SHS + UHN ASP ANTIMICROBIAL STEWARDSHIP PROGRAM

Clostridium difficile (CDI)

Consult Infectious Diseases in cases of severe, complicated, or multiple recurrent CDI.

EMPIRIC CHOICE

Step 1: Stop any unnecessary antimicrobials.
Step 2: Empiric antimicrobial selection depends on severity of infection (Table 1).

Clinical Definition	Supportive Clinical Data	Recommended Treatment
Initial episode; mild/moderate	No features of severe CDI.	Metronidazole 500 mg PO TID x 14 days (alternatively 250 mg PO QID if intolerance to metronidazole).
Initial episode; severe	White blood cell count ≥ 15, or Serum creatinine ≥ 1.5x premorbid level	Vancomycin 125 mg PO QID x 14 days.
Initial episode; severe or complicated	Hypotension or shock, ileus, megacolon	Vancomycin 125 mg PO/NG QID **PLUS** metronidazole 500 mg IV q8h. If complete ileus, consider adding intra-colonic vancomycin[£] – suggest ID and General Surgery consultation
First recurrence[€]		Same as initial episode, mild/moderate[#]
Second recurrence[€]		Vancomycin 125 mg PO QID followed by tapered or pulsed regimen

Table 1. Recommendations for the Treatment of CDI (Adapted from Table 3 Infection Control & Hospital Epi. May 2010:31(5)).

* Early surgical intervention is key. Intracolonic vancomycin is to be considered last line adjunctive therapy only.
£ Solution is supplied by pharmacy as 5 grams in 100 mL amber plastic or glass bottle (Final concentration of 500 mg per 10 mL). Each dose of 500 mg = 10 mL must be further diluted as instructed in the administration section. See UHN Nursing administration policy for intra colonic vancomycin.
€ Consider referral to fecal transplant study.
Some experts prefer vancomycin, but the choice to do so must also consider the high cost of the drug (especially to those being discharged from the hospital) and the lack of evidence supporting vancomycin over metronidazole in this setting.

DURATION

- 14 days of therapy is almost always adequate; however, longer durations may be required for severe or recurrent infection. This decision should be made in consultation with ID.

ALTERNATIVES FOR ALLERGIES

- Consult ID.

IMMUNOCOMPROMISED HOST CONSIDERATION

- Except for instances of febrile neutropenia, treatment of CDI in immunocompromised hosts is not automatically considered "complicated." Patients should be assessed on a case-by-case basis considering risk factors and disease severity. Consult ID.

ADDITIONAL DIAGNOSTIC AND THERAPEUTIC COMMENTS

- Early surgical intervention should be considered in cases of severe CDI.
- There is no evidence to support test for cure by repeating *C. difficile* testing. Spores may remain for some time and consequently *C. difficile* test may remain positive 6-8 weeks or longer in some cases.
- Avoid anti-peristaltic agents.
- Avoid proton pump inhibitors unless indicated.
- There is no evidence to support long term antimicrobial prophylaxis for CDI.

References:

1. Apisarnthanarak A, Razavi B, Mundy LM. Adjunctive intracolonic vancomycin for severe *Clostridium difficile* colitis: case series and review of literature. *CID* 2002;35:690-96.
2. Shen EP, Surawicz CM. The changing face of *Clostridium difficile*: What treatment options remain? *Am J Gastroenterol* 2007;102:2789-91.
3. Cohen SH, Gerding DN, Johnson S, Kelly CP, Loo VG, McDonald LC, Pepin J, Wilcox MH. Clinical practice guidelines for *Clostridium difficile* infection in adults: 2010 update by the Society for Healthcare Epidemiology of America (SHEA) and the Infectious Diseases Society of America (IDSA). *Infect Control Hosp Epidemiol* 2010;31:431-55.

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