

## Clostridium difficile Colitis: Review Questions

Mark A. Marinella, MD, FACP, FACN, CNSP

### QUESTIONS

Choose the single best answer for each question.

- Which of the following is a morphologic description of *Clostridium difficile* colitis?**
  - Gram-negative bacillus
  - Gram-positive bacillus
  - Gram-negative coccus
  - Gram-positive coccus
- All of the following statements regarding *C. difficile* colitis are correct EXCEPT**
  - Chemotherapeutic drugs may cause *C. difficile* colitis
  - Constipation excludes this diagnosis
  - Ileus can occur with severe illness
  - Most cases result from recent antibiotic use
  - Severe disease can lead to toxic megacolon
- All of the following laboratory findings may be associated with *C. difficile* colitis EXCEPT**
  - Anemia
  - Hypoalbuminemia
  - Hypermagnesemia
  - Hypokalemia
  - Significant leukocytosis
- All of the following are treatment regimens for *C. difficile* colitis EXCEPT**
  - Oral metronidazole
  - Oral vancomycin
  - Intravenous metronidazole
  - Intravenous vancomycin

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*Dr. Marinella is an assistant clinical professor, Department of Internal Medicine, Wright State University School of Medicine, Dayton, OH.*

### ANSWERS AND EXPLANATIONS

- (B) Gram-positive bacillus.** *C. difficile* is an anaerobic gram-positive bacillary organism that mainly causes inflammatory disease within the colon. Although a small percentage of people harbor this organism as a part of their colonic flora, antibiotic use typically precedes illness by eradicating the protective bacterial flora and allowing overgrowth of *C. difficile*. *C. difficile* elaborates toxins A and B, which exert pathologic effects. Rarely, *C. difficile* causes abscesses, bacteremia, soft tissue infections, and septic arthritis.
- (B) Constipation excludes this diagnosis.** Patients with *C. difficile* colitis typically present with diarrhea, abdominal pain, and fever following a recent course of oral or intravenous antibiotics; these symptoms may follow a very limited antibiotic regimen or may occur several weeks after antibiotics are initiated. Occasionally, chemotherapy can be complicated by *C. difficile* colitis, which may result from superinfection of inflamed colonic mucosa (often acquired nosocomially during chemotherapy administration). Although most patients have diarrhea, ileus can occur due to bowel hypomotility from acute illness, immobility, electrolyte derangements, and drug usage. In severe cases, a massively dilated, atonic colon can result in sepsis, perforation, and death (toxic megacolon). Constipation is an occasional symptom of *C. difficile* colitis in the setting of ileus and does not exclude the diagnosis.
- (B) Hypermagnesemia.** Colitis due to *C. difficile* may cause a systemic inflammatory response that can manifest with fever as well as several laboratory abnormalities. Leukocytosis is common, with leukocyte counts occasionally exceeding  $50 \times 10^3/\text{mm}^3$  (leukemoid reaction), and should prompt consideration of *C. difficile* colitis. Protein-losing enteropathy may result in profound hypoalbuminemia. Anemia due to acute inflammatory illness and microscopic blood loss is common in patients with *C. difficile* colitis. Hypokalemia and hypomagnesemia may complicate fluid and electrolyte losses that occur with diarrhea (a symptom of *C. difficile* colitis); however, hypermagnesemia would not be expected in typical cases.
- (D) Intravenous vancomycin.** Generally, the drug of choice for uncomplicated *C. difficile* colitis is 500 mg oral metronidazole 4 times daily for 10 days. Relapse may be treated with a repeat course of metronidazole. Patients with recalcitrant colitis or intolerance to metronidazole may be treated with 125 mg oral vancomycin 4 times daily for 10 days; this regimen is much more expensive and should not be first-line treatment in most patients. A several week taper of oral vancomycin is occasionally utilized in patients with numerous recurrences. Intravenous metronidazole may be useful in patients with significant ileus, in whom vomiting, bowel edema, and nasogastric suction may preclude the oral route of administration. Metronidazole is secreted into the bowel mucosa from the bloodstream when administered intravenously, unlike vancomycin, which is only effective when given enterally.

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#### INTERNAL MEDICINE

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