

Kaplan USMLE Step 3 prep: Young girl in respiratory distress

APR 18, 2022

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.

The AMA selected Kaplan as a preferred provider to support you in reaching your goal of passing the USMLE® or COMLEX-USA®. AMA members can save 30% on access to additional study resources, such as Kaplan's Qbank and High-yield courses. Learn more.

This month's stumper

A 4-year-old girl is brought to the emergency department because of a sudden episode of drooling and coughing that began suddenly after she was left alone in the kitchen. She is generally very healthy, and all of her vaccinations are up to date.

Vital signs are: temperature 37.2° C (99° F), pulse 90 beats per minute, blood pressure 100/50 mm Hg, respirations 16 breaths a minute. Physical examination reveals a well-developed girl in mild respiratory distress with mild stridor. There is nothing in the mouth, and the lungs are clear on auscultation. Chest X-ray is normal.

Twenty minutes later the patient is still in mild respiratory distress but is improving. Her oxygen saturation on room air is 97%.

Which of the following is the best next step?

- A. Administer racemic epinephrine and dexamethasone.
- B. Begin intravenous levofloxacin.

- C. Give oxygen via continuous positive airway pressure (CPAP) mask.
- D. Order a lateral X-ray of the neck.
- E. Perform endotracheal intubation.

The correct answer is D.

Kaplan Medical explains why

When young children have acute onset of drooling and coughing, foreign-body aspiration must be suspected. Alternative diagnoses of croup or epiglottitis should also be considered. A coin can be found in the posterior oropharynx on lateral X-ray of the neck.

Radiographic evaluation of the neck, chest, and abdomen is necessary to exclude a foreign body. Some objects (such as hard food) may not be radiopaque, so endoscopy is sometimes necessary.

Why the other answers are wrong

Choice A: Racemic epinephrine and IV dexamethasone are used to reduce airway swelling in croup. This child's history of sudden onset of stridor after being left alone does not suggest that croup is the diagnosis.

Choice B: Antibiotic therapy should not be pursued, as there are no clinical signs of infection at this time.

Choice C: Oxygen via CPAP is not needed since the patient's respiratory rate and pulse oximetry are normal. In addition, children who are 4 years old rarely tolerate CPAP.

Choice E: Endotracheal intubation may be undertaken in the case of respiratory failure or to protect the airway. This patient is not symptomatic of respiratory failure but is certainly at risk of losing the airway. Preparation for intubation must be made, but the procedure is not necessary at this time. Foreign-body aspiration must be suspected, and alternative diagnoses of croup or epiglottitis must also be considered.

Tip to remember

Foreign-body aspiration, when suspected with stridor, must be investigated with a lateral neck X-ray. Not all objects are radiopaque; therefore, endoscopy is sometimes necessary.

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