Kaplan USMLE Step 3 prep: Next step for woman with hip pain

NOV 16, 2020

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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 45-year-old woman with a five-year history of systemic lupus erythematosus (SLE) comes to the Emergency Department complaining of hip pain. She rates the pain as a 10 in a pain scale of one to 10. She describes the pain as deep aching in quality and increasing over the last several weeks. The pain is persistent at rest and during physical activity. She denies any history of trauma.

Her only medication is prednisone 10 mg daily, and she takes acetaminophen for pain relief, which has helped minimally. Her temperature is 37.2 °C (99 °F), blood pressure is 148/86 mm Hg, and pulse is 72 beats per minute. On physical examination, there is no pain on palpation over the hip but pain is present with range of motion. Laboratory studies show a leukocyte count of 8,100/mm³ and hematocrit of 34%. A plain X-ray of the pelvis and hip is normal.

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

A. Assure the patient that her pain will resolve spontaneously.

B. Continue the patient on oral acetaminophen and follow up as an outpatient in one month.

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C. Discontinue the steroids and start methotrexate.

D. Increase the duration of her intravenous steroids.

E. Order an MRI of the hip.

The correct answer is E.

Kaplan Medical explains why

In a patient who has nontraumatic hip pain and is on chronic steroid therapy for a disease such as SLE, one of the major complications is avascular necrosis (AVN). AVN passes through several stages, the first of which initially appears normal on x-ray. It will progress to patchy sclerosis, then subchondral fracture and cortical collapse, and then eventually leads to severe irreversible degenerative changes that necessitate total hip replacement.
In the setting of AVN, a MRI is the most sensitive imaging modality and the diagnostic method of choice when clinical suspicion is high. MRI results will show marked bone marrow edema even when the x-ray is totally normal and is the only objective test to rule out the disease in this early stage. Early treatment can prevent disease progression. Discontinuing the offending agent, starting bisphosphonate, and surgery such as core decompression and hip replacement are the potential treatments.

**Why the other answers are wrong**

**Choice A and B:** Neither assuring the patient that this will resolve spontaneously nor following up as an outpatient in one month is a good option. The longer this disease goes unrecognized, the greater the chances are that it will progress to the more advanced stages.

**Choice C:** Discontinuing the steroids would be indicated in a patient who presents with complication(s) from systemic corticosteroid use, as in this patient. However, changing the therapy to methotrexate is not indicated for SLE; change should be made to cyclosporine or cyclophosphamide, which are second-line immunosuppressants indicated for SLE.

**Choice D:** Increasing the duration of the IV steroids is not a wise choice because this patient is presenting with a complication of therapy with systemic steroids; the medication should be changed to another immunosuppressant.

**Tips to remember**

- Avascular necrosis of the bones is a possible complication of long-term therapy with steroids. X-ray may initially appear normal; therefore, MRI is the most sensitive modality and the diagnostic method of choice for confirming the diagnosis.
- Treatments include discontinuing the offending agent(s) and starting the patient on bisphosphonate medication. Surgery such as core decompressions and hip replacement are reserved for refractory cases.

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