Kaplan USMLE Step 3 prep: What’s next for patient with volvulus?

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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.

This month’s stumper

After a transatlantic flight, a 52-year-old business executive is admitted to the hospital with complaints of increasing abdominal distension and discomfort. He reports that he has had similar episodes twice in the past, one of which spontaneously resolved. During the second episode, he was admitted to a hospital and underwent "untwisting of a bowel loop by means of a tube in his rectum."

His abdominal examination and abdominal X-ray are diagnostic of sigmoid volvulus, which is easily decompressed by a rectal tube. Now he is feeling much better and repeat abdominal X-rays have confirmed the disappearance of the volvulus. He asks to be discharged from the hospital so that he can complete his business transaction and fly back to London tomorrow. He promises to visit his surgeon at the earliest opportunity once he returns to England.

Which of the following is the appropriate advice for this patient?

A. Bed rest for one week before flying.

B. Go ahead with his plans.

C. He should not fly without permanently fixing his volvulus problem.

D. Seek a second opinion.
E. Undergo emergency surgery.

The correct answer is C.

Kaplan Medical explains why

During long flights at cruising altitude, airplane cabin oxygenation and humidification decrease, leading to the expansion of gases, typically up to 30%. Gases expand in direct proportion to decreases in pressure, thus creating the potential for pathologic disturbances in the anatomical gas-containing cavities. Patients with volvulus, patients who have had recent abdominal surgery, or those recovering from intestinal obstruction should be advised against long flights as this might cause expansion of intraluminal gases and precipitate an emergency.
Why the other answers are wrong

Choices A and B: This patient is at risk for a recurring volvulus, so bed rest for one week before flying back or going ahead with his plan to complete his business, fly back to London and see his surgeon there are incorrect, for the reasons explained above.

Choice D: Patients usually seek a second opinion after the primary physician outlines the options. Risks, alternatives, benefits and possible complications of the proposed treatment plan are to be explained by the primary physician. Suggesting to the patient to seek a second opinion without explaining the possible treatment options is incorrect.

Choice E: Emergency surgery in a volvulus patient is indicated only with peritoneal signs or when nonsurgical methods fail to treat the bowel loop. Therefore, emergency surgery is not indicated in this patient.

Tips to remember

Patients with a history of recurring volvulus, who have had recent abdominal surgery, or who are recovering from intestinal obstruction should be advised against flying. Expansion of gases occurs in airplanes due to the cabin oxygenation and humidification. This can become problematic in the anatomical gas-containing cavities and can result in a surgical emergency.

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

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