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 24-year-old G2P1 woman with intrauterine pregnancy at 17 weeks presents for routine prenatal visit. The patient denies contractions, vaginal bleeding, or leakage of fluid. The patient states that she feels the baby moving. On physical exam the patient's fundal height is 15 cm and a fetal heartbeat is heard. Routine labs are done and the maternal serum alpha-fetoprotein (MS-AFP) returns low.

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

A. Amniocentesis.

B. Await the rest of the quadruple screen results.

C. Chorionic villous sampling.

D. No further tests are needed.

E. Ultrasound.
The correct answer is E.

Kaplan Medical explains why

MS-AFP is routinely ordered at 15-20 weeks. The most common cause of an abnormality on the test is a dating error. Patients with elevated or low MS-AFP should undergo ultrasound to verify clinical dating as well as to visualize any anatomic defects.

Those with elevated MS-AFP may have a more advanced gestational age than originally suspected or neural tube defects; those with low MS-AFP may have a true gestational age that is less than originally suspected (however, patients with low MS-AFP may also have Down syndrome). If ultrasound shows a dating error, no further management is needed; if dating is correct and ultrasound shows the cause of the abnormality (twins, neural tube defects, renal abnormalities), then no other follow-up is needed.

Why the other answers are wrong

**Choice A:** Patients with correct dating and normal ultrasound should be offered amniocentesis and karyotype.

**Choice B:** Await the quad screen results is incorrect. The other tests in the quad screen (MS-AFP, hCG, estriol, and inhibin-A) will increase the sensitivity and specificity of the exam. However, the test must be done at a specific time (15-20 weeks of gestation); if it is not, results will be abnormal. Therefore, the patient's gestational age must be verified by ultrasound first.
Choice C: Chorionic villus sampling is done in the first trimester to detect genetic diseases. Small samples of the placenta are taken to undergo chromosomal analysis. Chorionic villus sampling is usually done at a gestational age of 10-13 weeks.

Tips to remember

- The most common reason for an abnormal MS-AFP is incorrect gestational age.
- The next step in management is to confirm gestational age with ultrasound.

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

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