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Clostridioides difficile infection presenting as ileus

Nikhil Bhangale, Shachish Doctor, Devendra Desai*, and Philip Abraham

Division of Gastroenterology, P. D. Hinduja Hospital and MRC, Mahim, Mumbai 400016, India

CASE SERIES

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Corresponding Author:
Devendra Desai
Division of Gastroenterology,
Hinduja Hospital and MRC, Mahim,
Mumbai 400016, India
devendracdesai@gmail.com
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ABSTRACT

Clostridioides difficile (previously, Clostridium difficile) is a frequent cause of hospital-acquired diarrhoea and has shown a rising trend in community-acquired infections as well, with widespread use of antibiotics, among other risk factors. The disease has significant morbidity; a fulminant course may result in death. Rarely, the disease may present with only ileus, with delayed diagnosis, leading to toxic megacolon, colonic perforation and high fatality rates. We report two such patients who improved following specific treatment, leading to full recovery.

Key Words
Clostridioides difficile, Ileus.

Implications for Practice:

1. What is known about this subject?
Clostridioides difficile infection can manifest as asymptomatic carrier state or present usually with watery diarrhoea that is rarely bloody, crampy abdominal pain.

2. What new information is offered in this case study?
Unusual presentation in form of ileus without diarrhoea can be part of severe disease.

3. What are the implications for research, policy, or practice?
Presentation as ileus in the absence of diarrhoea may be associated with a more fulminant course. Suspicion, early recognition and prompt therapy improve the outcome.

Background

Clostridioides difficile (previously, *Clostridium difficile*) is a frequent cause of nosocomial diarrhoea leading to complications that prolong hospital stay as well as increase mortality rate[1]. The widespread use of antibiotics has led to community outbreaks as well. Community carriage rates range from 0per cent-3per cent whereas the rate in hospital inpatients is as high as 10per cent-20per cent; Indian studies have found prevalence ranging from 7per cent to 25per cent amongst patients with diarrhoea[2]. In most cases the illness presents as watery diarrhoea and is best managed by holding incriminated or offending antibiotics and giving vancomycin orally[3]. However, occasionally the disease may present without diarrhoea as ileus /pseudo-obstruction, which may lead to delay in diagnosis and lower survival.

We report two such patients in whom the diagnosis led to rapid response and complete recovery.

Case details

Case 1: A 53-year-old gentleman presented with anorexia, early satiety and constipation followed by progressive generalised abdominal distension. He had undergone haemorrhoidectomy two weeks ago for per-rectal bleeding, but continued to have drops of blood per rectum. He had interstitial lung disease and was on pirfenidone for three years, with a course of corticosteroids one month back for worsening dyspnoea; he had recently received a course of co-amoxiclav for cough. On examination, he was afebrile and blood pressure was normal; there was tachycardia (120/min) and desaturation (SpO_2 88per cent) on room air. Abdomen was distended and tympanic with feeble bowel sounds; rectal examination revealed faecal loading. Routine labs showed only neutrophilic leucocytosis. Abdominal film showed grossly dilated small and large bowel loops without transition zone (Figure 1). CT scan of abdomen showed

dilatation of transverse and sigmoid colon and rectum with faecal loading of right colon and mild wall thickening of left colon with surrounding fat stranding. With a diagnosis of sepsis-induced ileus, supportive management and IV antibiotics including third-generation cephalosporins were initiated in the ICU. The patient developed an episode of fresh bleeding per rectum and hence flexible sigmoidoscopy was done (Figure 2); this revealed multiple discrete ulcerations with overlying pseudomembranes and surrounding erythema, with normal intervening mucosa. Stool tested positive for *C. difficile* toxin A and B. The patient was started on oral vancomycin for 10 days and IV metronidazole was co-administered. He improved on the third day and made full recovery with normal X-ray (Figure 3) on day eight of treatment.

Case 2: A 64-year-old gentleman presented with painless progressive abdominal distension and constipation for 10 days, without vomiting or fever. He had undergone fistulotomy for perianal fistula 15 days ago. He had been on treatment for hypertension for 10 years. Examination revealed normal vital signs and distended tympanic abdomen. Per-rectal exam showed faecal loading in rectum without blood staining. Abdomen film showed dilatation at the splenic flexure (Figure 4). Routine labs were normal. CT abdomen showed diffuse colonic wall thickening with surrounding fat stranding. Colonoscopy was planned, but meanwhile the patient passed small amounts of mucoid stools that tested positive for *C. difficile* toxin A and B. He was started on oral vancomycin for 10 days. His condition improved from day five and he recovered completely with resolution of colonic dilatation on X-ray (Figure 5). Colonoscopy two months later was unremarkable.

Outcome and Follow-up

Both patients were discharged to home after resolution of symptoms and radiologic findings. Both were asymptomatic three months after the illness.

Discussion

The mechanism of ileus in *C. difficile* infection has been linked to the in-vitro inhibitory effect of *C. difficile* toxin B on intestinal smooth muscle activity[4]. Ileus as an isolated manifestation of *C. difficile* infection has been reported only as case reports[5-7]. All these reported patients were in-hospital and had significant co-morbidities when they acquired the infection; our patients had history of surgery two weeks earlier, had comorbidities, and one of them had received antibiotics recently. Both our patients recovered completely on specific treatment. The presentation of the disease as ileus is often associated with higher mortality rate secondary to the development of toxic megacolon and perforation[1]. These cases highlight the need for early diagnosis to improve outcome.

Conclusion

Clostridioides difficile infection typically presents with watery diarrhoea, but may present with ileus in the absence of diarrhoea and may be associated with a more fulminant course. Early recognition and therapy improve the outcome.

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PEER REVIEW

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CONFLICTS OF INTEREST

The authors declare that they have no competing interests.

PATIENT CONSENT

The authors, Bhangale,N; Doctor,S; Desai,D; Abraham,P declare that:

1. They have obtained written, informed consent for the publication of the details relating to the patient(s) in this report.
2. All possible steps have been taken to safeguard the identity of the patient(s).
3. This submission is compliant with the requirements of local research ethics committees.

Figures and Tables

Figure 1: Abdomen film (Case 1) showing grossly dilated small and large bowel loops without transition zone

Figure 2: Flexible sigmoidoscopy (Case 1) showing multiple discrete ulcerations with overlying pseudomembranes and surrounding erythema, with normal intervening mucosa

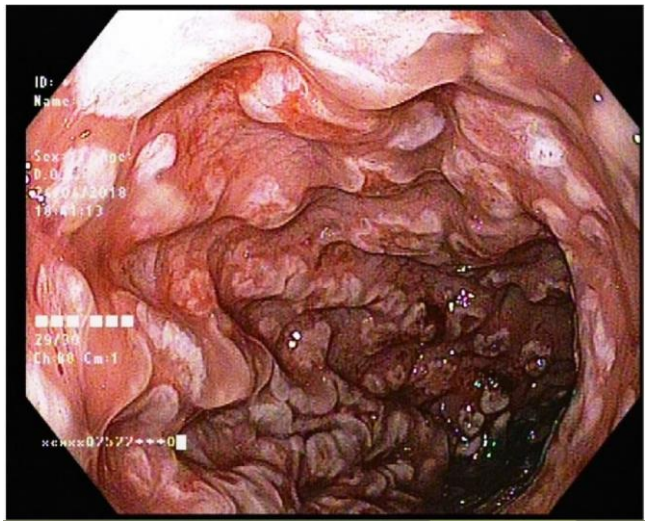

Figure 3: Post-treatment abdomen film (Case 1) showing resolution of bowel loop dilatation

Figure 4: Abdomen film (Case 2) showing dilated bowel loop at the splenic flexure

Figure 5: Post-treatment abdomen film (Case 2) showing resolution of the dilated colonic loop

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