Kaplan USMLE Step 2 prep: Lab work leads to shortness of breath

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If you're preparing for the United States Medical Licensing Examination® (USMLE®) Step 2 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

An 18-year-old man comes to his physician because of increasing shortness of breath. He has recently started working in a scientific laboratory doing experiments with mice. He reports increasing dyspnea, a nonproductive cough, low-grade fever and fatigue. He has never had these symptoms before. He denies chills, shakes, vomiting and diarrhea. He has no other significant medical history, medications, or allergies. He denies smoking. His temperature is 37.9ºC (99.1ºF). Examination shows bilateral crackles in the lungs. Chest x-ray is notable for reticulonodular opacities at the lung bases and patchy infiltrates in the right middle lung.

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

A. Bronchoscopy and biopsy.
B. Ceftriaxone and azithromycin.
C. CT scan of the chest.

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D. Oral steroids.

E. Stop exposure to the mice.

The correct answer is E.

Kaplan Medical explains why
Hypersensitivity pneumonitis is an immune disorder caused by an inhaled antigen secondary to occupational or hobby exposure that leads to a type III or IV hypersensitivity reaction in the lung. The most important component of treatment is to stop exposure to the offending agent (e.g., mice).

**Why the other answers are wrong**

**Choice A:** Bronchoscopy is not indicated at this time; the relatively benign approach of stopping the patient’s exposure to mice should be made first. Bronchoscopy findings are nonspecific in the diagnosis of hypersensitivity pneumonitis.

**Choice B:** This patient has hypersensitivity pneumonitis and does not have a bacterial infection. Therefore, he is unlikely to respond to antibiotics such as ceftriaxone and azithromycin.

**Choice C:** A CT scan of the chest is not necessary at this point, given the chest X-ray findings and the patient’s clinical presentation.

**Choice D:** Oral steroids are valuable in symptomatic treatment and accelerate recovery in severe cases of hypersensitivity pneumonitis, but they are not as important as avoiding exposure to the offending antigen.

**Tips to remember**

- Hypersensitivity pneumonitis should be suspected in those with high occupational exposure to antigens, including farmers, lab workers, and construction workers.
- The most important step in management is to avoid exposure to the offending antigens.

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