A Unique Case of Hematemesis in a 17-Year-Old Female

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Abstract

Hemosuccus pancreaticus (HP) is a rare cause of gastrointestinal bleeding (GIB) that should be considered in a patient with a history of pancreatitis and GIB. A 17-year-old female presented with nausea followed by an episode of hematemesis. Fourteen weeks prior to presentation, she had 3 episodes of vomiting within a week. Six weeks prior to presentation, she developed abdominal pain and was diagnosed with acute idiopathic pancreatitis. Computed tomography (CT) revealed a cystic lesion arising in the gastroduodenal artery (GDA), and coil embolization was performed. There are no reported cases of HP in an adolescent with acute idiopathic pancreatitis.

Introduction

Hemosuccus pancreaticus (HP) was defined by Sandblom in 1970 as gastrointestinal bleeding secondary to rupture of a pseudoaneurysm into the pancreatic duct. This condition is exceedingly rare in the adolescent population. We describe an unusual presentation of HP in a 17-year-old female with a history acute idiopathic pancreatitis.

Case Report

A 17-year-old white female presented with a sudden feeling of nausea followed by a single episode of reddish-brown emesis. The patient felt the reddish color was related to her breakfast of red licorice and cherry-flavored breakfast tarts. She reluctantly presented to the emergency room of our tertiary care center for further evaluation.

Fourteen weeks prior, she had 3 episodes of vomiting and abdominal pain and was prescribed a proton pump inhibitor (PPI). Two weeks after stopping the PPI (6 weeks prior to presentation) she experienced recurrent vomiting and abdominal pain requiring admission. Lipase was elevated to 3 times the upper limit of normal, but right upper quadrant ultrasound and laboratory tests, including liver function tests, calcium, and lipid panel, did not reveal an etiology. She was discharged with a diagnosis of acute idiopathic pancreatitis, although endoscopic ultrasound (EUS) and magnetic resonance cholangiopancreatography (MRCP) were not performed.

On this presentation, she had no episodes of nausea or vomiting beyond her first episode and her review of systems was unremarkable. She denied nonsteroidal medications, herbals, alcohol, illicit drug use, recent travels, trauma, and sick contacts. In the emergency room, her vital signs were normal and physical exam was unremarkable, including rectal exam, which revealed brown stool. Admission labs showed hemoglobin 9.0 mg/dL, mean cell volume (MCV) 89 FL, blood urea nitrogen (BUN) 12 mg/dL, and creatinine 0.7 mg/dL. Liver function tests, amylase, and lipase were normal. An esophagogastroduodenoscopy (EGD) performed for anemia and hematemesis showed a large deformity in the antrum and duodenal bulb thought to be secondary to extrinsic compression. There was a deep duodenal ulcer in the area of extrinsic compression without evidence of active bleeding (Figure 1). Given the presence of extrinsic compression, we were concerned that this ulcer was an extrinsic process that warranted further radiologic imaging.
A contrast computed tomography (CT) scan of the abdomen was subsequently performed that revealed a 4.6 x 4.4 x 6.8-cm mixed attenuated cystic lesion with a thin enhancing rim (likely a pancreatic pseudocyst with mass effect on the antrum and duodenum) and an ovoid focus extending from the gastroduodenal artery (GDA) suggestive of pseudoaneurysm formation (Figure 2). The patient was immediately referred to interventional radiology and underwent angiogram, which revealed a 2.8-cm GDA pseudoaneurysm. Successful coil embolizations of the GDA and outflow track of the right gastroepiploic artery were performed (Figure 3). Her remaining hospital stay was uneventful. A follow-up CT scan 10 weeks later showed resolution of the pseudocyst and pseudoaneurysm. Genetic testing for CFTR and PRSS-1 did not reveal an etiology for the pancreatitis, and she currently remains asymptomatic.

Discussion

Hemosuccus pancreaticus (HP) was defined by Sandblom in 1970 as gastrointestinal bleeding secondary to rupture of a pseudoaneurysm into the pancreatic duct. The most common cause of HP is chronic pancreatitis with pseudocyst erosion into a peripancreatic artery and formation of a pseudoaneurysm. Although HP only accounts for 1/1,500 cases of gastrointestinal bleeding, it should be considered in a patient with a history of pancreatitis. Idiopathic pancreatitis, which is diagnosed when no underlying cause is found on routine investigation, comprises an estimated 30% of cases of acute pancreatitis in the adult population. It is exceedingly rare in adolescents. Pseudocysts occur in approximately 10% of all cases of acute pancreatitis, of which 10% can develop HP. The most common arteries implicated in HP are the splenic (45%), gastroduodenal (17%), and pancreaticoduodenal (16%) arteries. Due to the high concentration of digestive enzymes within pseudocysts, pseudoaneurysms can eventually rupture into the ductal system. Bleeding is intermittent due to clot formation in the main pancreatic duct, and active bleeding from the papilla is visualized on upper endoscopy in only 30% of patients. However, upper endoscopy should always be performed to exclude other sources of gastrointestinal bleed. Point ulcers in the gastric or duodenal wall due to aneurysm can also be seen, as was the case in our patient.

Because of the intermittent nature of bleeding and difficulties in determining the bleeding source endoscopically, diagnosis of HP is frequently delayed. The diagnosis is generally made with abdominal CT and/or selective angiography of the celiac trunk and superior mesenteric artery; the latter is 96% sensitive in detecting pseudoaneurysms. Interventional radiology is the primary modality for confirming diagnosis and treatment with coil embolization. If bleeding persists or is life threatening, treatment with a Whipple procedure or pseudocyst resection and ligation of the culprit vessel is indicated.

This case is unique in that the patient presented with acute
idiopathic pancreatitis followed by a bleed from HP 6 weeks later. There are no similar reported cases of HP in an adolescent with acute idiopathic pancreatitis. In a patient with a history of pancreatitis and gastrointestinal bleed, HP must be considered in the differential to ensure timely diagnosis and treatment of a potentially lethal condition.

Disclosures

Author contributions: T. Zuchelli and E. Alsheik drafted and critically revised the manuscript for important intellectual content. B. Bhandari critically revised the manuscript for important intellectual content. D. Ringold drafted and critically revised the manuscript for important intellectual content and provided endoscopic images. T. Zuchelli is the article guarantor.

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