

Emergency General Surgery

Practice Management Guidelines: Clostridium difficile Colitis

I. **Purpose:** *Clostridium difficile* infection (CDI) is an increasingly common cause of nosocomial morbidity and mortality from the gram-positive, spore-forming anaerobic bacillus. Up to 30% of patients with fulminant CDI require urgent surgery and there is a greater than 40% mortality rate in those requiring emergency surgery. Thus, prompt recognition and treatment of CDI is paramount.

II. Guideline:

A. **Initial Evaluation:** High clinical suspicion for CDI (recent exposure to health care facilities, recent antibiotic administration especially clindamycin, > 3 unformed stools in 24 hours without laxatives). Consider tube feeds as the source of diarrhea if applicable.

a. Labs

- i. CBC
- ii. BMP
- iii. C. difficile PCR with Reflex Toxin Panel
 1. PCR negative: C. difficile is not present
 2. PCR positive/Toxin positive: Treat
 3. PCR positive/Toxin negative: likely colonized, but treatment may be appropriate based on clinical picture due to low sensitivity
 - a. Does the patient have ≥ 3 risk factors?
 - b. Have alternative causes of diarrhea been ruled out?
 - c. Are the patient's symptoms, WBC, vital signs worsening off therapy?

b. Imaging

- i. Consider CT Abdomen/Pelvis with IV contrast if suspicion for severe/fulminant CDI

c. Evaluation of Severity

i. Nonsevere CDI

1. Hemodynamically normal (HR < 90 bpm, SBP > 100 mmHg)
2. Afebrile (Tmax < 101.5 F)
3. WBC < 15,000 cells/mL
4. Lactate Normal
5. Oliguria responsive to volume administration
6. Mild abdominal tenderness

ii. Severe CDI

1. Tachycardia without hypotension (HR > 90 bpm, SBP > 100 mmHg)
2. Fever > 101.5 F
3. WBC > 15,000 cells/mL
4. Creatinine > 1.5 mg/dL
5. Moderate abdominal tenderness

iii. Fulminant CDI

1. Shock with hypotension

2. Need for vasopressors
3. Ventilator dependence
4. Oliguria unresponsive to volume administration
5. Perforation
6. Toxic Megacolon (Cecal diameter > 12 cm or colon diameter > 6 cm)

B. Antibiotic Therapy

- a. Nonsevere CDI
 - i. Vancomycin 125 mg PO q6h x 10 days *OR*
 - ii. Fidoxamicin 200 mg PO BID x 10 days for HIGH RISK patients
- b. Severe CDI
 - i. Vancomycin 125 mg PO q6h x 10 days *OR*
 - ii. Fidoxamicin 200 mg PO BID x 10 days for HIGH RISK patients
- c. Fulminant CDI
 - i. Vancomycin 500 mg PO q6h x 10 days PLUS Metronidazole 500 mg IV q8h x 10 days
 - ii. If ileus present and no megacolon, add Vancomycin 500 mg PR q6h x 10 days
- d. Recurrent CDI
 - i. 1st Episode: Fidoxamicin 200 mg PO BID x 10 days
 - ii. Multiple recurrences, consider Infectious Disease Consultation
 1. Fidoxamicin 200 mg BID x 10 days
 2. Vancomycin taper, or
 3. Vancomycin followed by Rifaximin
- e. High Risk is determined by meeting ≥ 3 of the following risk factors:
 - i. High Risk Antibiotics in previous 90 days (Fluoroquinolones, Clindamycin, Carbapenems, and 3rd/4th generation cephalosporins)
 - ii. Healthcare exposure in the previous 12 weeks
 - iii. Age > 65 years
 - iv. Chronic Gastric Acid Suppression
 - v. Solid Organ Transplant
 - vi. Hematopoietic Stem Cell Transplant
 - vii. Cancer chemotherapy
 - viii. CKD/ESRD
 - ix. Prolonged hospital length of stay
 - x. Gastrointestinal procedure
- f. Fidaxomicin should not be used for patients who are PCR+/Toxin-. Does not require formal ID consult but needs ID attending name included for approval, page 317-4376 for approval. Confirm that patient can afford this medication once discharged prior to ordering inpatient

C. Indications for Surgical Management

- a. The strongest predictor of post-op mortality in CDI patients is preoperative physiologic status. Thus, early intervention with total abdominal colectomy and end ileostomy (TAC/EI) prior to significant end organ dysfunction is warranted.
- b. Strongly consider TAC/EI in those with severe colonic distention, clinical deterioration despite maximal medical therapy (within 24-48 hours), pneumatosis, or impending perforation

D. Postoperative Management of TAC/EI

- a. Consider Pelvic surgical drain depending on quality of rectal stump
- b. Strongly consider ICU admission post-operatively
- c. Antibiotic Therapy
 - i. There are no published guidelines regarding antimicrobial therapy in fulminant CDI after TAC/EI
 - ii. Consider 4 days of abdominal sepsis antibiotics if perforation
 - iii. Complete course of Vancomycin 500 mg PO q6h x 7 days or Metronidazole 500 mg IV q8h x 7 days pending return of bowel function

III. References

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Vanderbilt Antimicrobial Stewardship Program

<https://vumc365.sharepoint.com/sites/TheDreamTeam792/Shared%20Documents/General/Guidelines/CDI%20Guidelines%20Final.pdf>

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