

## OBSCURE CAUSE OF LOWER GI BLEEDING AFTER ANTERIOR RESECTION

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### INTRODUCTION

*Clostridium difficile* (*C. difficile*) is an anaerobic gram-negative bacillus which form spores and produce toxin. It is an important healthcare-associated infection, and it is the main cause of antibiotic-associated colitis. Variation in the rates of postoperative clostridium difficile infection range from 0.2% to 8% has been reported based on the types of operation and surgical population studied (Southern et al 2010). Colorectal surgery has significant association with the infection, but incidence of Clostridium difficile infection (CDI) post anterior resection is scarcely reported. Clinically, diarrhoea mainly occurs but other presentation has been observed such as abdominal pain or cramping, fever and rare case of haematochezia. We report a case of CDI in a patient with pseudomembranous colitis presenting with bleeding per rectum after an anterior resection.

### CASE REPORT

A 63-year-old lady developed gastrointestinal bleeding on the second day after an elective anterior resection for rectosigmoid carcinoma. She had been given a single prophylactic dose of antibiotics (Cefaperazone and Metronidazole) prior to surgery. On examination, her vital signs are stable, and no spike in temperature documented. Her blood investigations showed anaemia with a haemoglobin level of 7.8 g/dL, leukocytosis with white blood cell of 21,000 mm<sup>3</sup> and elevated serum creatinine level of 155mmol/L.

She had an upper endoscopy done on fourth day post operation which was normal, thus a computed tomography angiography (CTA) was done on post operative day 6 to look for the source of the bleed. The CTA showed diffuse bowel wall thickening of the transverse colon, ascending colon and caecum with thumbprinting appearance suggestive of pseudomembranous colitis. Stool sample sent was positive for Clostridium difficile.

She was successfully treated with a 10-day course of oral vancomycin and intravenous metronidazole and was discharged on post operative day 19. Her histopathology examination described a well differentiated adenocarcinoma. She has been well post discharge and given plan for adjuvant chemotherapy.



CT image showing thumbprinting appearance of the bowel



CT image showing presence of air pockets

### DISCUSSION

Post operative patients in general are relatively immunocompromised which makes them susceptible to infection. Increased risk of post-operative CDI has been reported in patient undergoing abdominal surgery, particularly colorectal surgery. Other implicated risk factors for post-operative CDI are advanced age, multiple comorbidities, severe illness, antibiotic exposure and emergent surgery. Our patient has several of the risk factors such as advanced age, multiple comorbidities, antibiotic exposure and recent colorectal surgery. This correlation of antibiotic with CDI may be explained by the alteration of the normal intestinal microflora leading to weaken barrier against CDI. The association between pre-operative antibiotics and postoperative CDI is particularly strong for the high-risk antibiotics such as third- and fourth-generation cephalosporins, fluoroquinolones, clindamycin, and imipenem or meropenem (Southern et al 2010). Even very limited exposure, such as single-dose surgical antibiotic prophylaxis may increase patients' risk for C.Difficile infection..

Diarrhoea is the hallmark presentation with various degree of severity and associated symptoms such as abdominal pain or cramping, fever and vomiting. In some patient, diarrhoea might be absent or appear late due to concomitant ileus. Few reports discussing on rare presentation of per rectal bleeding which possibly attributed to fulminant presentation of the disease (Abdul et al 2019) A retrospective study by Y. Marimoto et al 2008 has explained endoscopic finding of rectal ulcer in CDI patient presented with haematochezia. There is also other report that has described association of haematochezia with finding of ischemic colitis from colonoscopy and histology examination (Ionescu et al 2021). Our patient developed gastrointestinal bleeding instead of diarrhoea and suspicion of CDI only considered after reviewing her CTA findings of pseudomembranous colitis. Colonoscopy was not performed on our patient to avoid disruption to the colorectal anastomosis, thus our limitation to established evidence of ischemic colitis or presence of rectal ulcer.

Early detection of CDI enable prompt treatment of the disease and prevent progression to fulminant colitis. Standard recommendation of treatment in a mild and uncomplicated case is a 10-day course of oral vancomycin or fidaxomicin. Addition of intravenous metronidazole is suggested for patient with ileus or severe form of CDI. Several predictors for severe CDI that has been established are white cell count  $>15 \times 10^9/L$ , acute derangement of creatinine, temperature  $>38.5^\circ C$  and albumin  $<2.5$  mg/dL, which can accurately predict response to the CDI therapy. Our patient demonstrated raised in white cell count and serum creatinine level at the initial diagnosis of CDI but the biochemical marker successfully improved after starting treatment with vancomycin and metronidazole. Surgical intervention is reserved for CDI that has progressed to fulminant colitis or complicated with toxic megacolon, peritonitis or bowel perforation (Sartelli et al 2015).

Diagnosis of CDI, albeit readily accessible stool testing may be easily missed as its presentation could be a mild, transient symptom seen in post colorectal resection. Furthermore, rare presentation of CDI may overlap with other complication of colorectal surgery, misleading its diagnosis. It is mandatory to assess risk factors for each patient prior to surgery as it can pose a significant risk factor. Clinicians should maintain a high index of suspicion especially in patients who undergo anterior resection and to start treatment promptly.

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