

Spontaneous Gastrogastric Fistulalization After Being Left in Discontinuity of Proximal Gastric Pouch and Roux Limb Due to Catastrophic Gastrojejunal Marginal Ulcer Perforation

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ABSTRACT

Background: In this case report, a patient had complicated marginal ulcer perforation that led to gastrointestinal tract discontinuity with future plan for reversal. However in this novel case, the patient had spontaneous continuity, which prevented another major, complicated surgery.

Methods: A 59 year-old female who underwent exploratory laparotomy due to a very complicated perforated marginal ulcer that failed multiple medical/endoscopic treatments. Patient was left in discontinuity due to tissue friability, and was left with gastric tube to gastric pouch and gastric remnant, with plans to do anastomosis in three to six months.

Results: There was a spontaneous fistula that formed between the prior gastric pouch and gastric remnant with two gastric tubes found within gastric remnant.

Conclusion: Due to spontaneous gastrogastric fistulalization, or spontaneous gastric bypass reversal, our patient did not require another major complicated surgery.

Keywords: Marginal ulcer perforation, Discontinuity, Spontaneous reconstitution of gastrointestinal tract.

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INTRODUCTION

Laparoscopic Roux-en-Y gastric bypass (RYGB) is still the most commonly performed bariatric operation in the U.S. despite an increase in the variety of bariatric surgical options in recent years.¹ However, it can be associated with significant morbidity from complication, such as marginal ulcer (MU), which is a well-documented complication of RYGB.² This is a case report on a patient who had complicated marginal ulcer perforation that led to gastrointestinal tract discontinuity with future plan for reversal, but ended up having spontaneous continuity, which prevented another

major, complicated surgery. There has not been a case report similar to this.

CASE HISTORY

A 59 year-old female was transferred to our facility on November 17, 2019 due to failed nonsurgical management of marginal ulcer perforation and multiple large fluid collection shown on computed tomography (CT) scan (**Figure 1**). Patient is status post RYGB in 2006, complicated by perforated gastrojejunal (GJ) anastomotic marginal ulcer in 2015.

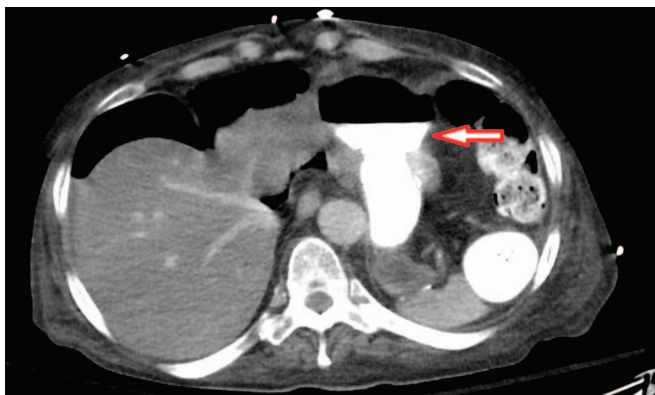


Figure 1. Computed tomography of abdominal/pelvis, initial scan that led to exploration, showing marginal ulcer perforation with large defect and spillage of contrast into large collection (red arrow).

She required exploratory laparotomy and new GJ creation then. Patient continued to smoke despite strong smoking cessation recommendations. She had recurrent marginal ulcer perforations in early 2019 that required drainage and endovac placement, followed by multiple interventional radiology drainage, up to the point of transfer.

Patient underwent exploratory laparotomy on the day that she was transferred. She was found to have extensive abdominal contamination with mucopurulent fluid throughout the left abdomen. There was complete disruption of GJ anastomosis and gastrogastric fistula (GGF) noted on gastric remnant. Gastric pouch measured 4 cm. Small bowel resection of proximal roux limb including distal gastric pouch, drainage of abdominal abscess, washout, gastric tube placement through 2 cm fistula defect on remnant stomach, nasogastric tube placement into proximal gastric

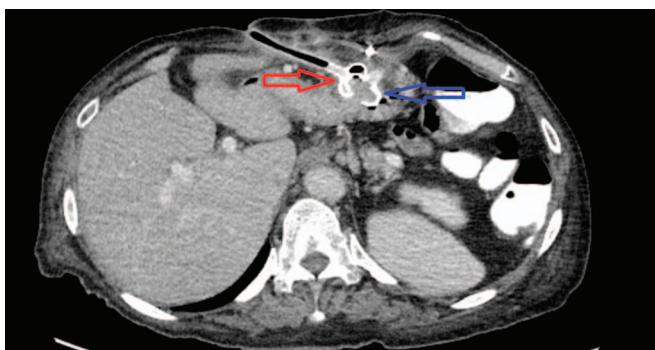


Figure 2. Computed tomography of abdominal/pelvis, on postoperative day 62, showing both feeding tubes in gastric remnant. Feeding tube on patient's right was placed into gastric remnant (red arrow). Feeding tube on patient's left was placed into gastric pouch (blue arrow).

pouch, and temporary abdominal closure were done. On postoperative day (POD) 2, the patient was taken back to the operating room for a second look. As tissue was too friable, we decided not to proceed with anastomosis and to leave patient in discontinuity. We placed a feeding tube with size 20 Fr percutaneous endoscopic gastrostomy (PEG) into the small gastric pouch. The previous gastric tube was replaced with 24 Fr PEG tube into the gastric remnant where the fistula was located and size 2-0 Vicryl was used to close around the tube. Abdominal wall was closed. Patient had a prolonged postoperative course and was discharged to a long-term acute care facility on December 26, 2019, where she was on tube feeds through gastric remnant tube with gastric pouch tube to gravity at all times. The plan was to proceed with reversal of discontinuity in three to six months.

The patient was re-admitted on January 18, 2020 (POD 62) due to tube feeds like drainage out of gastric pouch tube. The patient's vitals were stable with normal white blood cell count. A CT scan was done and was suggestive of both gastric pouch tube and gastric remnant tube were present within the remnant stomach (**Figure 2**). No other pathology was noted. Patient underwent esophagogastroduodenoscopy on January 20, 2020. There was a 2 cm wide GGF that formed between the prior gastric pouch and gastric remnant (**Figure 3**). Scope easily passed the fistula and both PEG

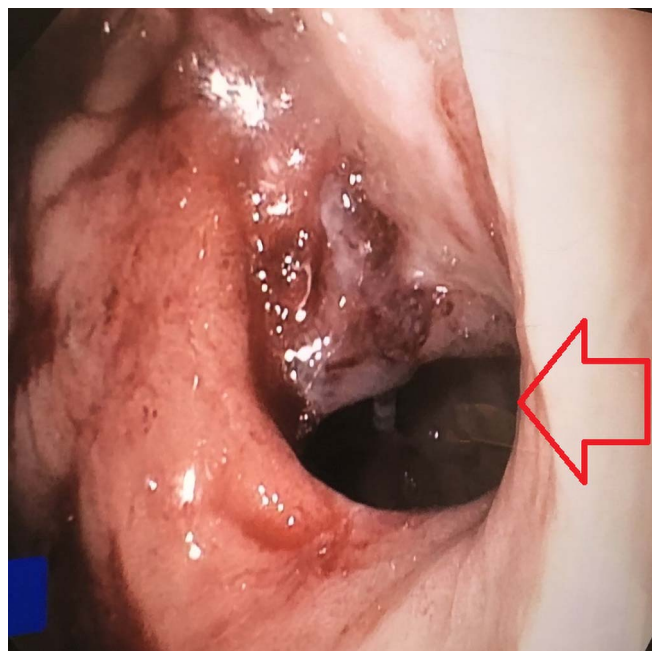


Figure 3. Esophagogastroduodenoscopy showing gastrogastric fistula (red arrow).

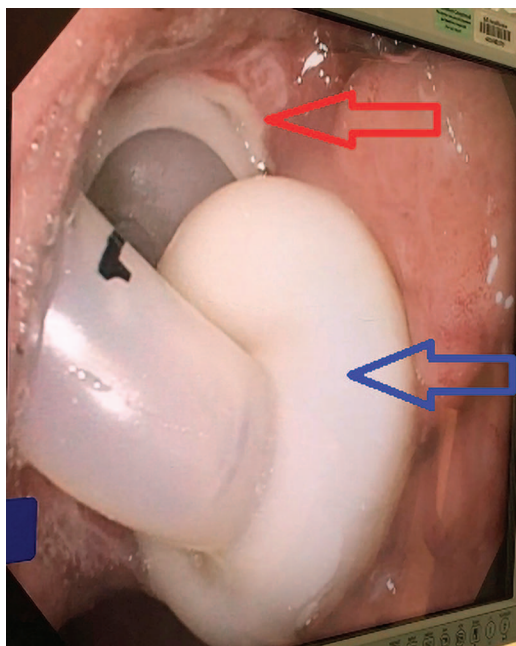


Figure 4. Esophagogastroduodenoscopy showing both feeding tubes in gastric remnant adjacent to each other (red arrow pointing at gastric remnant tube, and blue arrow point at gastric pouch tube).

tubes were found within the gastric remnant (**Figure 4**). The prior gastric pouch tube was pulled out and gastric remnant tube was left in place. The upper gastrointestinal series completed the following day showed no additional finding (**Figure 5**). The patient's PEG tube was exchanged for a GJ tube, she was discharged to a skilled nursing facility on January 25, 2020 on clear liquid diet and tube feeds.

DISCUSSION

The pathophysiology underlying the development of gastric fistulas is typically multifactorial. However, the most common characteristic is intraluminal pressure overcoming tissue resistance along the surgical anastomosis or staple line, leading to fistula formation.³ Our patient had numerous complication including marginal ulcer perforation and intra-abdominal abscess prior to the most recent two surgeries. With this complicated history, it would have been very challenging surgery for reversal of discontinuity. Due to short roux limb from resection during the first case, redoing GJ anastomosis would have been difficult, leaving anastomosing gastric pouch to gastric remnant, or gastric bypass reversal, as our best option.

Per one study, out of 48 gastric bypass reversals, 52% had chronic marginal ulcers that had previously required surgery.⁴ This study reported gastrogastric anastomotic leak

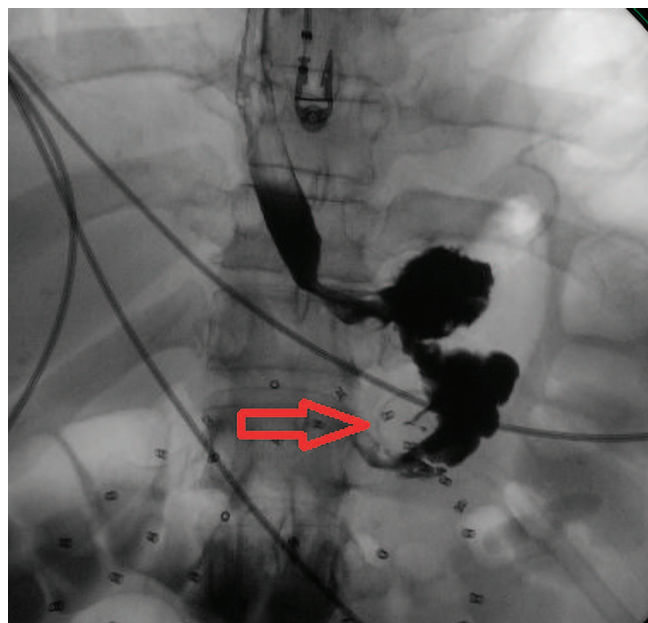


Figure 5. Upper gastrointestinal series showing gastric pouch in continuity with gastric remnant via gastrogastric fistula. (Red arrow pointing at gastric remnant tube).

rate to be significantly high at 10% (vs leak rate for primary RYGB at 0.2%).⁴

Prior history of multiple abscesses and prolonged proximal pouch tube pressure against non-healthy tissue likely led to development of a large GGF between proximal pouch and gastric remnant. Due to spontaneous reconstitution of gastrointestinal tract or spontaneous gastric bypass reversal, our patient did not require another major, complicated surgery. As the result of final surgery, the patient has 90 cm of roux limb left. There is no plan to address this defunctionalized bowel limb at this point.

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