

Two Cases of Heterotopic Pancreas of the Small Bowel Incidentally Found During Laparoscopic Bariatric Surgery

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ABSTRACT

Background: We present two cases of incidentally found heterotopic pancreas during laparoscopic bariatric surgery. Heterotopic pancreas is a rare congenital anomaly where pancreatic tissue is located outside of the pancreas. These lesions may be encountered incidentally during surgery, which raise unexpected management questions.

Case 1: A single pathology confirmed ectopic pancreas lesion encountered in the jejunum during laparoscopic Roux-en Y gastric bypass.

Case 2: Two pathology confirmed heterotopic pancreas lesions encountered in the jejunum during laparoscopic Roux-en Y gastric bypass.

Discussion: Heterotopic pancreas lesions are generally benign and encountered incidentally during intra-abdominal surgery. Surgeons must decide whether to resect the incidentally found mass. When encountered intraoperatively, a heterotopic pancreas lesion found in the small bowel without concerning features should be considered benign and does not warrant resection or biopsy.

Key Words: Bariatric surgery, Heterotopic pancreas, Incidental findings, Laparoscopy, Pancreas.

INTRODUCTION

Heterotopic pancreas is a rare congenital anomaly that results in pancreatic tissue located outside of the anatomic pancreas without vascular or ductal connection, most commonly found in the stomach, duodenum, jejunum, or ileum.¹⁻³ Here we present two cases of incidentally found heterotopic pancreas during elective laparoscopic bariatric surgery. These cases highlight the decision-making process when considering an incidental finding of heterotopic pancreas of the small bowel. Lesions can be considered benign if there is no evidence of stricture or intussusception on pre-operative imaging and if there is no evidence of concerning features when encountered intraoperatively. Benign lesions warrant no additional resection or biopsy.

CASE 1: PRESENTATION

A 33-year-old Hispanic female with past medical history significant for morbid obesity, hypertension, and gestational diabetes presented for elective laparoscopic Roux-en-Y gastric bypass. Prior to surgery, the patient had an upper gastrointestinal contrast study that was unremarkable. Intraoperatively, an approximately 2 cm calcified mass on the antimesenteric small bowel was encountered, approximately 10 cm from the ligament of Treitz (**Figures 1a and 1b**). The mass was resected, via small bowel resection, using two fires of a 60 mm tan load endo-GIA stapler (**Figures 1c and 1d**). The specimen was removed and sent for pathology. The procedure was completed with the proximal end being used for the biliopancreatic limb to avoid two jejunojunal anastomoses. To accomplish this, the ligament of Treitz was released to allow additional bowel length. The distal end of the jejunum was measured to 150 cm for the Roux limb and a side-to-side jejunojunostomy was created with the biliopancreatic limb. The resulting biliopancreatic limb was shorter than the standard 50 cm; however, the roux limb remained

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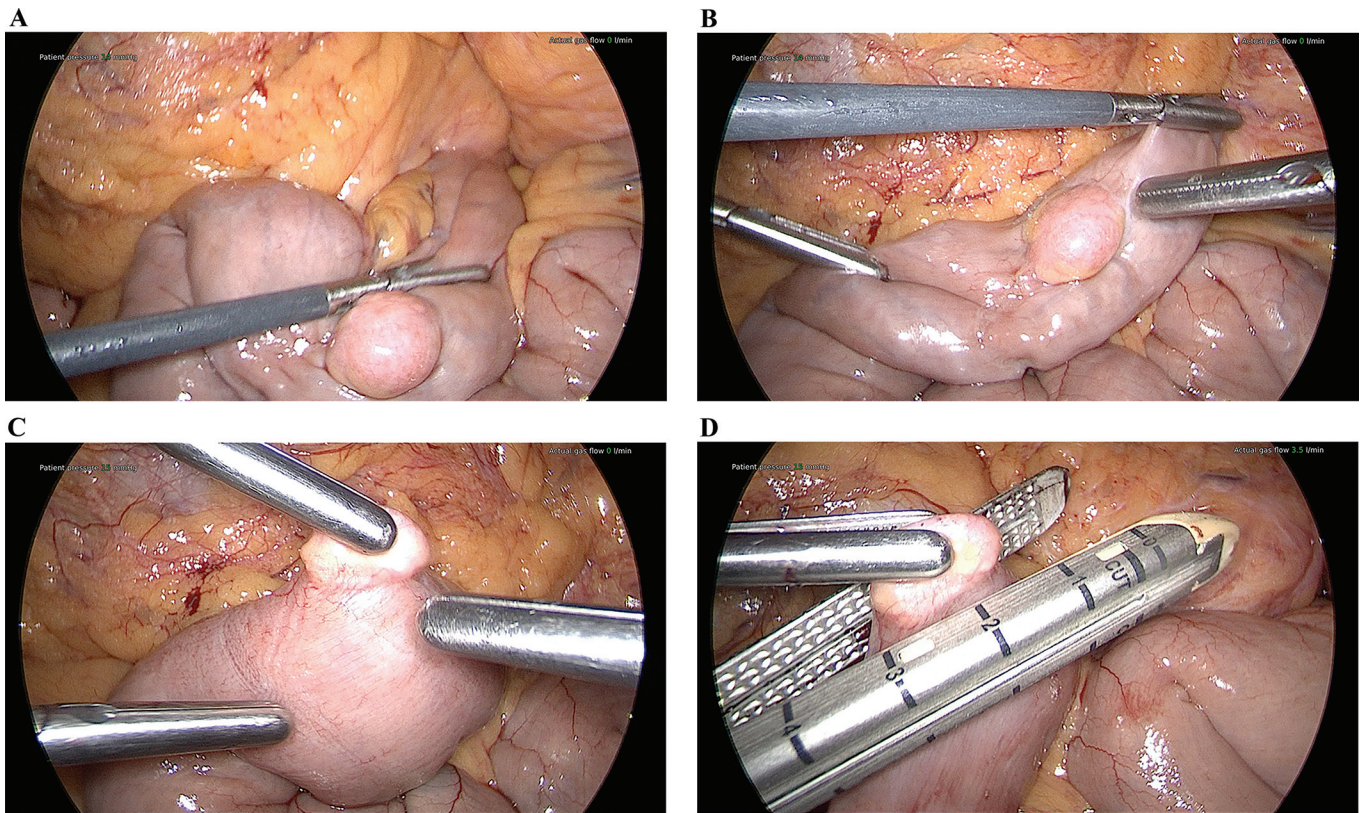


Figure 1. (A) Case 1: First encounter with an approximately 2 cm mass on the antimesenteric small bowel, approximately 10 cm from the ligament of Treitz. (B). Case 1: Another view of the 2 cm calcified mass on the antimesenteric small bowel, approximately 10 cm from the ligament of Treitz. Small bowel retracted. (C). Case 1: Retraction of the 2 cm calcified mass found on the antimesenteric small bowel, approximately 10 cm from the ligament of Treitz. (D). Case 1: Resection of the incidentally found mass in by endo-GIA stapler.

the standard 150 cm. The operation proceeded without complication and the postoperative course was unremarkable.

CASE 1: PATHOLOGY

The pathology report describes a 3.0 cm segment of small bowel that included a 0.7 cm × 0.6 cm × 0.5 cm firm yellow mass of pancreatic tissue in the bowel wall with negative margins. The mass involved the muscularis propria, was 0.3 cm from the serosal surface, and did not involve the mucosa.

CASE 2: PRESENTATION

A 40-year-old male with past medical history significant for morbid obesity, hypertension, and gastric lap-band surgery presented for elective laparoscopic Roux-en-Y gastric bypass and gastric lap-band removal. Prior to

surgery, the patient had an upper gastrointestinal contrast study that was unremarkable. Dense adhesions were encountered surrounding the proximal stomach and lap-band. The adhesions were successfully taken down and the lap-band was removed without complication. Intraoperatively, an approximately 1 cm solid mass was encountered on the antimesenteric side of the jejunum, just distal to the ligament of Treitz (**Figure 2a**). It was resected tangentially with a 60 mm tan load endo-GIA stapler (**Figure 2b**). A 50 cm length of jejunum was measured from the ligament of Treitz. A second jejunal mass, approximately 1 cm × 2 cm, was encountered at 60 cm from the ligament of Treitz. Considering this segment was located at the proximal end of the roux limb, it was resected. This was accomplished with a single fire of 60 mm endo-GIA tan load. The distal end of the jejunum was measured to 150 cm and a side-to-side jejunojejunostomy was created with the biliopancreatic limb. The operation proceeded without complication in the standard fashion. Postoperatively, the patient was hypertensive and

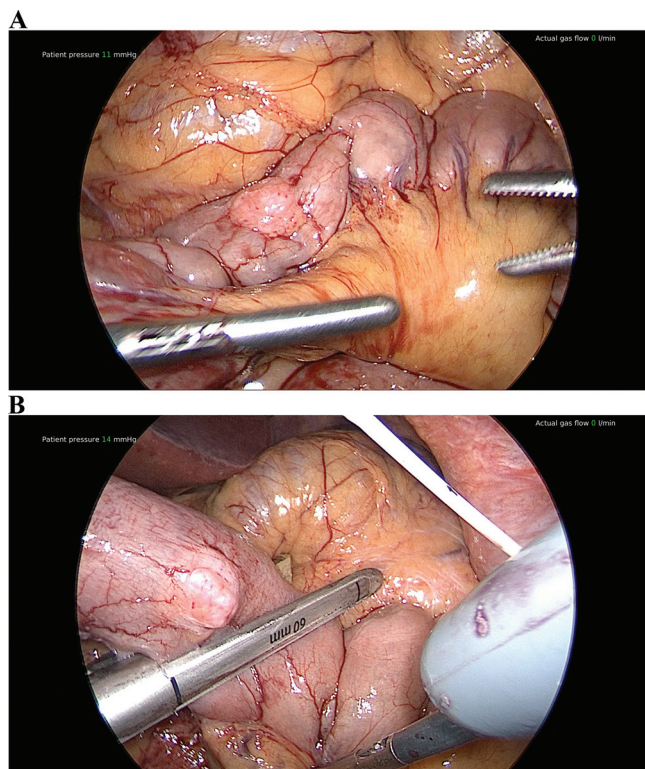


Figure 2. (A) Case 2: First encounter with a 1 cm incidentally found mass on the antimesenteric jejunum, just distal to the ligament of Treitz. (B). Case 2: Resection of the incidentally found mass with a 60 mm tan load endo-GIA stapler.

tachycardic on postoperative day 0 and 1. A computed tomography angiogram of the chest with abdomen and pelvis was performed using oral contrast. This demonstrated no evidence of pulmonary embolism, unremarkable postoperative changes including trace hemoperitoneum, and some thickening and fat stranding around the jejunojunal anastomosis, but without evidence of leak. The patient's hypertension and tachycardia resolved, and the patient was discharged, on postoperative day 2.

CASE 2: PATHOLOGY

The pathology report describes the proximal jejunal segment to have a 2.8 cm × 1.5 cm × 1.2 cm mass of heterotopic pancreatic tissue within the jejunal wall with negative margins. The serosal surface was tan-pink and glistening. Sectioning through the mass revealed a pink-tan finely lobular cut surface. The distal jejunal segment was also found to have a heterotopic pancreatic tissue mass 1.6 cm x 1.5 cm x 0.4 cm within the jejunal wall with

negative margins. The serosal surface was red-tan and glistening. Sectioning revealed a tan-yellow lobular cut surface. The mass was submucosal without involvement of the mucosa.

DISCUSSION

Heterotopic pancreas of the small bowel is a rare but generally benign congenital anomaly that may be encountered during laparoscopic bariatric surgery. The incidence of ectopic pancreas is unknown due to the rarity of the finding and is most often encountered incidentally during endoscopy or abdominal surgery.³ The associated morbidity is also not fully known; however, it has been reported as a rare cause of epigastric pain, gastric outlet obstruction, small bowel obstruction, intussusception, and gastrointestinal bleed.^{3,4} The largest case series found in the published literature reports 158/184 (84.9%) of heterotopic pancreas lesions were asymptomatic at time of discovery.³ Two smaller series, with 39 and 34 cases of histologically confirmed heterotopic pancreas, similarly found only 38% were symptomatic at time of discovery.^{5,6} These findings validate that heterotopic pancreas is asymptomatic in most patients. However, the size of lesion and extent of mucosal involvement does correlate with symptomatology.⁶ Symptomatic lesions are most often found in the stomach or duodenum and 87.5% of symptomatic lesions were detected on upper gastrointestinal contrast studies.² However, small bowel lesions are usually asymptomatic and found incidentally in patients during endoscopy or surgery.⁵

Incidental findings of heterotopic pancreas during abdominal surgery are a rare and surprising discovery. When faced with an incidentally found intestinal mass during elective bariatric surgery, the surgeon must make the decision whether to deviate from the planned surgical technique and resect the mass. In the cases presented the lesions were resected; however, in the future we will not be resecting incidentally found masses if they appear to be heterotopic pancreas. We recommend bariatric surgeons familiarize themselves with the classic appearance of heterotopic pancreas, so that they may correctly identify these benign lesions and make informed decisions on surgical intervention. Intraoperative biopsy and frozen section pathology were not performed in these cases but can be considered if institutionally available. Informed decision making should be based on the whole clinical picture including patient history, pre-operative imaging, and intraoperative findings.

Upper gastrointestinal oral contrast studies are often obtained prior to bariatric surgery. On imaging, heterotopic pancreas appears as an extra mucosal intramural tumor with a broad base and smooth surface. A central contrast-filled pit or umbilication in the lesion is diagnostic of heterotopic pancreas.^{1,5} If there is no evidence of stricture or intussusception on pre-operative imaging, a heterotopic pancreas lesion should be considered benign. Heterotopic pancreas lesions that appear invasive or inflamed should be resected. This is due to evidence of cases of malignant transformation and pancreatitis in heterotopic pancreas lesions; though, such developments are exceptionally rare (only 32 cases ever documented in published English literature as of 2016).³

CONCLUSION

When encountered intraoperatively, a heterotopic pancreas lesion found in the small bowel without concerning features should be considered benign and does not warrant resection or biopsy.

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