Kaplan USMLE Step 3 prep: Patient with incomplete quadriplegia

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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 is admitted to the medical ward three days status post subdural hematoma drainage, C3 cervical spine fracture, and fixation of multiple extremity fractures sustained in a motor vehicle accident. The patient is now awake and oriented to person, place and time, but has lower cervical spine incomplete quadriplegia.

Physical examination reveals some minimal sensation in the legs, but no ability to move the extremities. There is a Foley catheter in place that is draining yellow colored urine. Doppler ultrasonography demonstrates a thrombus in the left popliteal vein.

The most important next step in the management of this patient is:

A. Daily Doppler ultrasonography of the lower extremities.
B. Inferior vena cava filter placement.
C. Subcutaneous heparin.
D. Tissue plasminogen activator thrombolysis.
E. Warfarin.

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F. Weekly ventilation or perfusion scans for a pulmonary embolus.

The correct answer is B.

Kaplan Medical explains why

This patient has documented deep venous thrombosis (DVT) on ultrasonography and has had recent intracranial surgery. Intracranial surgery is an absolute contraindication to anticoagulation. Because the patient has a documented DVT, an inferior vena cava filter is necessary to prevent potentially fatal pulmonary emboli.
Why the other answers are wrong

**Choice A:** Daily ultrasonography of the lower extremities is a way to follow the extent of the documented thrombus in the left popliteal vein. It is not sufficient to simply follow the extent of the clot, however. The known DVT puts him at a risk for a pulmonary embolus, and therefore he needs an inferior vena cava filter.

**Choice C:** Anticoagulation with subcutaneous heparin is absolutely contraindicated as the patient has had recent neurosurgery.

**Choice D:** Thrombolysis will treat the current thrombus in the left popliteal vein, but it will not prevent further thromboses from occurring. Thrombolysis with tissue plasminogen activator is also contraindicated so soon after intracranial surgery.

**Choice E:** Anticoagulation with warfarin is absolutely contraindicated as the patient has had recent neurosurgery.

**Choice F:** A screening study for pulmonary emboli is inadequate for this high-risk patient. Although both ventilation or perfusion scanning and CT pulmonary angiography are effective studies to diagnosis a pulmonary embolus, this patient needs definitive treatment to prevent a pulmonary embolus.

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

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