

GASTROENTEROANASTOMOSIS WIDTH AS A PREDICTOR OF METABOLIC OUTCOMES AND FUNCTIONAL COMPLICATIONS AFTER MINI-GASTRIC BYPASS

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It is well known that the width of the gastroenteroanastomosis (GEA) determines the rate of chyme evacuation from the gastric pouch and the intensity of distal nutrient delivery, affecting both the metabolic effect of mini-gastric bypass (MGB) through L-cell stimulation and GLP-1 secretion, and the spectrum of functional complications (reflux, dumping, marginal ulcer). The optimal GEA width in patients with type 2 diabetes mellitus (T2D) has not been standardized.

Objective. To compare the metabolic outcomes and functional complications of one-anastomosis gastric bypass (OAGB) with a narrow (3 cm) versus a wide (4 cm) gastrojejunal anastomosis in patients with type 2 diabetes mellitus (T2DM) at 12 months post-surgery.

Materials and Methods. This was a prospective, single-center cohort study of 164 patients with T2DM who underwent OAGB. The patients were divided into two groups: Group 1 with a narrow 3 cm GJA (n=89) and Group 2 with a wide 4 cm GJA (n=75). The primary endpoint was T2DM remission (per ADA/EASD 2021 criteria). Secondary endpoints included %EWL, HbA1c, HOMA-IR, and the incidence of reflux esophagitis, dumping syndrome, and anastomotic ulcers. Independent predictors were identified using logistic regression (OR, 95% CI). Data were processed using SPSS 22.0; $p < 0.05$ was considered statistically significant.

Results. The narrow GJA (3 cm) provided significantly better metabolic outcomes: %EWL 71.2 vs. 65.4% ($p=0.031$), HbA1c 5.7 vs. 6.1% ($p=0.028$), HOMA-IR 2.0 vs. 2.4 ($p=0.022$), and T2DM remission rate 73.0% vs. 64.0% ($p=0.041$). Furthermore, reflux esophagitis (4.5% vs. 13.3%; $p=0.041$) and dumping syndrome (4.5% vs. 12.0%; $p=0.073$) were observed significantly less frequently in the narrow GJA group. Anastomotic ulcers were recorded more often in the narrow GJA group ($p=0.247$); however, all cases were managed conservatively. A narrow GJA (≤ 3 cm) was an independent predictor of T2DM remission (OR 2.2; 95% CI 1.1–4.3; $p=0.024$).

Conclusions. A narrow gastroenteroanastomosis (3 cm) in mini-gastric bypass (MGB) is preferable, both in terms of metabolic efficacy and in reducing the incidence of reflux esophagitis and dumping syndrome; the associated increased risk of ulcers requires

perioperative anti-ulcer prophylaxis. The width of the anastomosis is an independent, technically modifiable factor in the outcome of MGB.