



Minimally Invasive Approach to Perform a Challenging Reconstruction and Treat Several Complications after a Roux en Y Bypass

Francesco Di Maggio*, Hannah Bridgwater and Abraham J Botha

Upper GI Surgery Unit, Department of General Surgery, Guys and St Thomas NHS Foundation Trust, Westminster Bridge Road, UK

***Corresponding author:** Francesco Di Maggio, Upper GI Surgery Unit, Department of General Surgery, Guys and St Thomas NHS Foundation Trust, Westminster Bridge Road, UK

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Abstract

Weight loss surgery can be plagued by severe surgical complications in an unhealthy morbid population. Anastomotic leak after a Roux-and-Y bypass is possibly the most feared issue in the perioperative course, whereas the common onset of symptomatic gallstones in the medium-long term have driven some authors to advocate prophylactic cholecystectomy in the past. Re-do operations are often challenging and expose these patients to additional complications. The decision for surgery must be made in view of the associated risks in expert centres. We present the case of a patient who experienced several post-operative complications after a Roux-en-Y bypass for obesity. The management required multiple surgical as well as radiological interventions.

Keywords: Weight-loss surgery, Post-operative complication, Anastomotic leak; Bariatric population; Cholecystectomy;

Introduction

Different operations can be used to attempt weight-loss. It is vital to tailor the option to the individual's needs and consider the risks associated with poor physiological reserve in these patients. Roux-en-Y bypass is the most common bariatric procedure [1]; hospital readmission due to complications was recently reported in up to 6.5%, 21.4%, and 65.9% of patients within 30 days, 1 year, and 6 years following surgery [2]. Postoperative surgical complications include (but are not limited to) anastomotic leak, stricture, internal hernia, and gallstones [3], which occur in up to 30% of patients following weight loss surgery [4]. Anastomotic leak is a serious complication after Roux-en-Y bypass. Along with venous thromboembolism, it has been shown to be the most common cause of death [5]. Its management strategies are still debated. A cholecystectomy is required in 4% of bariatric patients, most commonly within the first 6 months of surgery [6]. This operation can be technically demanding and expose malnourished patients to additional complications, which has contributed to the historical debate on prophylactic cholecystectomy at the time of bariatric surgery. Our patient was referred to us after a leaked Roux-en-Y and a re-look laparotomy resulting in a staple line dehiscence and gastro-cutaneous fistula. Six months after a successful minimally invasive re-canalisation, he re-presented with a gallbladder empyema.

Case Report

A 48-year-old man was referred to our centre having had a complicated Roux-en-Y gastrectomy for obesity. His BMI was 43 and his past medical history included diabetes, gastroesophageal reflux and a type III hiatus hernia. He complained of dysphagia on postoperative day two, and a CT showed a dilated oesophagus. After persistent pyrexia on day 5, a second scan evidenced anastomotic leak. The patient underwent an emergency laparotomy and washout, during which the site of leak was stapled and a drain was inserted. Patient was started on TPN and recovered from the sepsis, but his dysphagia got worse. A CT performed one month after the surgery showed a short tight stricture at the gastroesophageal junction and staple line dehiscence proximal to the gastric pouch. An endoscopic stenting was attempted but failed due to fibrotic stenosis preventing passage of the stent. The patient was transferred to our unit three months after the initial surgery, on TPN. A swallow test requested at this stage showed oral contrast to selectively wedge into the para-anastomotic drain, in an established gastro-cutaneous fistula, without any enhancement of the digestive system distal to a minimal lumen pouch (Figure 1A). A 3D laparoscopic revision of the Roux-en-Y gastric bypass was attempted. After extensive adhesiolysis, the small gastric pouch was isolated and a defect was identified on the left distal oesophagus. The terminal esophagus, gastric pouch and previous joint were excised and a new esophago-jejunal end to end anastomosis was fashioned distally.

The patient had an uneventful postoperative recovery. He was discharged from ITU the day after surgery. A water soluble swallow test performed on day 5 showed opacification of the efferent loop down to the common limb in the absence of contrast hold-up or leak (Figure 1B). The patient was started on fluids on day 6 and on day 8 on a soft diet. He was discharged home on day 12 on fork-mashable diet. The same patient presented eight months later with vomiting and pain. An urgent barium swallow resulted normal. An abdominal ultrasound and following CT revealed a large collection with multiple septa within the gallbladder fossa (Figure 1C). The empyema was drained with a transhepatic cholecystectomy by interventional radiology. The drainage was left in situ for four months. A subsequent MRCP showed resolved empyema and no common bile duct dilatation (Figure 1D). He finally underwent a laparoscopic cholecystectomy, again requiring vast adhesiolysis (Figure 2), and drain was removed at the time of this surgery. The procedure occurred with no immediate complications and the patient was discharged home on the same day.

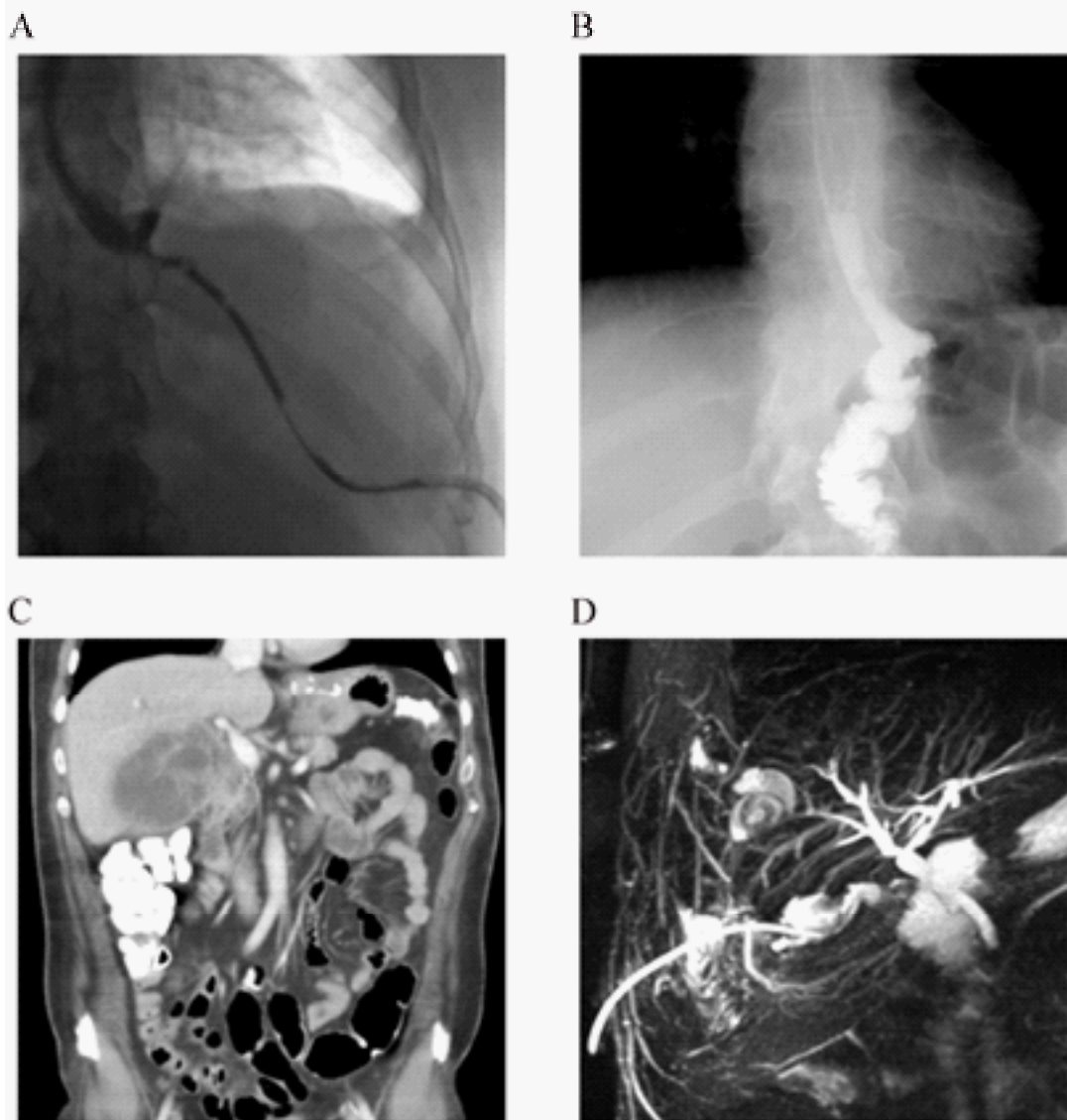


Figure 1: Radiological investigations. **A:** Water soluble swallow pre- recanalization showing contrast selectively opacifying the drain; **B:** Swallow test after the operation shows contrast passing the esophago-jejunal end to end anastomosis; **C:** CT abdomen showing the large gallbladder tree empyema six months after recanalization; **D:** MRCP after transhepatic cholecystectomy, with resolved empyema and normal biliary tree.

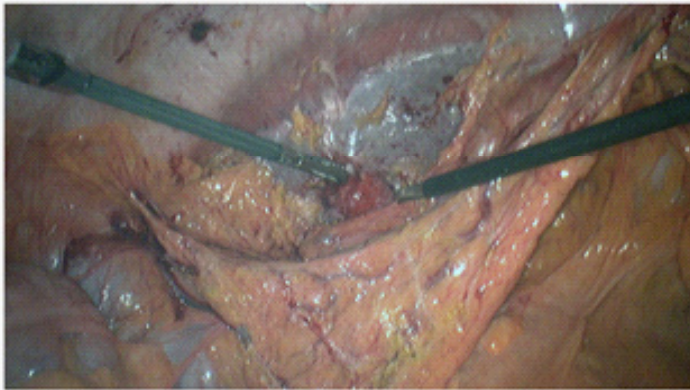


Figure 2: Intraoperative: laparoscopic cholecystectomy required a challenging adhesiolysis.

Discussion

One of the most fatal surgical complications following bariatric surgery is anastomotic leak [7]. The incidence of leak in large volume studies has been reported to be between 0.1-4.3% [8]. Risk factors for developing leaks are revision operations and a BMI > 50 [9]. Leak rate in revision operations has been shown to be slightly higher between 4-5% [10,11]. Most leaks can be managed conservatively with antibiotics and abdominal drains plus parenteral nutrition. However, in patients with life-threatening sepsis and haemodynamic instability, a relaparotomy is required, reported in 35-39% of patients [12,13]. According to a Swedish population-based study, the risk of developing gallstones is five times greater in post bariatric procedures patients than in the general population [14]. This risk of cholelithiasis differs between bariatric interventions. In the Roux-en-Y procedure, asymptomatic gallstones occurred in 30 to 52.8% of patients after 6 to 12 months postoperatively, whilst symptomatic gallstones occurred in 7-16% [15]. This is higher than the gastric banding and sleeve groups. Despite these figures, a cholecystectomy was only necessary in 3.9-17.6% of patients, regardless of whether they had stones preoperatively or not [16].

It remains controversial whether a cholecystectomy should be performed at the time of bariatric surgery. Some authors have advocated a concomitant cholecystectomy either in all patients or in those with gallstones preoperatively [17,18]. However, a concomitant cholecystectomy is not preferred by most surgeons to reduce the length and risks of the initial operation and should only be considered in patients with symptomatic gallbladder disease. Serious complications following concomitant cholecystectomy have been reported [19]. Management of post-operative complications, and specifically a future cholecystectomy, is likely to be technically challenging due to abdominal adhesions.

Conclusion

Patients undergoing bariatric surgery should be made aware of gallstones symptoms and relevant complications.

Laparoscopic approach is a safe and feasible way to deal with complications following bariatric surgery in expert hands, and should occur in a specialist centre.

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