If you’re preparing for the United States Medical Licensing Examination® (USMLE®) Step 3 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 79-year-old man with a medical history of colon cancer presents to the emergency department because of right leg pain below the knee for the past four hours. He has never had pain like this before and rates the pain as nine out of 10 in intensity below the knee. The patient denies shortness of breath. Physical examination is significant for absent dorsalis pedis and posterior tibial pulses in the right lower extremity.

The right foot and leg are cold with 1+ edema on all aspects of the leg and foot. Femoral and popliteal pulses as well as contralateral pulses are all 2+. Electrocardiogram demonstrates atrial fibrillation at a rate of 79–99 per minute. An abdominal plain film is normal.

Which of the following is the most appropriate next step in the management of this patient?

A. Initiate IV heparin therapy.

B. Initiate IV heparin therapy and prepare the patient for a surgical embolectomy.

C. Order an ultrasound of the left leg.

D. Prepare the patient for a surgical embolectomy.

E. Provide symptomatic treatment with oxycodone.
The correct answer is B.

Kaplan Medical explains why

This patient is likely having an acute arterial occlusion leading to a cold, pulseless foot. This is likely secondary to an embolus from his left atrium given his atrial fibrillation. Treatment is emergent and consists of immediate heparin and surgical embolectomy.

Why the other answers are wrong

Choice A: Heparin will stop further clots from forming, but will not dissolve the clot that is causing this limb-threatening circulatory compromise.

Choice C: An ultrasound should be attempted only in a nonemergent setting, such as if pulses were still present but reduced or normal with complaints of pain.

Choice D: A surgical embolectomy in this patient is emergently indicated but is not sufficient. Heparin therapy should also be started to avoid further clot formation prior to surgical intervention.

Choice E: Symptomatic treatment alone will likely lead to the loss of the threatened limb.

Tips to remember

- Acute arterial occlusion presents with a cold, pale, painful, and pulseless extremity.
- Treatment is emergent administration of heparin and surgical embolectomy.

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

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