

Kaplan USMLE Step 2 prep: Symptoms after cardiac catheterization

JUL 24, 2018

Staff News Writer

If you're preparing for the United States Medical Licensing Examination® (USMLE®) Step 2 exam, you might want to know which questions are most often missed by test-prep takers. Check out this example from Kaplan Medical, and read an expert explanation of the answer. Also check out all posts in this series.

This month's stumper

A 72-year-old man with a history of peripheral vascular disease and recurrent chest pain underwent cardiac catheterization three hours ago. Angiography showed 80 percent occlusion of the left main coronary artery.

He now complains of diarrhea and severe constant mid-abdominal pain. On examination, his temperature is 37.2 °C (99 °F), blood pressure is 170/90 mm Hg, pulse is 102 beats per minute, and respirations are 22 per minute. The lungs are clear, and the abdomen is soft and nondistended without focal tenderness. Bowel sounds are hypoactive and no masses are palpable. Rectal examination reveals occult blood in the stool.

Which of the following is the most likely diagnosis?

- A. Gastric ulcer.
- B. Mesenteric ischemia.
- C. Pancreatitis.
- D. Perforated duodenal ulcer.

E. Staphylococcal gastroenteritis.

The correct answer is B.

Kaplan Medical explains why

This patient has mesenteric arterial occlusion with ischemia as a complication of an angiographic procedure. This is a typical case of iatrogenic occlusion. This patient is very susceptible to this complication because of his history of peripheral vascular disease, coronary artery disease and severe atherosclerotic disease.

Iatrogenic mesenteric ischemia occurs most commonly after angiographic procedures or operations on the aorta. Angiography may cause intestinal ischemia by dislodging of atheromata from a diseased vessel wall, by dissection of the vessel, or by formation of the intimal flap. Mesenteric ischemia is accompanied by sudden severe epigastric and mid-abdominal pain. Forceful vomiting and evacuation of stool commonly follow the onset of pain.

Early after embolization, physical examination of the abdomen may be entirely unremarkable. Later, a classic presentation is severe abdominal pain out of proportion to physical exam findings. Abdominal distention, guarding, and absence of bowel sounds are associated with intestinal infarction and imply disease progression. Stool may be positive for occult blood. No laboratory tests are pathognomonic for mesenteric embolism or visceral ischemia.

Why the other answers are wrong

Choice A: Pain from a gastric ulcer would not occur suddenly. In addition, if this patient had a perforated gastric ulcer, he would have some local signs of peritonitis, and the abdominal examination would correlate more closely with the degree of abdominal pain, unlike the situation with mesenteric ischemia.

Choice C: Pancreatitis does not occur as a result of cardiac catheterization. It can occur after endoscopic retrograde cholangiopancreatography with dye injection into the pancreatic duct. In addition, pancreatitis does not lead to occult blood in the stool.

Choice D: Abdominal examination of a patient with a perforated duodenal ulcer would reveal some local signs of peritonitis, and the patient's symptoms would not be so "out of proportion" to the abdominal examination.

Choice E: Staphylococcal food poisoning/gastroenteritis usually occurs three to six hours after ingestion of contaminated food. However, this patient had a cardiac catheterization; he did not eat a tuna sandwich with contaminated mayonnaise. Furthermore, vomiting is usually the prominent symptom with staphylococcal food poisoning.

For more prep questions on USMLE Steps 1, 2 and 3, view other posts in this series.

The AMA selected Kaplan as a preferred provider to support you in reaching your goal of passing the USMLE® or COMLEX-USA®. AMA members can save 30 percent on access to additional study resources, such as Kaplan's Qbank and High-yield courses. Learn more.