Determinants of metabolic recovery following bariatric surgery in individuals with type 2 diabetes: 2-year results from the REMISSION trial

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Background: The determinants of type 2 diabetes (T2D) recovery following common metabolic procedures are still poorly defined.
Objectives: to compare clinical outcomes following Sleeve Gastrectomy (SG) vs. Roux-en-Y Gastric Bypass (RYGB) vs. Duodenal Switch (DS) and best medical treatment (MT).
Methods: The REMISSION trial (NCT 02390973) is a 5-year prospective non-randomized, single-center controlled trial comparing determinants of metabolic recovery following SG vs. RYGB vs. DS vs MT. An interim analysis of patients with 2-year data was done. Complete remission of T2D was defined according to ADA criteria. Differences between groups at 2 years were tested by ANOVA adjusted for baseline age and BMI.
Results: A total of 349 participants were included (107 SG vs. 61 RYGB vs. 91 DS vs. 35 MT). All patients had T2D with an initial HbA1c of 7.1±1.1%. Complete T2D remission rate at 2 years was 45.5% vs. 41.1% vs. 81.0% vs. 0% for SG, RYGB, DS and MT, respectively ($p<0.0001$). Total weight loss at 2 years was 25.5±0.6% vs. 28.1±0.8% vs. 40.9±0.7 vs. 1.1±1.1%, respectively ($p<0.0001$). In patients with insulin-treated T2D, complete remission rates were 9.1%, 12.1% and 56.2% for SG, RYGB and DS patients respectively ($p<0.0001$).
Conclusion: data from the REMISSION trial confirm that metabolic surgery is superior to MT for T2D remission. There is a direct relationship between the metabolic component and the rate of T2D remission, especially in patients with insulin-treated diabetes. DS should be considered for patients with more advanced T2D.

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