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Differences in Complication Rates Between Roux-en-Y Gastric Bypass and Longitudinal Sleeve Gastrectomy

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Introduction:

Sleeve Gastrectomy (SG) has surpassed Roux-en-Y Gastric Bypass (RYGB) as the most commonly performed bariatric operation. Though the beneficial effect of SG on Type 2 Diabetes Mellitus is less than that of RYGB, it is perceived to have a lower complication rate. The purpose of this study was to quantify the complication rates between of SG and RYGB in a severely obese diabetic population.

Methods:

This was a retrospective cohort study that included all diabetic patients undergoing RYGB and SG at an academic medical center from January 1, 2011 to July 1, 2015. Patients were followed at 6 week, 6 month, 1 year, 2 year, and 3 year postoperatively. Outpatient and emergency visits were identified in the EMR system. Continuous data was analyzed using Student T tests and discrete data was analyzed using Fisher's Exact Test. We defined early complications as those occurring within 30 days postoperatively, and late complications as those after 30 days.

Results:

A total of 96 patients underwent RYGB and 89 underwent SG. The groups were concurrent and similar with regards to preoperative demographic factors such as age, gender, Hgb-A1c, HOMA2 parameters, excess body weight, BMI, and diabetic medication use. In terms of early complications, the rate of hemorrhage requiring transfusion was higher in the SG group compared to RYGB (10.1% vs. 3.1%, $p=0.073$). Postoperative length of stay was lower in the SG group ($m=1.7$ d vs. $m=2$ d, $p=0.02$), but the early readmission rate was also higher in the SG group (7.9% vs. 2.1%, $p=0.09$). For late postoperative complications, there were 4 anastomotic ulcer perforations and one case of internal hernia in the RYGB group. There were 6 late postoperative reoperations in the RYGB group (6% vs. 0%, $p=0.03$). In addition, 13 patients underwent 16 total upper endoscopies in the RYGB group (13.5% vs. 0%, $p=0.0002$). The cumulative rate of early and late interventions was higher in the RYGB group (20% vs. 3.4%, $p=0.0005$).

Conclusions:

While the rate of early postoperative complication is similar between SG and RYGB, the need for late intervention is higher after RYGB. The cumulative need for reintervention (early and late) is higher after RYGB. This may explain the shift from Roux-en-Y Gastric Bypass to Sleeve Gastrectomy as the most commonly performed bariatric intervention.

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