Laparoscopic conversion from gastric to bilio-pancreatic bypass for insufficient weight loss. Video

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The RNY Gastric bypass operation (RNY-GBP) is a very good technique for the management of morbid obesity, and the need for bilio-pancreatic diversion (BPD) conversion is infrequent [1-5]. Increased mal-absorption can be reached by a "Distal RNY-GBP" or by a (BPD). The conversion from GBP to a Duodenal Switch has been reported as a very complex procedure with up to seven suture-lines [6] and some of them are risky, such as the Gastro-gastric anastomosis. Marchesini, [1-4] from Curitiba, Brazil, first described the laparoscopic conversion from an RNY-GBP to BPD to be done simply and effectively.

The following link contains a video that shows the different technical steps.

Key Words: Pancreatic diversion. Gastric bypass. Conversion from gastric to Biliopancreatic diversion.
http://www.youtube.com/watch?v=OVruqWChzNQ&feature=related

The Original Common Channel (OCC), Fig. 1 is too long and the Original Alimentary Channel (OAC) is too short at only 180 cm. The bowel is divided between points A and B. Starting at point C we will add 55 cm (from D to F) to increase the Final Alimentary Loop (FAL) to 180 +55 cm and that is up to 235 cm. In this way we have lengthen the OAL.

The new Final Common Channel (FCC) starts at the Ileo-Cecal Valve (ICV) to reach point D, 65 cm from the ICV. Starting at point C, we measure 55 cm. proximally to be added to the OAL. The OCC was shortened since it was too long starting from the RNY to the ICV.

The Final Bilio-Pancreatic Loop (FBPL) is lengthened significantly from point B to C (Fig. 2)

Technique

The patient is placed in the French position with the legs apart, 6 supraumbilical ports, and with three surgeons. A 10 mm port is placed on the midline for the camera, a 12 mm “working port” through the right rectus on the mammary line; 2 sub costal 5 mm. right, and 2 ports in each axillary line.

Operative steps:

1st) The OAL is measured starting at the rear of the mesocolon towards the RNY anastomosis (Fig. 1A). A linear stapler divides the end of the OAL and the proximal is marked with three clips.

2nd) The patient is placed in a Trendelenburg position and the three surgeons move to the patients' head.

- The ICV is identified
- The appendix is divided with a linear stapler
- The CC is measured with two 5 cm clamps (the small intestine can be injured by10 mm ones) up to 65 cm to measure the FCC from the ICV and marked with one proximal and two distal clips at Point D.

Fig. 1. Pre-op & Fig. 2. Post-op measures of the intestine
• Continue measuring proximally for another 55 cm, the necessary length (Point D) to add to the OAL in order to obtain a FAL of 235 cm.
• The FBPL now has two segments, the OBPL and the proximal part of the OCC (from B to C)
• The FBPL is joined end-to-side with the 65 cm section from the OCC 65 cm from the ICV with a single layer of a continuous PDS suture.
• The rent in the mesentery is closed with a continuous suture of Prolene.

Preoperative measure of the bowel loops

All the anastomosis are manually performed with threads and needles of 3/0 continuous PDS-First on the posterior wall and then the anterior one. The mesenteric defects are closed with Prolene. The #12mm.port is also closed with Maxon. We left no drains.

Clinical case

A 19 year-old female, BMI-49, had a LRNY-GBP in 1999. Two years later her BMI was 28 and she has a %EBMIL of 72%. However, she regained weight and in 2007 her BMI was 39. She then had a Lap Conversion as described. She was discharged on the POD 2 and at 9 months her BMI was 29 and the final %EBMIL was 77%

Three other patients had the same procedure and all had satisfactory results with >58% %EBMIL. One off them had a protein–caloric malnutrition and she required a Lap side-to-side “kissing X” between FAL and FBPL that resolved this problem.

Discussion

LRNY-GBP is a highly successful operation for the morbidly obese patient but long-term results show that as many as 15% of the patients may regain weight. Fobi [6] has shown that revisions from a proximal to a distal GBP gave poor results mainly due to complications of malnutrition and they required re-conversion. Parikh [9] reported that Lap conversions of the RNY to a BPD/DS are high risk and extremely complex procedures. First the gastro-duodenal anastomosis is disconnected and then a gastric Sleeve has to be created and finally the BPD/DS. This operation can be staged depending on how long it takes to do the first part of the operation. If it takes, the BPD is done in a second stage. It requires four new anastomosis (gastro-gastric, duodeno-ileal, ileum-ileal and a jejunum-jejunostomy) and makes this operation the most complex of any operation in bariatric surgery. Moreover, the authors do not take into account that there are four additional suture-lines (the vertical part of the sleeve, closure of the jejuno-stomy of the previous RNY, the end-to-side of the jejunum-ileal, and finally the transversal closure of the end of the jejunum-ileal anastomosis). They were able to complete the whole operation in a single procedure in seven cases, but five of them had to be staged. For the gastro-gastric anastomosis, a circular 25 mm stapler was used. There were no leaks and no deaths. We have performed that operation [10] using the open technique in seven cases, with high morbidity due two leaks and good long-term results.

Marchesini describe this conversion from RNY to BPD Scopinaro type (since if have been removed) by laparoscopy as “KISS” (Keep it simple stupid) to obtain a quick and safe recovery. The gastric reservoir ought to be small and, maybe, a banded GBP should have the band removed (if this is possible) to prevent excessive restriction and malnutrition, like Fobi experienced[6]. Protein–caloric malnutrition has still be observed to correct it early as it happened in one of our cases.

We have presented a technique of conversion of RNY-GBP to BPD done by laparoscopy as feasible, helpful and secure as remedial surgery with intestinal measure similar to a normal BPD.

Bibliografia