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CASE REPORT | PANCREAS

Pancreatic Heterotopia Found in the Gastric Antrum Mistaken for Malignancy

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ABSTRACT

Pancreatic heterotopia is a rare and often incidental finding in clinical practice. The term refers to pancreatic tissue distinct from the normal pancreas and with its own ductal and vascular supply. Usually asymptomatic, ectopic tissue is still prone to infection and may cause clinical complications when mistaken for malignancy or abscess. We describe a 32-year-old woman who presented with epigastric discomfort, initially thought to be a gastric outlet mass concerning for gastric malignancy vs an intraabdominal infection. She was eventually found to have an umbilicated submucosal lesion in the gastric antrum consistent with pancreatic heterotopia. Given the young age and sex of the patient, the differential diagnosis remained broad, underscoring the high risk of mismanagement of pancreatic heterotopia secondary to infrequency of this condition as a presenting diagnosis.

INTRODUCTION

Pancreatic heterotopia, also known as a pancreatic rest, ectopic pancreas, myoepithelial hamartoma, and aberrant pancreas, is defined as pancreatic tissue without vascular or anatomic communication with the main body of the pancreas.[1] Ectopic pancreas is a congenital anomaly with an incidence rate of approximately 0.5%–13.7% on autopsy although it is usually identified as an incidental finding during upper endoscopy in the distal stomach, duodenum, or proximal jejunum.[2,3] When symptoms are present in patients with ectopic pancreas, they are often nonspecific and hinge on the site of the specific lesion. Most frequently, pancreatic heterotopia is found in the stomach (25%–60%) or the duodenum (25%–35%).[1] The following case underscores the importance of a broad differential for abdominal pain and demonstrates the workup of a unique case of pancreatic rest imitating as an intra-abdominal mass.

CASE REPORT

A 32-year-old Chinese-American woman with a medical history of vitamin B12 deficiency (with inconsistent supplementation) and recent travel to Singapore, Taiwan, and Cuba presented with gradually worsening epigastric discomfort with transition to sharp right upper quadrant pain and associated nausea and vomiting. The patient denied changes in bowel habits and had no history of recent melena or hematochezia. She denied fevers, chills, night sweats, or weight loss. She had no recent drug indiscretions or illness. Her family history was only significant for colon cancer in her paternal uncle, who was diagnosed at the age of 50 years.

On initial presentation at an outside hospital in July 2015, she presented with intractable, progressively worsening epigastric pain. Vital signs were within normal limits, and physical examination revealed tenderness to palpation and guarding in the right upper quadrant to the epigastrium. No peritoneal signs were present. Serum laboratory tests were significant for leukocytosis (17.7×10^3 white cells/mm^3) with a predominance of neutrophils (80%) and an alkaline phosphatase of 188 U/L, aspartate aminotransferase of 75 U/L, alanine aminotransferase of 101 U/L, and lipase of 18 U/L.

Right upper quadrant ultrasound on admission showed concern for a pancreaticoduodenal 75 mm mass with a normal biliary system without cholelithiasis. Abdominal computed tomography demonstrated a large, complex, and partially cystic mass involving the

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gastroduodenal junction, measuring 9.5 cm in the greatest dimension with a thick-walled gastric antrum (Figure 1). Endoscopic ultrasound with fine-needle aspiration demonstrated a heterogeneous mass measuring over 5 cm in the maximal dimension arising from the antrum posteriorly, with a normal appearance of both the pancreatic body and tail. The gastric wall was thickened and measured over 9 mm itself. Fine-needle aspiration of the mass revealed heavy growth of mixed gram-positive flora, consistent with heavy α-hemolytic streptococci, *Neisseria sicca* and *N subflava,* and microaerophilic streptococci species. Given the available data and clinical picture, the leading differential was thought to be a silent duodenal perforation with formation of intraabdominal abscess in the setting of a possible intraabdominal malignancy. The patient was started on antibiotics and was scheduled for surgery, which she declined.

She returned to our institution for a second opinion, where workup was reinitiated and intravenous ceftriaxone and metronidazole were continued. Subsequent computed tomography imaging showed an improvement in the size of the mass with a peripherally enhancing 1.7 × 2.1 cm fluid collection adjacent to the gastric antrum, marked gastric wall thickening, and a 1-cm cystic focus within the antrum thought to represent an intramural abscess on imaging (Figure 2). The pancreas was unremarkable on both studies.

At this time, the differential diagnosis included a gastric malignancy, an infection secondary to pancreatic pseudocyst, or a polymicrobial intraabdominal abscess of idiopathic etiology. With antibiotics, the patient's serum laboratory values normalized, and she appeared clinically well. The patient was discharged without surgical intervention on oral levofloxacin and metronidazole for a suspected intraabdominal abscess at the gastroduodenal junction. After discharge, follow-up esophagogastroduodenoscopy and endoscopic ultrasound showed no fluid collection, mass, or abscess at the location of the previous large mass. A 12 × 9 mm heterogeneous, round, and umbilicated submucosal lesion was seen arising from the second layer of the gastric wall in the antrum, consistent with pancreatic rest (Figure 3). The remainder of the pancreatic parenchyma was well visualized without evidence of calcification, mass, chronic pancreatitis, or any cystic lesion.

The final diagnosis for our patient was therefore concluded to be infected ectopic pancreatic tissue resulting in a gastric abscess, which resolved after antibiotic therapy. Surgical intervention was not required after follow-up esophagogastroduodenoscopy, with recommendation to pursue surgical resection of the pancreatic rest only if the patient developed recurrent pancreatitis in the ectopic pancreatic tissue.

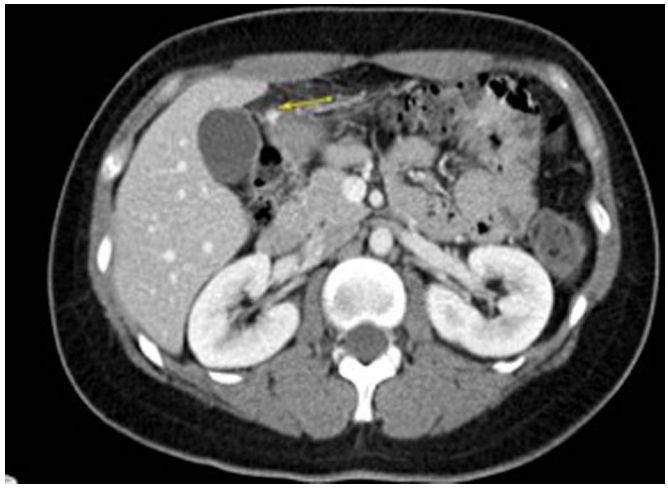

Figure 2. Computed tomography showing an improvement in the size of the mass with a peripherally enhancing 1.7 × 2.1 cm fluid collection adjacent to the gastric antrum with marked gastric wall thickening at this location and an unchanging 1-cm cystic focus in the gastric antrum thought to represent an intramural abscess on imaging.

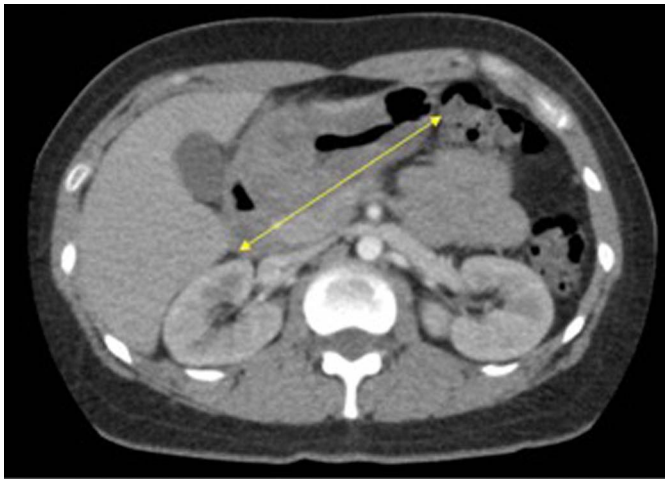

Figure 1. Computed tomography showing an enlarged cystic mass involving the gastroduodenal junction, measuring 9.5 cm in the largest dimension with a thick-walled gastric antrum.

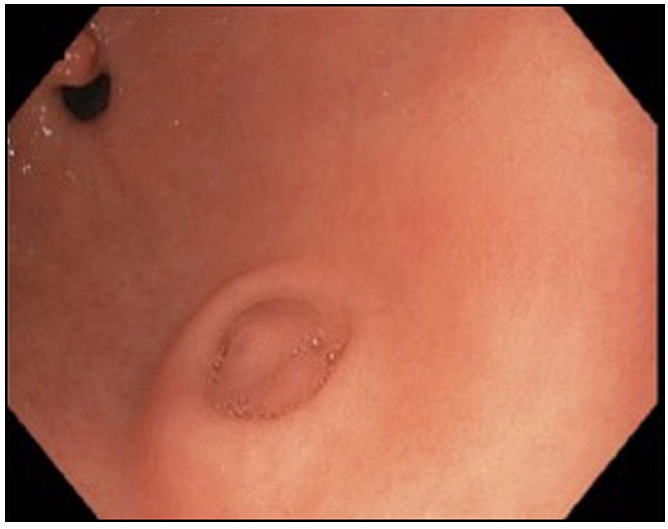

Figure 3. Esophagogastroduodenoscopy demonstrating a 12 × 9 mm heterogeneous, round, and umbilicated submucosal lesion at the second layer of the gastric antrum, consistent with pancreatic rest.

DISCUSSION

When found in the stomach, as in our patient, pancreatic rests typically appear as submucosal masses along the greater curvature of the distal antrum within 1–6 cm of the pylorus.[4] The best-known histogenic theories for the basis of pancreatic rest are based on fetal migration of pancreatic cells, followed by penetration of immature gastric mucosa inside the submucosa and subsequent differentiation into pancreatic tissue. Malignant transformation of this ectopic tissue is not common.[3] Ectopic tissue must usually measure at least 1.5 cm to present clinically with symptoms.[5] Gastric abscess within ectopic pancreatic tissue is outstandingly rare, with only a few documented cases.[2]

Patients with pancreatic rest usually present with abdominal pain, or sometimes, obstruction, if the ectopic tissue causes gastric outlet obstruction. The ectopic tissue is prone to infection and can rarely cause gastric abscesses. Although abscesses are rare (likely because of the high mortality associated with a lack of early diagnosis), infection and inflammation of the tissue (ectopic pancreatitis) is common and may be an easily missed diagnosis that can lead to unnecessary malignancy workup and surgery, as nearly occurred in this patient.[4]

The diagnosis was made difficult because endoscopic ultrasound-guided fine-needle aspiration is usually superficial; thus, biopsy results routinely show normal gastric biopsy, as was also seen in our patient.[4] Although uncommon, ectopic pancreas is an important consideration in the differential diagnosis of abdominal pain to prevent unnecessary workup and to decrease hospitalization time for patients. Although uncommon, pancreatic heterotopia is an important consideration in the differential diagnosis of a patient presenting with abdominal pain to prevent unnecessary workup and hospitalization time. As in this patient's case, endoscopic ultrasound with fine-needle aspiration should be included in the workup of a stromal tumor or mass of the stomach to increase diagnostic accuracy and yield.

DISCLOSURES

Author contributions: R. Berry and HK Rahal wrote the manuscript. W. Ho revised the manuscript and is the article guarantor.

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