



VIDEO SUBMISSION

Roux-en-Y Gastric Bypass Reversal for Severe Malnutrition and Cirrhosis

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Abstract

Background Severe post-operative malnutrition (SM) is a dreaded complication after gastric bypass often related to the short bowel syndrome consecutive limb length mismeasurement or intestinal resections. Patients with rapid weight loss or malnutrition can experience liver failure with cirrhosis and require liver transplantation (LT). Malnutrition can constitute a contraindication to LT since it negatively impacts on postoperative morbidity. RYGB reversal is an effective option to consider when nutritional support has failed. We describe the performance of a RYGB reversal in a pre-LT setting.

Material and Methods A 36-year-old patient with morbid obesity (weight, 140 kg; BMI, 50.1 kg/m²) underwent a RYGB 9 years ago. She presented with 85 kg weight loss (i.e., 60.7% total body weight loss) associated with SM and hepatocellular insufficiency. LT was considered but contraindicated because of SM. An intensive nutritional support was attempted but failed and the RYGB reversal was recommended.

Results Laparoscopic exploration revealed ascites, cirrhosis, and splenomegaly. The whole small bowel measurement revealed a short gut. Alimentary, biliary, and common channel limb lengths were 250 cm, 150 cm, and 30 cm long. The alimentary limb was stapled off the gastric pouch and the gastrojejunostomy was resected. After resection of the gastrojejunostomy, linear stapled gastro-gastrostomy and jéjuno-jejunostomy were performed to restore the normal anatomy. At 1 year, malnutrition was resolved and the cirrhosis was stabilized.

Conclusion Reversal to normal anatomy appeared effective and safe in this setting but must be considered only after failure of intensive medical management. Careful bowel measurement is mandatory to prevent patients from this complication.

Keywords Bypass · Reversal · Malnutrition · Cirrhosis · Liver

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Background

Bariatric procedures including Roux-en-Y-gastric-bypass (RYGB) provide significant and long-term weight loss together with improvement of a wide spectrum of associated diseases [1]. Although rare, severe post-operative malnutrition (SM) is a dreaded complication [2] after gastric bypass often related to the short bowel syndrome consecutive to an error in limb length measurement [3] or intestinal resections [4]. While NAFLD parameters are commonly improved after RYGB [5], some patients with rapid weight loss or SM can experience liver failure [6, 7] with cirrhosis and require liver transplantation (LT) [8]. While RYGB does not alter the absorption of immunosuppressive drugs [9], SM can constitute a contraindication to LT since it negatively impacts on postoperative morbidity and mortality [10, 11]. RYGB reversal has proven to be a feasible option to consider [4, 12–17], when intensive nutritional support and medical treatment have failed. We describe in this video the performance of a RYGB reversal in a pre-LT setting.

Material and Methods

A 36-year-old patient with morbid obesity (weight, 140 kg; BMI, 50.1 kg/m²) underwent a RYGB 9 years ago in another hospital. She was lost to follow-up and achieved 80 kg weight loss on the first postoperative year. On presentation, her weight was 55 kg (i.e., 85 kg weight loss; 60.7% total body weight loss) associated with SM syndrome including diarrhea, peripheral edema with hypoalbuminemia (20 g/L), and cutaneous trophic disorders as well as limbs motor deficit without neuropathy related to loss of lean mass. Gradually, biologic liver parameter disorders were observed, followed by an edemato-ascitic decompensation and hepatocellular insufficiency (TP 31%, Factor V 28%, platelets 100 g/L). In this context, a LT was considered but temporarily contraindicated because of SM. An intensive nutritional support was attempted but failed. Thus, a reversal of the RYGB was recommended and performed.

Results

Laparoscopic exploration revealed moderately abundant ascites, cirrhosis, and splenomegaly. The whole small bowel was measured and revealed an excessive shortcut with limb length mismeasurements. Alimentary, biliary, and common channel limb lengths were 250 cm, 150 cm, and 30 cm long respectively. After identification of the different limbs, the end of the biliary limb was stapled off the jéjuno-jejunostomy. After a careful dissection of the gastric pouch and the excluded stomach, the alimentary limb was stapled off the gastric pouch and

the gastrojejunostomy was resected. Then, a 60-mm linear stapled gastro-gastrostomy was performed to restore the gastric continuity. A methylene blue dye test was done to rule out an anastomotic leak. A linear stapled jéjuno-jejunostomy was performed between the proximal alimentary limb and the distal biliary limb to restore the normal anatomy. All the anastomoses were closed using continuous barbed sutures. Staplings were reinforced with hemostatic biomaterials. The postoperative course was uneventful. At 1 year, her BMI was 28.3 kg/m² and malnutrition was resolved without gastro-intestinal symptoms. The cirrhosis is now stabilized and the patient is still on the waiting list for LT.

Conclusion

SM related to limb length mismeasurement is a dreaded and avoidable complication. Careful bowel measurement is mandatory to prevent patient from severe nutritional issues and subsequent liver failure. Reversal to normal anatomy appeared effective and safe in this setting but must be considered only after failure of intensive medical management.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval For this type of study, formal consent is not required.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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