Reversal of Roux-en-Y Gastric Bypass: A Swedish National Cohort Study

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OBJECTIVE

To investigates incidence, indications, symptom relief, complications, and weight outcomes after Roux-en-Y gastric bypass (RYGB) reversal.

METHODS

Study Design and Setting

This nationwide, multi-center, retrospective cohort study includes all patients undergoing reversal of RYGB in Sweden between 2007 and 2023. Patients are identified through the Scandinavian Obesity Surgery Registry (SOReg).

SOReg, established in 2007, is a nationwide research and quality registry that captures bariatric procedures performed in Sweden. The registry undergoes regular validation and has been demonstrated to maintain high data quality, with an acquisition rate of more than 97%. At the time of the primary bariatric procedure patients are informed of SOReg, and that data may be used for research. They are informed of the possibility to opt-out at any time. Therefore, no written consent was obtained. Data were pseudonymized and analyzed at group level to ensure confidentiality.

Participants

Included patients are adults (≥ 18years) who underwent reversal of RYGB between 2007 and 2023. Exclusion criteria are emergency reversal due to bowel ischemia, reversal following other bariatric procedures (e.g. gastric banding), or partial/functional reversals (e.g., gastro-gastric fistula or anastomosis between the Roux-limb and gastric remnant, without full reversal of RYGB).

Data Collection

Data from SOReg is complemented with review of medical records. Registry data is collected from both the primary RYGB and the reversal procedure. Perioperative and postoperative complications are classified according to the Clavien–Dindo system, with major complications defined as ≥ grade IIIb (i.e. complications requiring intervention under general anesthesia or resulting in organ failure or death).

Medical record review provides additional information on indications for reversal, diagnostic work-up, intraoperative findings, surgical details (e.g., resection of Roux limb, pyloroplasty), postoperative course, reinterventions, readmissions, weight changes, and follow-up until 24 months.

Symptom relief after RYGB reversal is assessed through review of follow-up records. Because the indications for the reversal frequently overlap, each symptom indicating reversal is evaluated independently. Outcomes are classified as no, partial, or complete improvement. Complete improvement is defined as full resolution of the index symptom (e.g., cessation of hypoglycemia, pain-free status without analgesics). Partial improvement denotes a clinically meaningful reduction in symptom severity or frequency that do not meet criteria for complete resolution. No improvement indicates persistent symptoms.

Statistics

Continuous variables are presented as mean ± standard deviation (SD) or median (range), and categorical variables as number (percentage). Between- and within-group comparisons are performed using Student's *t* test for normally distributed continuous data. Categorical variables are analyzed using chi-square tests, with Fisher's exact test applied when expected cell counts were <5. Odds ratios with 95% confidence intervals are calculated from crosstabulations where appropriate. A two-sided *p*-value <0.05 is considered statistically significant. All statistical analyses are conducted using SPSS Statistics, version 30.0 (IBM Corp., Armonk, NY, US).