Case report

Reversal of gastric plication after laparoscopic adjustable gastric banded plication

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Laparoscopic adjustable gastric banded plication (LAGBP) is a novel, restrictive, reversible bariatric procedure [1] that theoretically combines the advantages of gastric banding and plication. The initial results in terms of feasibility, safety, and patient compliance have been encouraging [1]. There have been doubts regarding the reversibility of this procedure. We report on 2 patients in whom we were able to reverse the procedure.

Case report

Case 1

The first patient, an 18-year-old woman weighing 94.1 kg, with a body mass index (BMI) of 38.7 kg/m², underwent LAGBP. The operative time was 71 minutes, and length of hospital stay was 1 day. The patient developed nonbilious vomiting at 10 months of follow-up. At that point, her weight and BMI was 56.4 kg and 23.1 kg/m², respectively, and the patient had already achieved 72% excess weight loss (%EWL). Plain abdominal radiography showed a dilated fundus below the band, and an endoscopic examination showed a dilated portion of the gastric fundus with retained food particles. Computed tomography confirmed these findings. An acute gastric obstruction was diagnosed, and patient underwent laparoscopic exploration (Fig. 1). A gastrogastric intussusception was found. The plicated gastric tube had intussuscepted into the dilated incompletely plicated gastric fundus. The plication sutures were released, and total plication reversal was done. Repeat plication was not attempted owing to the edematous stomach tissue. The gastric band was left in place to maintain future weight loss. The patient responded well after surgery and at 14 months of follow-up after the second operation, her weight loss was well maintained (%EWL 77.6% at 2-yr of follow-up), with further adjustments of the gastric band.

Case 2

A 19-year-old woman weighing 123.8 kg, with a BMI of 45.8 kg/m², underwent LAGBP. The operative time was 80 minutes, and length of hospital stay was 1 day. The patient at 20 months of follow-up, developed signs and symptoms of biliary colic, and ultrasonography confirmed the presence of gall stones. Her weight and BMI was 82.7 kg and 30.5 kg/m², respectively, with a 64.6% EWL. The patient had reached a %EWL plateau, requiring frequent band adjustments (8 times in the second year of follow-up). She underwent laparoscopic cholecystectomy, and a dilated stom-
ach was found. We released all plication sutures, and replicated the stomach into a smaller gastric tube, with a 36F orogastric tube as a stent, and completely deflated the band. The patient responded well after surgery. At 2 months of follow-up, she had reached a %EWL of 71.2%, an increase of 6.6% in previous 2 months, without any band adjustment.

Discussion

Bariatric surgery has emerged as the most effective and sustainable weight loss option for obese patients and resolution of associated co-morbidities [2]. Restrictive bariatric procedures such as laparoscopic adjustable gastric banding (LAGB) and laparoscopic sleeve gastrectomy are gaining popularity because of the lower complication rates compared with malabsorptive procedures [3]. LAGB, a completely reversible procedure, is associated with band-related problems such as slippage, erosion, pouch dilation, and port site complications, repeated band adjustments, and inadequate weight loss resulting in a greater failure rate for this procedure alone [4–6]. Laparoscopic total vertical gastric plication, a new restrictive bariatric procedure, has gained popularity. It was first performed by Talebpour and Amoli [7], in 2 groups of 100 patients with a mean BMI of 47 kg/m², and reported a mean %EWL of 61% and 60% at 12 and 24 months, respectively. Ramos et al. [8] performed a similar technique on 42 patients, with a mean BMI of 41 kg/m². They reported a mean %EWL of 62% at 18 months [8]. We combined LAGB and gastric plication into LAGBP and published our initial results for 26 patients, with a mean BMI of 39.4 kg/m² and mean %EWL of 59.5% at 1 year [1]. The idea behind combining LAGB and plication is to augment weight loss in the long term, with LAGB helping with continued weight loss when the weight loss after plication has plateaued. It also results in an overall decreased frequency of band adjustments compared with LAGB alone, and reducing band- and port-related complications. The other advantages of LAGBP include that it is a restrictive, reducible, relatively safe, and reversible bariatric procedure. The reversibility of gastric plication has always been a topic of debate. The plication was easily reversed in both of the presented patients, but repeat plication was only attempted in the second patient, because the tissue was edematous in the first patient. Our plication technique is single-layer combination of 5–6 interrupted sutures, followed by continuous seromuscular suturing with nonabsorbable suture (2–0 Ethibond Excel Ethicon, St-Stevens-Woluwe, Belgium), which might have been responsible for the easy reversal of the plication.

Conclusion

Laparoscopic gastric plication and its derivative LAGBP are rapidly gaining popularity, with the advantages of being restrictive, reducible, and relatively safe, with an acceptable %EWL. The long-term efficacy of this procedure has not yet been proved. The reversibility of gastric plication has been proved in our 2 patients at 10 and 20 months after the initial surgery.

Disclosures

The authors have no commercial associations that might be a conflict of interest in relation to this article.

References