYGB group and 43.8 in VSG group.
- At 3-, and 5-years following surgery, there were 973, and 402 RYGB patients, and 96, and 36 VSG patients, respectively, available for follow-up.
- At all time points following surgery, BMI was lower, and the percent of excess weight loss (%EWL) and total weight loss (%TWL) were higher in RYGB patients compared to VSG patients.
- In the initial years following surgery, RYGB patients had lower rates of obesity-related comorbidities.
- The RYGB group had a higher rate of HbA1c improvement at both 3 and 5 years follow-up.
- Overall, 11 patients underwent conversion from VSG to RYGB. The most common indications were weight regain, dumping syndrome, and nausea/vomiting. One patient underwent conversion from RYGB to VSG for malnutrition.

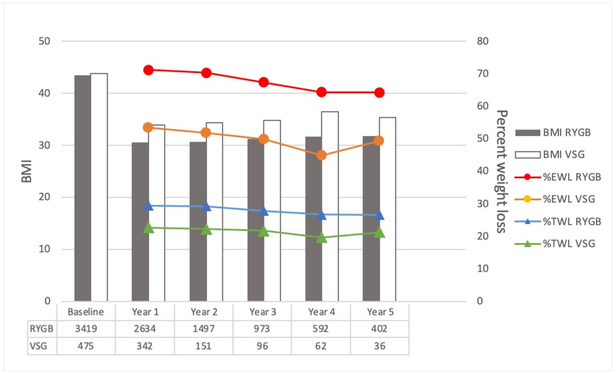


Figure 1: Changes in weight parameters over 5-year follow-up

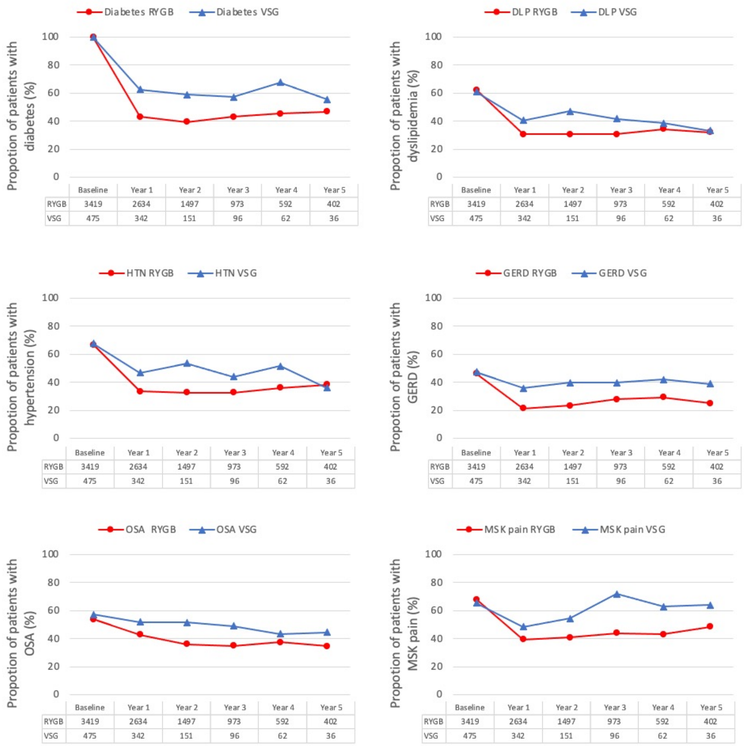


Figure 3: Change in comorbidity status over the 5-year follow up compared to baseline

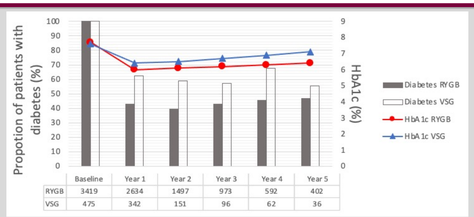


Figure 2: Change in proportion of patients with diabetes and in HbA1c level over 5-year follow-up.

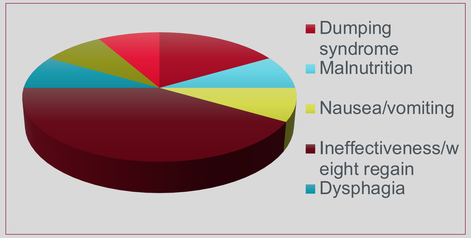


Figure 4: Distribution of indications for conversion from VSG to RYGB

Conclusion

Diabetic patients with pre-operative BMIs less than 50 have better diabetes control and weight loss following RYGB compared to VSG over 5 years

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