

## Effect of Laparoscopic Sleeve Gastrectomy vs Laparoscopic Roux-en-Y Gastric Bypass on Weight Loss in Patients With Morbid Obesity: The SM-BOSS Randomized Clinical Trial

Ralph Peterli, Bettina Karin Wölnerhanssen, Thomas Peters, Diana Vetter, Dino Kröll, Yves Borbély, Bernd Schultes, Christoph Beglinger, Jürgen Drewe, Marc Schiesser, Philipp Nett & Marco Bueter

### Importance

Sleeve gastrectomy is increasingly used in the treatment of morbid obesity, but its long-term outcome vs the standard Roux-en-Y gastric bypass procedure is unknown.

### Objective

To determine whether there are differences between sleeve gastrectomy and Roux-en-Y gastric bypass in terms of weight loss, changes in comorbidities, increase in quality of life, and adverse events.

### Design, Setting, and Participants

The Swiss Multicenter Bypass or Sleeve Study (SM-BOSS), a 2-group randomized trial, was conducted from January 2007 until November 2011 (last follow-up in March 2017). Of 3971 morbidly obese patients evaluated for bariatric surgery at 4 Swiss bariatric centers, 217 patients were enrolled and randomly assigned to sleeve gastrectomy or Roux-en-Y gastric bypass with a 5-year follow-up period.

### Interventions

Patients were randomly assigned to undergo laparoscopic sleeve gastrectomy (n = 107) or laparoscopic Roux-en-Y gastric bypass (n = 110).

### Main Outcomes and Measures

The primary end point was weight loss, expressed as percentage excess body mass index (BMI) loss. Exploratory end points were changes in comorbidities and adverse events.

### Results

Among the 217 patients (mean age, 45.5 years; 72% women; mean BMI, 43.9) 205 (94.5%) completed the trial. Excess BMI loss was not significantly different at 5 years: for sleeve gastrectomy, 61.1%, vs Roux-en-Y gastric

bypass, 68.3% (absolute difference, -7.18%; 95% CI, -14.30% to -0.06%; P = .22 after adjustment for multiple comparisons). Gastric reflux remission was observed more frequently after Roux-en-Y gastric bypass (60.4%) than after sleeve gastrectomy (25.0%). Gastric reflux worsened (more symptoms or increase in therapy) more often after sleeve gastrectomy (31.8%) than after Roux-en-Y gastric bypass (6.3%). The number of patients with reoperations or interventions was 16/101 (15.8%) after sleeve gastrectomy and 23/104 (22.1%) after Roux-en-Y gastric bypass.

#### Conclusions and Relevance

Among patients with morbid obesity, there was no significant difference in excess BMI loss between laparoscopic sleeve gastrectomy and laparoscopic Roux-en-Y gastric bypass at 5 years of follow-up after surgery.

#### Trial Registration

clinicaltrials.gov Identifier: NCT00356213.

<b>type</b>	journal paper/review (English)
<b>date of publishing</b>	2018
<b>journal title</b>	JAMA (319/3)
<b>ISSN electronic</b>	1538-3598
<b>pages</b>	255-265