Reduction in Comorbid Conditions in Patients with Severe Obesity Who Underwent Bariatric Surgery

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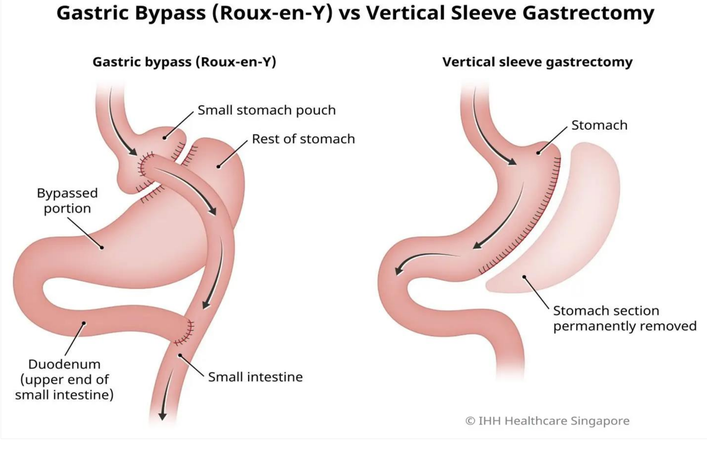
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Introduction

According to the CDC, 42% of individuals 20 years or older have obesity, with a body mass index (BMI) greater than 30kg/m2. Since the year 2000, the growth rate of individuals with a BMI of ≥50 kg/m2, has increased at three times the rate of those with moderate obesity. While bariatric surgery is highly efficacious in patients with grade II and III obesity, little is known about the effect on the severe obesity. The objective of this study was to characterize the impact of bariatric surgery on this population.

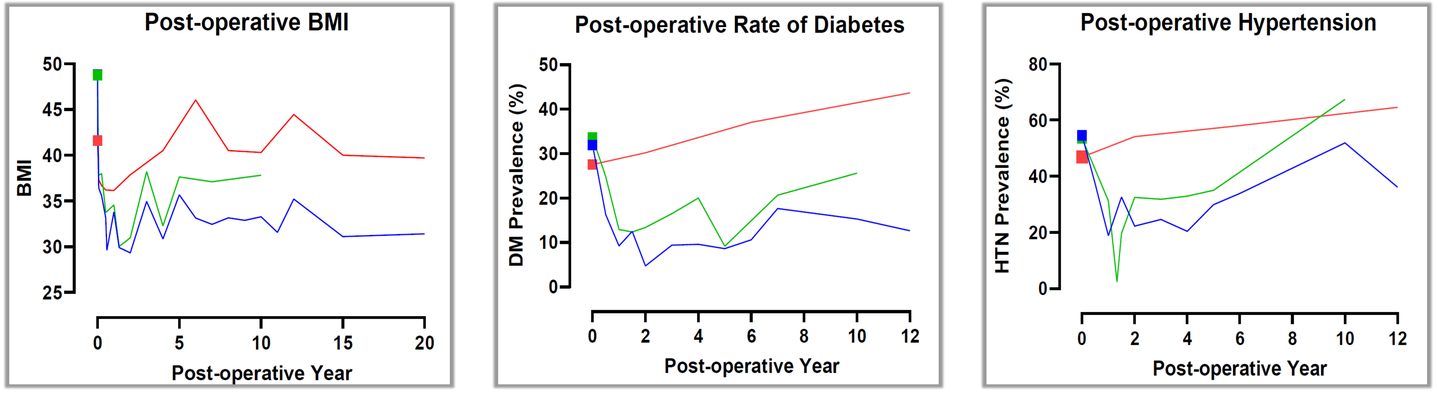
Methods & Analysis

A meta-analysis was conducted to evaluate the effectiveness of bariatric surgery, specifically, sleeve gastrectomy (SG) and Roux-en-Y gastric bypass (RYGB), in decreasing BMI and reducing the prevalence of diabetes mellitus and hypertension in patients post- operatively. The bariatric surgery groups were compared to a control group consisting of patients who received medical therapy for weight loss. 52 studies published between 2000-2024 were identified with a total of 116,610 patients. Data was collected on pre- and post- operative comorbidity rates and complications.



Results

Of the articles meeting inclusion criteria, 67,991 patients had BMI >50kg/m2. 43,638 underwent RYGB and 24,353 underwent SG. RYGB patients had a 43% reduction in BMI at 6 years, as compared to 40% for SG. In comparison, the control group had a 2% reduction. 1,783 patients with severe obesity were identified to have diabetes, of which 1,733 underwent RYGB and 50 underwent SG. RYGB patients had a 72% reduction in the prevalence of diabetes at 4 years, as compared to a 50% reduction for SG, and a 43% increase in the control group. Hypertension data was available for 1,451 patients at 5 years. RYGB patients had a 9% reduction in the prevalence of hypertension compared to 25% for SG, while there was a 19% increase in hypertension rates in the control group.



Conclusion

In patients with severe obesity with a BMI greater than 50, bariatric surgery is effective at long term weight reduction and resolution of obesity-related comorbidities. Although RYGB and SG have similar rates of BMI reduction in this population, patients who undergo RYGB have a greater decrease in the prevalence of diabetes at 4 years, while patients who undergo SG have a greater decrease in the prevalence of hypertension at 5 years.