Revisional Surgery After Failed Vertical Banded Gastroplasty: Restoration of Vertical Banded Gastroplasty or Conversion to Gastric Bypass

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Background: An increasing number of patients with a failed primary bariatric procedure present themselves for secondary treatment. Only a few studies have investigated critically the success of revisional surgery. In the present study, the effectiveness of revisional surgery for failed vertical banded gastroplasty (VBG) is analyzed: restoration of the VBG (reVBG) is compared to conversion to a Roux-en-Y gastric bypass (RYGB).

Patients and Methods: From 1980 to 1996, 136 consecutive morbidly obese patients underwent primary primary RYGB (n = 20) or VBG (n = 16). Weight loss, indications and complications after revisional surgery were registered. The rate of revisional surgery after primary and secondary bariatric procedures was estimated by means of a Kaplan-Meier analysis.

Results: Kaplan-Meier analysis revealed that 56% of the patients will eventually require revisional surgery after initial VBG over a 12-year period compared to 12% after initial RYGB (P < 0.01). After reVBG 68% will need revisional surgery over a 5-year period, while no further revisional surgery was required after conversion to a RYGB (P < 0.05). Body mass index dropped significantly after reVBG or conversion to RYGB for insufficient weight loss (P < 0.06), however, more revisional surgery was necessary after reVBG to achieve this result. The complication rate was comparable between reVBG and conversion to RYGB (33%).

Conclusion: Conversion of a failed VBG to a RYGB is more effective than a reVBG conversion to RYGB provides satisfactory weight loss without requiring further revisional surgery. © 1998 Rapid Science Ltd.

Key words: Morbid obesity, revisional surgery, Roux-en-Y gastric bypass, vertical banded gastroplasty.

Introduction

Morbid obesity is a lifelong, progressive disease of fat storage eventually leading to serious medical, psychological and socio-economic problems. Without sufficient weight loss these patients are at risk for accelerated mortality and impaired quality of life due to obesity-related comorbidities such as diabetes, cardiovascular and pulmonary disease. Conservative treatment does not achieve long-term weight loss and is associated with high initial failure rates or recidivism. The National Institutes of Health Consensus Conference defined the role of gastrointestinal surgery in the treatment of morbid obesity and endorsed the vertical banded gastroplasty (VBG) and the gastric bypass as accepted procedures for the treatment of morbidly obese patients. The VBG is an effective operation for the treatment of morbid obesity with a low complication rate. However, the VBG does not achieve the long-term weight loss that occurs after Roux-en-Y gastric bypass (RYGB) and, subsequently, more revisional surgery is necessary after VBG to achieve satisfactory long-term weight loss.

The high and increasing prevalence of severe obesity has resulted in the performance of a large and increasing amount of primary bariatric procedures. As a consequence, increasing numbers of patients with a failed primary bariatric procedure present themselves for secondary treatment. Despite a higher complication rate, revisional surgery should be seriously considered since conservative treatment of morbid obesity is usually unsuccessful.

Indications for revisional surgery after VBG are...
mostly staple-line rupture or stoma stenosis. Other indications for revisional surgery are band erosion, band disruption, incorrect band size, pouch dilatation and severe gastroesophageal reflux. Depending on the indication for revisional surgery several procedures can be performed: restoration of the VBG by correcting the band size or applying a new staple line with or without transection, or conversion to a RYGB or another malabsorption procedure. In the present study the results of revisional surgery for failed VBG are analyzed. Restoration of the VBG (reVBG) is compared to conversion from a VBG to a RYGB.

Patients and Methods

From 1980 to 1996, 136 consecutive morbidly obese patients underwent bariatric surgery. Patients were considered morbidly obese if their body mass index (BMI) was more than 40 kg/m² or if they weighed more than 100% above ideal body weight as determined by the 1983 height/weight tables of the Metropolitan Life Insurance Company. Postoperatively, all patients were checked routinely at the outpatient clinic. The first 20 patients underwent a RYGB as described by Griffin et al. Since 1984 the VBG was performed because the VBG appeared to be an effective and technically simple operation with a low morbidity. The operative technique of the VBG is described in detail elsewhere.

In this study we focused on the long-term results of revisional surgery after failed VBG. Weight loss, indications and complications after revisional surgery were registered.

Data are expressed as the mean ± SD. The rate of revisional surgery after the primary and secondary bariatric procedures was estimated by means of a Kaplan–Meier analysis. The cut-off point for the Kaplan–Meier curves was chosen at a standard error of 10%. Differences between the Kaplan–Meier curves were tested with the log rank test. Statistical significance was set at 0.05.

Surgical Technique

A failed VBG was either restored (reVBG) or converted to a RYGB. Restoration of the VBG included the application of a new staple line with or without transection, the application of a new band or correcting the band size.

When converting a failed VBG to a RYGB the following procedure was used. The laparotomy was performed through an upper midline incision; the operative field was freed by sharp and blunt dissection; after freeing the omental sac from adhesions, the band of the VBG was carefully removed if possible; the GIA-60 (Autosuture, Zeist, The Netherlands) was positioned above the old band on the lesser curve to the angle of His; four stapler lines were applied and transected with the GIA-60 creating a small proximal pouch on the lesser curve; a small hole was cut distally in the new pouch; the continuity of the bowel was restored by means of a Roux-en-Y reconstruction; the anastomosis was created with a diameter of 8–10 mm; the efferent and afferent loop of the Roux-en-Y reconstruction were 60 cm; the proximal anastomosis was covered with omentum; the abdominal wall was secured in layers. Perioperatively, patients received intravenous prophylactic antibiotics (cefuroxim) and subcutaneous heparin.

Results

Revisional Surgery

Group characteristics are listed in Table 1. Twenty patients were initially treated with a RYGB from...