Kaplan USMLE Step 3 prep: Looking for clues in the EKG

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Staff News Writer

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 46-year-old woman comes to the clinic with recurrent attacks of fear that she will die of a heart attack. The attacks are accompanied by shortness of breath, dizziness, tingling, sweating and tightness in her chest. They started after she had almost fainted in the subway once, a couple of months ago. The attacks have now increased in frequency, and they appear without an obvious precipitant.

She has limited her activities to the house and tries to avoid driving far from home for fear of having another "heart attack." She insists on having every single test to find out what is happening to her because she had a bad attack last night and almost went to the hospital.

Her prior medical history is significant only for one ectopic pregnancy nine years ago. She does not smoke, drink alcohol, or use drugs. She is not taking any over-the-counter medication. She reports having a fear of water after a drowning childhood incident. Her physical examination is unremarkable.

An EKG was taken and is shown below:
Before you can establish a diagnosis, which of the following is the next step in the management of this patient?

A. Cardiac enzymes.
B. Echocardiogram.
C. Estrogen level.
D. Thyroid function tests.
E. Urine catecholamines level.
The correct answer is D.

Kaplan Medical explains why

The standard workup for a patient suspected of having panic disorder includes thyroid function tests, complete blood count, electrolytes, fasting glucose, liver function, urea, creatinine, calcium concentrations, urinalysis, urine drug screen and electrocardiogram. This patient has already had an EKG, and it shows a normal sinus rhythm.

Why the other answers are wrong

Choice A: Measurement of cardiac enzymes is justified in patients who have present risk factors for cardiovascular disease and symptoms of chest pain. Otherwise, these enzymes are not included in a routine workup. The EKG does not reveal any significant changes that would raise suspicion of a myocardial infarction.

Choice B: Echocardiogram is not indicated as a standard test but can be ordered if there is additional suspicion of valve disorders or other cardiac conditions that may present with the same symptoms.

Choice C: Estrogen level is not the test to diagnose perimenopausal syndrome, which can manifest with similar symptoms of dizziness, sweating and anxiety. The most accurate test to identify perimenopausal syndrome is follicle-stimulating hormone levels. However, perimenopausal syndrome is low on the differential diagnosis, and other more important diseases must be ruled out.

Choice E: Urine catecholamine level is a test used for the diagnosis of pheochromocytoma, which has a similar presentation as panic disorder. However, pheochromocytoma is not as common as hyperthyroidism. Common medical problems must be ruled out first before investigations are done for rarer disorders.

Tip to remember

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In the presentation of a panic attack, it is important to rule out underlying medical problems that can cause a similar presentation.

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

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