**Case Report**

**Clostridium difficile infection presenting as acute abdomen**

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**ABSTRACT**

*Clostridium difficile* infection (CDI) is an important cause of infectious nosocomial diarrhoea. Widespread use of antibiotics has led to a dramatic rise in the incidence of CDI. However, a majority of the CDI cases are either misdiagnosed or undiagnosed because of low clinical suspicion or the use of diagnostic tests with low sensitivity. Although occurrence of diarrhoea in a patient who has recently received antibiotics is an important clue to the diagnosis of CDI, presentation of CDI with non-diarrheal symptoms like fever, pain abdomen or abdominal distention is known. We report a case of a 65 years old male who presented with acute abdomen in surgical emergency, was diagnosed to have CDI, and was successfully treated with vancomycin.

**Keywords:** Acute abdomen, *C.difficile* infection, pseudomembranous colitis

**INTRODUCTION**

*Clostridium difficile* (*C.difficile*) infection (CDI) is an important cause of infectious nosocomial diarrhea. There has been a dramatic rise in the incidence of CDI since 2000, together with an increase in CDI-related morbidity and mortality.¹ The current epidemiological knowledge of CDI is undermined by low levels of its awareness in many countries and marked variations in testing frequency and reporting.² The most important clue to the diagnosis of CDI is the presence of diarrhea in a patient who has recently received antibiotics. However, CDI can present with non-diarrheal symptoms like fever, pain abdomen or abdominal distention. We report a case of a 65 years old male who presented with history of abdominal pain and fever, was diagnosed to have CDI.

**CASE REPORT**

A 65 year male presented to surgical emergency department with chief complaints of abdominal pain and intermittent fever since 15 days. There was a history of passage of 1-2 episodes of small amount of semi-solid stool per day. There was also a history of sore-throat before the onset of these symptoms, for which he received some antibiotics from a local practitioner. There was no significant past history, and there was no history of addictions. On examination, he was conscious, febrile and hemodynamically stable. Abdominal examination revealed abdominal distention (more in flanks), and mild tenderness in left lumbar region. Investigations revealed leucocytosis and normal renal and liver function tests. His abdominal X-rays revealed dilated colon with presence of air throughout the colon (Figure I). Contrast Enhanced Computed Tomography (CECT) abdomen was done...
**DISCUSSION**

*Clostridium difficile* is an anaerobic, Gram-positive, spore-forming, toxigenic bacillus. It is recognized as the primary cause of nosocomial infectious diarrhea in developed countries.[^1] CDI is defined by the presence of symptoms (usually diarrhea) and either a stool test positive for *C. difficile* toxins or positive culture, or colonoscopic/histopathological findings revealing PMC.[^3]

Various steps in the pathogenesis of *C. difficile* infection include: (i) alteration of the normal colonic microflora by antibiotics or rarely, chemotherapeutic agents; (ii) oral ingestion of *C. difficile* or its spores with resultant colonization of the large intestine; (iii) release of toxins A and B into the colonic lumen; (iv) binding and internalization of toxins by colonocytes leading to colonic damage (colitis). The most important host factor determining whether a patient remains an asymptomatic carrier or develops colitis is the immune response to *C. difficile* toxins.[^3] In addition to antimicrobial therapy, increasing age and presence of comorbidities are important risk factors for CDI.[^4] Our patient had 2 risk factors for developing CDI i.e. old age and use of antibiotics.

The most common symptoms of CDI include frequent passage of loose or watery bowel movements with presence of mucus or occult blood.[^3] In addition, patients may have fever, leukocytosis and cramping abdominal pain. Patients with more severe disease can develop a colonic ileus or toxic dilatation and with minimal or even no diarrhea.[^5] The only clues to the diagnosis of CDI in such patients include high fever, leukocytosis, abdominal pain, tenderness, and distention. Our patient presented with fever and abdominal pain, with no diarrhea. The CT findings were suggestive of distal colitis and sigmoidoscopy showed the classical picture of CDI with presence of pseudomembranes.

Of the various microbiological tests available to diagnose CDI, enzyme immunoassays (EIAs) to detect toxin antigens in stool are most commonly used. These tests are relatively inexpensive, quick (2 to 12 hours) and highly specific, although have relatively low sensitivity (about 90%).[^3]

Treatment of CDI includes withdrawal of antibiotics, if possible. Oral or intravenous metronidazole (250-500 mg) three-four times a day for 10-14 days is the recommended therapy.[^3] Vancomycin should be

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avoided as first line treatment as it has equal efficacy but can lead to drug resistance and adverse effects. However, it is the recommended first line treatment for patients with severe infections, for those who fail to respond to metronidazole, are intolerant of metronidazole, are pregnant or are younger than 10 years. Intravenous vancomycin is not given as it is not effective for *Clostridium difficile* associated disease. Vancomycin enemas can be used if medication by oral route is not possible. As our patient had severe colitis, he was treated with vancomycin. Vancomycin was also given per-rectally in our patient because of the presence of ileus.

To conclude, CDI should be kept as a differential diagnosis in patients presenting with colonic symptoms even in the absence of diarrhea, especially in the presence of underlying risk factors.

REFERENCES