

## Gastrointestinal Vascular Disorders: Review Questions

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### QUESTIONS

Choose the single best answer for each question.

1. A 48-year-old woman with a history of chronic pancreatitis presents to a gastroenterologist for evaluation of melena in the setting of chronic abdominal pain and weight loss. Physical examination reveals a thin, malnourished, chronically ill-appearing woman without focal findings. Upper endoscopy reveals isolated gastric varices, one of which has an adherent clot suggestive of a recent bleed. There are no esophageal varices. What is the most likely cause for the gastric varices?

  - (A) Hepatic vein thrombosis
  - (B) Pulmonary hypertension
  - (C) Splenic artery aneurysm
  - (D) Splenic vein thrombosis
  - (E) Superior mesenteric vein (SMV) thrombosis
2. A 67-year-old woman presents to the emergency department (ED) for evaluation of a small episode of hematemesis. The patient has a history of hypertension, atherosclerosis, and underwent surgery for an aortic aneurysm 2 years ago. She is hemodynamically stable on arrival. Upper endoscopy reveals a small segment of aortic graft material visible in the third portion of the duodenum without active bleeding. What is the next step in this patient's management?

  - (A) Aortic ultrasound
  - (B) Endoscopic closure of the duodenal defect with metal clips
  - (C) Observation
  - (D) Surgical therapy
  - (E) Tagged erythrocyte scan
3. A 50-year-old man with chronic pancreatitis develops melena during hospitalization for an episode of acute-on-chronic pancreatitis brought on by an alcohol binge. Endoscopy reveals blood oozing from the major duodenal papilla but no other abnormalities. A computed tomography scan demonstrates pancreatic changes consistent with chronic pancreatitis, several pseudocysts, a small splenic artery aneurysm, and stones in the gallbladder. What is this patient's underlying diagnosis?

  - (A) Hemobilia from the gallstones
  - (B) Hemosuccus pancreaticus
  - (C) Infected pancreatic pseudocyst
  - (D) Splenic vein thrombosis
  - (E) Underlying pancreatic cancer
4. A 73-year-old man with atherosclerosis, diabetes, and hypertension presents to the ED with acute abdominal pain of 1 hour's duration. The pain was sudden, intense but diffuse, and followed by a large bowel movement that did not improve the patient's pain. On examination, the patient has a soft, flat abdomen that is diffusely tender but is without organomegaly or peritoneal signs. An abdominal radiograph is suggestive of an ileus without free air. Results of laboratory studies are normal except for an increased lactate level. What is this patient's most likely diagnosis?

  - (A) Acute pancreatitis
  - (B) Acute cholecystitis
  - (C) Small bowel obstruction with perforation
  - (D) Superior mesenteric artery (SMA) occlusion
  - (E) SMV occlusion
5. A 17-year-old boy presents to a gastroenterologist for evaluation of anemia. The patient reports occasional painless melena without overt bright red blood per rectum or hematemesis. Physical

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examination reveals telangiectasias on the lips and tongue but is otherwise normal. Esophagogastroduodenoscopy demonstrates multiple duodenal telangiectasias. What is this patient's underlying diagnosis?

- (A) Celiac sprue
- (B) Hereditary pancreatitis
- (C) Klippel-Trénaunay-Weber syndrome
- (D) Rendu-Osler-Weber syndrome
- (E) Sporadic angiectasia

#### ANSWERS AND EXPLANATIONS

1. **(D) Splenic vein thrombosis.** The patient has splenic vein thrombosis, most commonly caused by chronic pancreatitis. Splenic vein thrombosis leads to the formation of gastric varices, which can bleed profusely. Chronic pancreatitis explains the patient's ill appearance and malnutrition. Hepatic vein thrombosis (Budd-Chiari syndrome) would present as hepatomegaly with ascites. SMV thrombosis does not lead to gastric varices and would be associated with diffuse pain. Pulmonary hypertension would produce hepatic congestion/hepatomegaly but not gastric varices. A splenic artery aneurysm would not lead to gastric varices.
2. **(D) Surgical therapy.** The patient has an aortoenteric fistula, a potentially life-threatening condition. The patient has a "sentinel bleed"—a self-limited episode of bleeding sometimes seen prior to a massive bleeding episode. Observation is contraindicated because the lesion is very likely to re-bleed. Neither a tagged erythrocyte scan nor an aortic ultrasound would offer additional information. Endoscopic closure of the defect is unlikely to prevent further bleeding. Surgical therapy should be undertaken immediately to repair the graft and achieve primary closure of the duodenal defect.
3. **(B) Hemosuccus pancreaticus.** Hemosuccus pancreaticus refers to the communication of the pancreatic duct with peripancreatic vessels, resulting in bleeding from the major papilla or minor papilla. Hemosuccus pancreaticus can be seen in acute and chronic pancreatitis, often when pseudocysts communicating with the pancreatic duct erode into vascular structures. Gallstones alone do not cause hemobilia. Splenic vein thrombosis could cause gastric varices, which could bleed, but does not cause bleeding from the papilla. An infected pancreatic pseudocyst manifests as abdominal pain and fevers, not bleeding. A pancreatic cancer would be very unlikely to present as bleeding from the pancreatic duct.
4. **(D) SMA occlusion.** The patient is experiencing an acute arterial occlusion, most likely from an atheromatous embolus. The acute onset of pain and elevated lactate level, coupled with a radiograph suggestive of an ileus and the lack of peritoneal signs, make such an occlusion likely. Acute pancreatitis and cholecystitis are associated with abnormal pancreatic and liver chemistries, respectively. A small bowel obstruction with perforation would present with peritoneal signs and free air on the radiograph. SMV occlusion usually has a longer course before presentation. The history of a bowel movement following the onset of pain often is seen in SMA occlusion.
5. **(D) Rendu-Osler-Weber syndrome.** Also known as hereditary hemorrhagic telangiectasia, this is an autosomal dominant disorder that manifests as cutaneous and mucosal telangiectasias. Gastrointestinal bleeding is common and typically manifests in young people. Hereditary pancreatitis is not associated with telangiectasia. Celiac sprue can cause anemia but is not associated with cutaneous and mucosal telangiectasias. Sporadic angiectasia can cause bleeding but usually are seen in older individuals without cutaneous manifestations. Klippel-Trénaunay-Weber syndrome manifests as lower extremity nevi and varicose veins with rectal or vaginal hemangiomas or varices.

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