

Intermittent Gastrointestinal Bleeding from Left Gastric Artery Pseudoaneurysm Successfully Treated with Coil Embolization

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Citation

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Abstract

Context: Visceral pseudoaneurysm is a rare but serious complication of chronic pancreatitis. Usually the pseudoaneurysm involves the splenic artery, the pancreaticoduodenal or the gastroduodenal artery. Only a few cases have been reported on left gastric pseudoaneurysm causing gastrointestinal bleeding. Case Report: We report a case of a 32-year-old male with chronic pancreatitis that presented with history of passing intermittent episodes of bright red blood per rectum. An abdomen-pelvis computed tomography was obtained, showing a large left gastric pseudoaneurysm that was communicating with a 4cm pancreatic pseudocyst. The patient underwent successful angiographic coiling/exclusion of the aneurysm. Conclusion: Patients with history of pancreatic pseudocysts or chronic pancreatitis that present with gastrointestinal bleeding should have a computed axial tomography of the abdomen-pelvis to rule out pseudoaneurysms of the pancreatic vessels. The mortality of these pathologies is as high as 50% and they could be missed when performing only upper endoscopy and colonoscopy.

INTRODUCTION

Pancreatic pseudoaneurysms are rare complications of acute or chronic pancreatitis. They form from a pseudocyst that erodes into the wall of a visceral artery. The most common arteries involved are the splenic, the gastroduodenal, pancreaticoduodenal and the hepatic artery. [1, 2] Only a few cases have been reported of a pseudoaneurysm originating from the left gastric artery. [1, 2, 3, 4, 5] When the pseudoaneurysm ruptures it can cause hemoperitoneum or massive gastrointestinal bleeding. We present a very uncommon case of intermittent gastrointestinal bleeding due to a left gastric artery pseudoaneurysm that was successfully treated with angiographic embolization.

CASE REPORT

A 32-year-old Hispanic man presented to University Hospital with dizziness, weakness and 10-day history of bright red blood per rectum mixed with maroon dark bowel movements, his last bowel movement was 24 hours before presentation to the Emergency department. The patient history was significant for chronic pancreatitis due to alcohol ingestion and previous splenectomy in 2005 due to splenic vein thrombosis and previous splenic artery embolization in preparation for splenectomy 2005. On physical examination, his heart rate was 110bpm and his blood pressure

70/40mmHg. His abdomen was soft and slightly tender in the epigastrium but with no peritoneal signs and an otherwise unremarkable examination. His laboratory work-up included complete blood count with leukocytes of 10.2K/uL, Hemoglobin 2.6 g/dL, hematocrit 8.6% and platelets of 233K/uL, an unremarkable basic metabolic profile, lipase 50IU/L, amylase 63IU/L, positive occult blood test on digital rectal examination and a chest X ray with no significant findings. His alcohol level in serum was 96mg/dL. A nasogastric tube was placed and non-bloody gastric secretions were obtained with no evident bilious fluid. The patient was immediately transfused with 4 units of packed red blood cells, an abdomen-pelvis computed axial tomography (CT scan) with oral and intravenous contrast was obtained. The patient CT scan of the abdomen showed a large left gastric pseudoaneurysm that appeared to be communicated with a 4cm pancreatic pseudocyst. (See Images 1, 2, 3)

Figure 1

Image 1

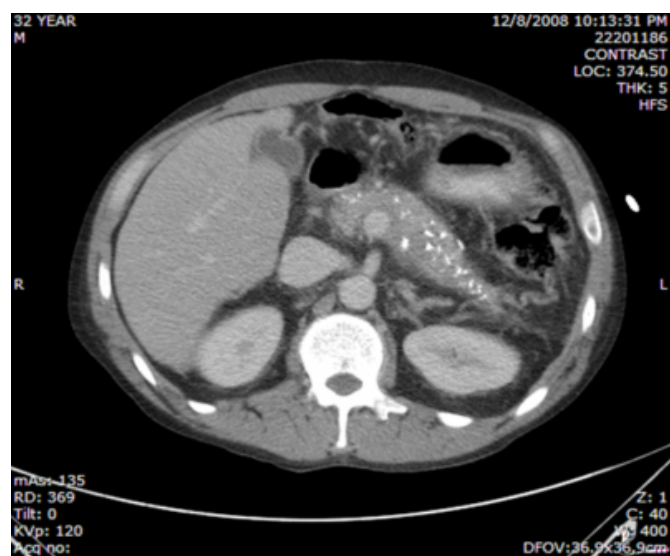


Figure 3

Image 3

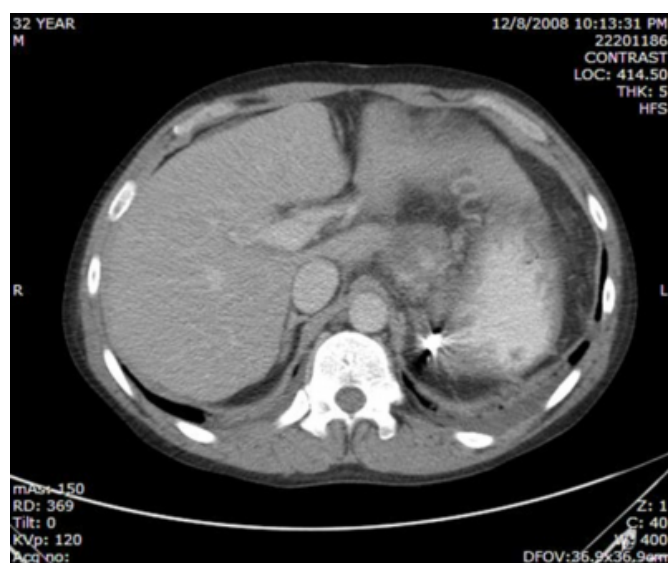


Figure 2

Image 2



Images 1-3. Abdomen CT scan with oral and intravenous contrast (arterial phase) identifying a cystic large lesion with contrast in its lumen in close proximity to the body of the pancreas and the posterior stomach wall.

The patient was then admitted to the surgical critical care unit and adequately resuscitated, after 4 units of packed red blood cells his hemoglobin was 8.9g/dL and his hematocrit was 26%. The patient became normotensive and non-tachycardic after receiving the first 2 units of blood and remained hemodynamically stable with stable hematocrit overnight. The next morning the patient was taken to the angiography suite and he underwent coiling/exclusion of the pseudoaneurysm successfully. (See Images 4 and 5)

Figure 4

Image 4: Selective Angiogram of the left gastric artery identifying the left gastric artery pseudoaneurysm with no active extravasation, note 3 previous coils from previous splenectomy in 2005.

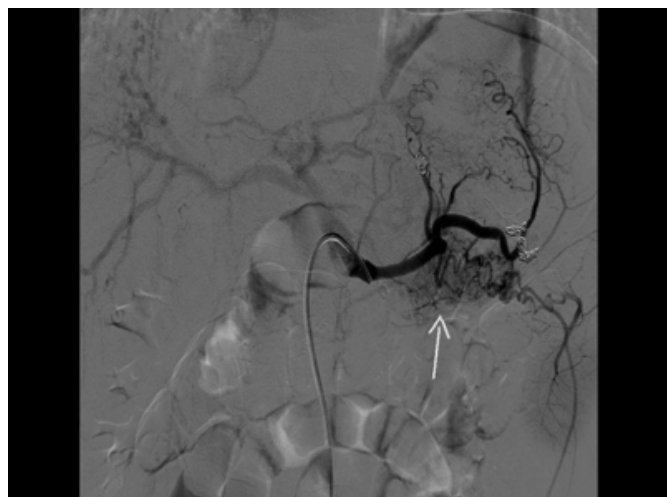


Figure 5

Image 6: Angiogram post embolization showing complete exclusion of the left gastric artery pseudoaneurysm



Diagnostic upper and lower endoscopy (colonoscopy) were performed 24 hrs after his angiography. His upper endoscopy and colonoscopy did not identify any other source of bleeding. The patient remained stable, with no more episodes of gastrointestinal bleeding. At 72 hours from admission the patient was able to resume diet, he remained hemodynamically stable, his hemoglobin was 8.5 g/dL and his hematocrit was 25.6%. He was discharged home the next day and remained with no gastrointestinal bleeding episodes.

DISCUSSION

Pancreatic pseudoaneurysms are caused by the erosion of a pancreatic pseudocyst into the wall of the surrounding visceral arteries. [1] The most common etiology is chronic pancreatitis from alcohol ingestion. Males are more commonly affected. [6] The visceral pseudoaneurysms are found by angiography in as much as 10% of patients with chronic pancreatitis. [1] The pseudoaneurysm can be completely asymptomatic or can present with diffuse and non-specific symptoms like nausea, vomiting, abdominal pain and the diagnosis requires a high index of suspicion. [3] Recognition of the pseudoaneurysm is of critical importance, since the mortality is very high once it ruptures. Usually, the pseudoaneurysms are found once they have ruptured and the patient presents with hemoperitoneum or with massive gastrointestinal bleeding because they can rupture into the pancreatic duct (hemorrhage pancreaticus). For patients with ruptured pseudoaneurysm into the pancreatic duct the presentation is usually with significant gastrointestinal bleeding; in our case, the patient appeared to have intermittent bleeding for at least 10 days, and that prompted our decision not to take the patient emergently to angioembolization or for exploratory laparotomy. Most pancreatic pseudoaneurysms arise from the splenic artery, but they can also arise from the gastroduodenal artery, the pancreaticoduodenal artery, the hepatic and the left gastric artery in rare cases. A pseudoaneurysm from the left gastric artery in chronic pancreatitis that presents with gastrointestinal bleeding is a very rare condition and only 7 cases have been published. [1, 2, 3, 4, 5]

Ultrasound, CT scan and angiography are the most common methods of diagnosis, the gold standard continues to be angiography since it can also be therapeutic, but computed tomography with intravenous contrast is highly sensitive and is more readily accessible. [7, 8] The pseudoaneurysms are treated either with coil embolization or with surgery. Some authors have advocated that endovascular approach is the treatment of choice for visceral aneurysm regardless of etiology, but this depends on the availability of an interventional radiology team and an endovascular suite. [9, 10] In previous reports of left gastric pseudoaneurysms that presented with gastrointestinal hemorrhage, the authors have been unable to manage them with angiographic embolization due to technical difficulties. [3] In our case, we successfully treated the patient with coil embolization.

In patients that present with gastrointestinal bleeding to the

emergency room of our institution, the routine work-up includes placing a nasogastric tube and performing a lavage; if there is bile present then upper gastrointestinal bleeding can be excluded and this patient usually only undergoes colonoscopy. On the other hand, in patients that do not have bile-stained secretions on the gastric lavage, upper gastrointestinal bleeding cannot be excluded and they undergo upper gastrointestinal endoscopy and colonoscopy. In our case report, the patient presented with low blood pressure and tachycardia, indicating that he was in shock. After the patient had received the first two units of blood, his blood pressure stabilized and his tachycardia resolved; his hematocrit responded appropriately to the transfusion indicating that he was not actively bleeding. Patients with persistent hypotension should be taken for angioembolization or laparotomy to control bleeding. Patients with history of pancreatic pseudocysts or chronic pancreatitis that present with gastrointestinal bleeding should have a CT scan of the abdomen and pelvis as part of their work up to rule out pseudoaneurysm of the pancreatic vessels or ruptured pseudocysts. [1, 9, 10] These pathologies will be missed when performing only upper gastrointestinal endoscopy and colonoscopy and the computed tomography is more readily available. The mortality of undiagnosed visceral pseudoaneurysm that ruptures could be as high as 50% and this is why it is critical to have a very high index of suspicion in patients with chronic pancreatitis. [1]

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