Ruptured Appendicitis Causing Biliopancreatic Limb Obstruction

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Introduction

- Afferent Limb syndrome occurs when there is a disruption of pancreatobiliary secretions due to partial or complete mechanical obstruction.
- Incidence: 0.2-1% after Roux-en-Y gastric bypass surgery.[1]
- Etiology: hernias, adhesions, volvulus, intussusception, and stricture.
- We present the first described case of ruptured appendicitis causing biliopancreatic limb obstruction in a patient with a large ventral hernia.

Case Description

- A 61 year-old male with a history of obesity (BMI 40.6), s/p open Roux-en-Y gastric bypass over 20 years ago, HTN, alcoholic cirrhosis, presented with a symptomatic 12 cm ventral hernia and one week of sharp upper abdominal pain, nausea, and decreased oral intake.
- Physical exam: abdomen was soft, distended, and nontender.
- CT of the abdomen and pelvis demonstrated a large ventral hernia with obstruction of the biliopancreatic limb proximal to the jejunojejunal anastomosis with a transition point at the level of the hernia, with distension of the remnant stomach, duodenum, and proximal jejunum (Figure 1).

Hospital Course

- The patient was taken emergently to the operating room for decompression of a closed loop small bowel obstruction
- **Operation #1:** Open decompression of the remnant stomach with placement of a 22 Fr Malecot tube (Figure 2).
- Following the operation, despite having return of bowel function, there was persistent high bilious output 2-4L from the gastrostomy tube and he was placed on gastrointestinal replacement fluids.
- The patient was taken to the OR on postoperative day eleven
- **Operation #2:** Diagnostic laparoscopy converted to midline laparotomy (Figure 3) with enterolysis, appendectomy, drainage of intraabdominal abscess, primary ventral hernia repair with bilateral anterior component separation
- Intraoperative findings: Large 12cm ventral hernia containing small bowel, biliopancreatic limb, transverse and right colon including cecum and perforated appendix with a surrounding abscess cavity, obstructed biliopancreatic limb
- **Postoperative course:** unremarkable, tolerating a diet with the gastric remnant tube capped, discharged on hospital day sixteen

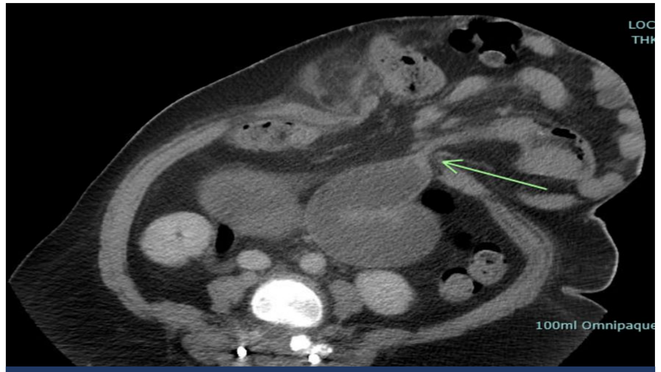


Figure 1: Biliopancreatic limb obstruction secondary to ruptured appendicitis



Figure 2: Large ventral hernia with gastrostomy tube

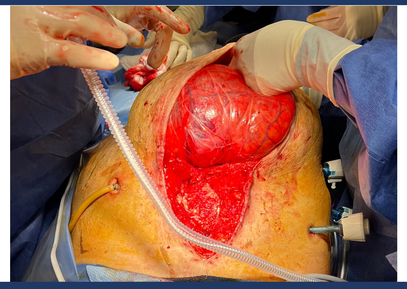


Figure 3: Midline laparotomy with hernia sac and contents

Discussion

- Afferent limb syndrome can occur as early as the first postoperative week.[2] It can also occur as a late complication, as in this case, the closed-loop obstruction occurred twenty years after the patient's open Roux-en-Y gastric bypass.
- Operative intervention is the mainstay of treatment.[2] Biliopancreatic limb obstruction often requires urgent/emergent decompression depending on the acuity of presentation.
- The time to treat for afferent limb syndrome is two to six days.[4] Delayed diagnosis can lead to distension, ischemic necrosis of the stomach wall, and subsequent perforation of the remnant stomach with a high mortality rate.[3]
- We suspect that acute ruptured appendicitis in the hernia sac caused inflammation and compression leading to mechanical obstruction of the biliopancreatic limb.

Conclusion

- In patients with afferent limb syndrome, a high index of suspicion is imperative to make the diagnosis. The clinical presentation can be vague with subtle exam findings in patients with obesity
- The prognosis is good with rapid diagnosis and surgical correction.
- This case stresses the importance of early operative intervention for afferent limb syndrome and the need for a high clinical suspicion of various etiologies of abdominal pathology in post bariatric surgery patients.

References

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