Kaplan USMLE Step 3 prep: Patient worries about developing dementia

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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.

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This month’s stumper

A 49-year-old woman with a history of bipolar disorder type I presents to the clinic with increased fatigue, forgetfulness and poor concentration in the past couple of weeks. She complains that it takes her forever to clean the house, and that she does not feel as efficient as usual. Her daughter criticizes her weight gain, even though the patient persistently denies increased appetite. She denies any recent mood swings, and reports being compliant with her medication.

She has been treated with lithium for the past 14 years. She worries that she is developing Alzheimer dementia because her paternal grandmother suffered from it. Her daughter is worried that her mother is getting depressed, even though this depression seems different from episodes she has had in the past. Her physical examination, aside from mild obesity and mild lower-extremity edema, is otherwise unremarkable.

Which of the following is the most appropriate next step?

A. Begin treatment with a selective serotonin reuptake inhibitor (SSRI).
B. Discontinue lithium.

C. Order a dexamethasone suppression test.

D. Order a thyroid-stimulating hormone (TSH) level.

E. Schedule a brain MRI.

The correct answer is D.

Kaplan Medical explains why
The most reasonable step in management of this patient is to order a serum TSH level. The symptoms she describes can be a consequence of hypothyroidism. Long-term lithium treatment can cause iatrogenic hypothyroidism.

Psychiatric manifestations of hypothyroidism include fatigue, depression, lethargy, psychomotor retardation, poor concentration, and forgetfulness. If a patient has been otherwise stable on lithium for years, there is no need to switch to another mood stabilizer. Instead, replacement therapy can be started with levothyroxine.

Why the other answers are wrong

Choice A: An SSRI would need to be justified after ruling out other medical conditions which can present with depressive symptoms. Caution, too, about a possible lithium-SSRI interaction and lithium toxicity.

Choice B: The patient has been stable on lithium, the drug of choice for bipolar I disorder, for many years. Only if other severe side effects from lithium were detected would switching to another mood stabilizer be justified.

Choice C: Dexamethasone suppression test is not considered a routine test for diagnosis of psychiatric conditions. It was used in the past to help confirm major depressive disorder, since severely depressed patients show nonsuppression of cortisol after the administration of dexamethasone. But because the test's sensitivity is only 45% and there are various medical conditions and pharmacologic agents which may interfere with its results, it is used only infrequently today for psychiatric research.

Choice E: Brain MRI should be considered only if an organic cause of cognitive disturbance is suspected or if there are significant neurologic findings that could justify the procedure. It is not the first step in management in this case.

Tip to remember

- Long-term use of lithium can cause thyroid dysfunction (hyperthyroidism, hypothyroidism and goiter).
- A routine thyroid-stimulating hormone level should be ordered to evaluate thyroid function.
- Detection of hypo- or hyperthyroidism does not undermine the use of lithium if it has been successful in stabilization of the bipolar patient.

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

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