Late relapse of diabetes after bariatric surgery should not be considered as a failure

ABSTRCT

Background: Although the impressive metabolic effects of bariatric surgery in patients with Type 2 Diabetes (T2DM) are known, bariatric surgery is criticized for late relapse of diabetes.

Methods: Outcomes of 736 patients with T2DM who underwent Roux-en-Y Gastric Bypass (RYGB) and Sleeve Gastrectomy (SG) at an academic center (2004-2012) and had ≥5-year glycemic follow-up were assessed. Out of 736 patients, 425 (58%) experienced diabetes remission (HbA1c <6·5% off medications) in the first year after surgery. The latter subgroup was followed to characterize late relapse of T2DM which was defined as fasting glucose (FBG) or HbA1c in the diabetic range (≥126mg/dL and ≥6·5%, respectively) or need for antidiabetic medication after initial remission.

Findings: The median postoperative follow-up time was 8 years (range, 5- 14). Of those 425 patients who initially achieved remission in shortterm, 136 (32%) had a late relapse of T2DM. Independent predictors of late relapse were the preoperative number of diabetes medications (OR:1·85,95%CI:1·35-2·53, p=0·0001), duration of T2DM (OR:1·08,95%CI:1·02-1·15,p=0·012), and SG vs RYGB (OR:1·95,95%CI:1·00-3·70,p=0·049). In patients who experienced late relapse, a significant improvement in glycemic control, number of diabetes medications including the use of insulin, blood pressure, and lipid profile was still observed at longterm. Among patients with relapse, 77% maintained glycemic control (HbA1c <7%).

Interpretation: While late relapse is a real phenomenon (one-third of our cohort), relapse of T2DM years after bariatric surgery should not be considered as a failure, as the trajectory of cardio-metabolic risk factors is changed by surgery. Earlier surgical intervention and RYGB (compared with SG) would be associated with less diabetes relapse in long-term.

.**Keyword:** Bariatric surgery; Gastric bypass; Roux-en-Y gastric bypass; Sleeve gastrectomy; Type 2 diabetes mellitus; Remission, Relapse; Cardiovascular risk.