Ectopic Pancreatitis

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A 36-year-old, otherwise healthy male presented to the hospital with a three-month history of nausea and vomiting, decreased appetite and weight loss. He had a history of tobacco and alcohol use. Barrett’s esophagitis, gastric antrum edema and elevated lipase were observed during his initial hospital evaluation. A right upper-quadrant ultrasound at that time showed gallstones without evidence of acute cholecystitis; it was otherwise unremarkable. A contrast-enhanced CT revealed thickening and enhancement in the gastric pylorus and proximal duodenum. Multiple EGD biopsies of the pylorus and duodenum revealed mild acute and chronic inflammation and were negative for malignancy or *H. pylori*. An endoscopic ultrasound-guided biopsy eventually revealed ectopic pancreatic tissue in the pylorus, specifically bland pancreatic acinar tissue. Approximately one month later, the patient presented to the emer-

Minnesota Medicine is highlighting unusual cases this month. Earlier this summer, we invited readers to submit case studies about patients with illnesses rarely seen in Minnesota, challenging diagnoses or encounters that they felt were noteworthy for another reason.

We were pleased to receive nearly a dozen reports from medical students, residents and practicing physicians. They were reviewed by Charles Meyer, M.D., and Barbara Yawn, M.D.

Thanks to all who answered our call for sharing their stories and helping educate Minnesota’s medical community about what they learned from these experiences.

FIGURE 1 AND 2

Ectopic Pancreatitis

CT images demonstrate wall thickening and enhancement in the pylorus and gastric antrum with tissue of equal density to the pancreas in the submucosal gastric antrum.
Heterotopic or ectopic pancreas is a congenital condition defined as pancreatic tissue outside of its normal location. It is a relatively uncommon condition with a reported incidence of 0.5% to 13%. Heterotopic pancreatic tissue typically affects the upper GI tract, particularly the stomach and duodenum, although cases of mediastinal and Meckel's diverticulum ectopic pancreatic tissue have been reported.

There are two main theories as to what causes embryologic development of ectopic pancreatic tissue. One is that buds of embryonic pancreatic tissue penetrate into the wall of the developing gut, separating from the main pancreas. The other is an inappropriate expression of embryonic pluripotent mesenchymal tissue of the gastrointestinal tract leading to pancreatic metaplasia.

Although the majority of cases are asymptomatic, and more often are an incidental finding, pathology affecting the pancreas can occur in ectopic tissue. These complications include ulceration, bleeding, pancreatitis and pancreatic cancer.

Presenting symptoms in patients with ectopic pancreatic tissue documented in the literature include abdominal pain, intestinal/gastric obstruction, hematemesis, vomiting and weight loss. The histopathologic appearance can include pancreatic acini, ducts and a mixture of the two.

Ectopic pancreatic tissue may demonstrate characteristics on CT suggesting a submucosal mass in the stomach or duodenum and be mistaken for more common submucosal tumors including a gastrointestinal stromal tumor (GIST) or leiomyoma. Endoscopic ultrasound, CT and barium studies can be used to detect submucosal tumors. Although a preoperative diagnosis of ectopic pancreas is challenging and the imaging characteristics are nonspecific, certain characteristics on CT improve the ability to differentiate ectopic pancreatic tissue from other submucosal tumors. These include a prepyloric antral or duodenal location, endoluminal growth pattern, an ill-defined border, prominent enhancement of overlying mucosa and a long-diameter-to-short-diameter ratio greater than 1.4. Surgical resection is the main treatment, as medical management is ineffective. Resection also allows for a more definitive diagnosis, as endoscopic biopsies can be nondiagnostic.

Learning points
- Any pathology affecting the pancreas can be found in ectopic pancreatic tissue, including ulceration, pancreatitis, bleeding and pancreatic cancer.
- Certain characteristics on CT improve the ability to differentiate ectopic pancreatic tissue from other submucosal tumors. These include a prepyloric antral or duodenal location, endoluminal growth pattern, an ill-defined border, prominent enhancement of overlying mucosa and a long-diameter-to-short-diameter ratio greater than 1.4.
- Surgical resection is the main treatment, as medical management is ineffective. Resection also allows for a more definitive diagnosis, as endoscopic biopsies can be nondiagnostic.

References