Case of Clostridium Difficile Small Bowel Enteritis

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Introduction

Clostridium difficile (C. difficile) is the most common cause of healthcare associated diarrhea.1 The classic presentation is antibiotic use followed by profuse watery diarrhea and pseudomembranous colitis. A rare manifestation of C. difficile is small bowel enteritis.1,2 In the literature, small bowel enteritis is most often associated with inflammatory bowel disease and total colectomy.2,3 Rarely, small bowel enteritis may happen in the absence of these risk factors.2

A 59-year-old woman with right hip osteoarthritis and GERD (on pantoprazole 40 mg twice daily) was admitted for a routine elective right total hip replacement. Patient was given 4 doses of cefazolin peri-operatively.

- Postoperative day (POD) #1: Discharged from hospital.
- POD #4: She developed abdominal distention which progressed to profuse watery diarrhea.
- POD #6: Dehydrated and tachycardic at outpatient follow up. After intravenous fluids, she became febrile to 105F and was admitted.
- Hospital day (HD) #1 (POD #6): Empirical ciprofloxacin and metronidazole were started for presumed C. difficile diarrhea. She had leukocytosis, hypoalbuminemia, hyponatremia, and hypokalemia. CT showed dilated small bowel loops with mild small bowel wall thickening suggestive of enteritis, as well as ascites and peritonitis without evidence of colitis.

- HD #3 (POD #8): Studies sent on admission returned negative including C. difficile toxin enzyme immunoassay, viral stool studies, and blood, urine, and stool cultures. Due to the negative results, antibiotics were stopped.
- HD #6 (POD #11): Total parenteral nutrition (TPN) was initiated for minimal oral intake, and albumin given to decrease ascites.
- HD #12 (POD #17): Oral intake slowly improved, and TPN was discontinued. She was discharged with continued fevers and 21 stools/day.
- POD #21: C. difficile toxin enzyme immunoassay was positive on an outpatient sample obtained on that day; thus, oral ciprofloxacin and metronidazole were initiated.
- POD #30: After minimal response to treatment, oral vancomycin was initiated. Stools immediately decreased to 3 per day, and she began tolerating solid foods. After 3 days of vancomycin, her first normal temperature was recorded. A six-week vancomycin taper was completed followed by oral kefir.

Clinical Impacts/Relevance

The incidence and virulence of C. difficile infection has been increasing in the last few decades.1 Although C. difficile commonly affects the colon, small bowel enteritis is an atypical presentation that can cause high mortality rates of approximately 25%.1 Thus, it is important to recognize early since prompt diagnosis and treatment are critical.

Discussion

Although this patient lacked the typical risk factors for C. difficile small bowel enteritis, she had several risk factors such as antibiotic use, PPI, and being in a healthcare setting.1 While C. difficile is generally limited to the colon, small bowel enteritis should be considered when a patient demonstrates symptoms such as abdominal pain, distention, and watery diarrhea in their postoperative course.4 This case also demonstrates the importance of recognizing the low positive predictive value of the C. difficile enzyme immunoassay; thus, repeat testing may be required if there is clinical suspicion of C. difficile.6

References