Kaplan USMLE Step 3 prep: Man with alcoholism has severe abdominal pain

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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.

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This month’s stumper

A 49-year-old man with alcoholism comes to the emergency department complaining of severe abdominal pain. He explains that the pain is rated 10/10 and spreads from the midabdomen through to the back. It is constant and dull and has not been relieved by the quart of vodka the patient drank earlier in the evening. Serum amylase and lipase levels are markedly elevated, and the patient is admitted to the medicine ward for treatment.

Three hours later he becomes severely hypotensive and is transferred to the intensive care unit for further management. Over the next two days the patient receives a total of 8 liters of lactated Ringer’s solution, two units of fresh-frozen plasma, and 2 grams of calcium, which leads to a stabilization of his blood pressure. On hospital day three, the patient appears stable, though he still has 4/10 abdominal pain. Physical examination reveals a right-sided pleural effusion, midabdominal tenderness, and abdominal distention.

Which of the following is the most appropriate plan for this patient’s nutritional needs?
A. Continue NPO and start partial parenteral nutrition (PPN).

B. Continue NPO and start total parenteral nutrition (TPN).

C. Continue NPO with maintenance IV fluids.

D. Place nasojejunal feeding tube, start high-protein, low-fat tube feeds.

E. Start soft mechanical diet with salt restriction; advance as tolerated.

The correct answer is D.

**Kaplan Medical explains why**

All patients with acute pancreatitis require hospital admission, narcotic pain control, and bowel rest. Additionally, they require large amounts of fluid resuscitation because the systemic inflammation of the illness causes significant amounts of third spacing of fluid. For severe cases, the intensive care unit is the most appropriate treatment setting.

Nasojejunal feeding should be started in those who are likely to remain NPO by 48-72 hours of admission. Early feeding of ICU patients is associated with less sepsis and presumably less mortality. Intuitively, patients in a high-stress catabolic state require nutritional support. For a patient with pancreatitis, the ideal feeding avoids stimulating the pancreas, but would still use the gut. A
nasojugal tube accomplishes these goals.

**Why the other answers are wrong**

**Choice A and B:** PPN and TPN are inferior choices to gut feedings. Both are expensive, associated with a variety of metabolic abnormalities, and can increase the risk of infection. Tube feedings are more appropriate for this patient.

**Choice C:** Maintenance IV fluids are not adequate for nutritional supplementation; 5% and 10% dextrose solutions cannot provide adequate caloric and nutritional support to sick patients.

**Choice E:** This patient's diet should not be advanced to a soft mechanical diet until his pain has resolved and his pancreatitis is under control. Small amounts of clear liquid are a more appropriate starting diet once the patient can tolerate oral feeds.

**Tips to remember**

Acute pancreatitis patients are managed with pain control, bowel rest, and maintenance IV fluids. For severe cases, the ICU is the most appropriate treatment setting. Nasojejunal feeding is reserved for patients with severe pancreatitis who are likely to remain NPO by 48-72 hours of admission. Early feeding of ICU patients is associated with less sepsis and presumably less mortality.

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