

Salvage immunotherapy for fulminant pseudomembranous colitis

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DESCRIPTION

A 49-year-old man was admitted to the intensive care unit (ICU) for septic shock secondary to

Clostridium difficile infection (CDI) complicated with severe pseudomembranous colitis. His medical history was remarkable for glossectomy, proximal esophagectomy and gastric pull-up for recurrent laryngeal cancer. Two weeks prior to his ICU admission, he was treated with a 10-day course of intravenous ceftazidime for line-related sepsis, after which he had several bouts of green watery diarrhoea. CDI was confirmed by positive stool cytotoxin A immunoassay, with persistent diarrhoea despite 21 days of oral metronidazole. The patient was afebrile, with a blood pressure (BP) of 88/54 mm Hg and heart rate 126/min. He was anuric with non-tender distended abdomen. Pertinent laboratory data are shown in table 1.

Early goal-directed therapy was initiated by aggressive fluid resuscitation, packed red cells transfusion and administering dopamine. Antibiotics were upgraded to oral vancomycin 500 mg every 6 h, in addition to intravenous metronidazole 500 mg every 8 h and intravenous meropenem 500 mg every 24 h. CT of the abdomen showed thickening of the colonic wall, but no megacolon or perforation was reported (figure 1). Sigmoidoscopy and biopsy showed the typical inflammatory lesions of pseudomembranous colitis (figures 2 and 3). The patient was referred to colorectal surgery for possible colectomy, which has been shown to be beneficial in fulminant CDI cases.¹ However, owing to his multiple comorbidities, colectomy was not considered. After 3 days of medical treatment, intravenous immunoglobulin (IVIG) 400 mg/kg for 5 days was added to treat his colitis, in addition to bowel rest. Patients with CDI-associated diarrhoea usually have low levels of

Table 1 Patient's laboratory results at presentation to the intensive care unit

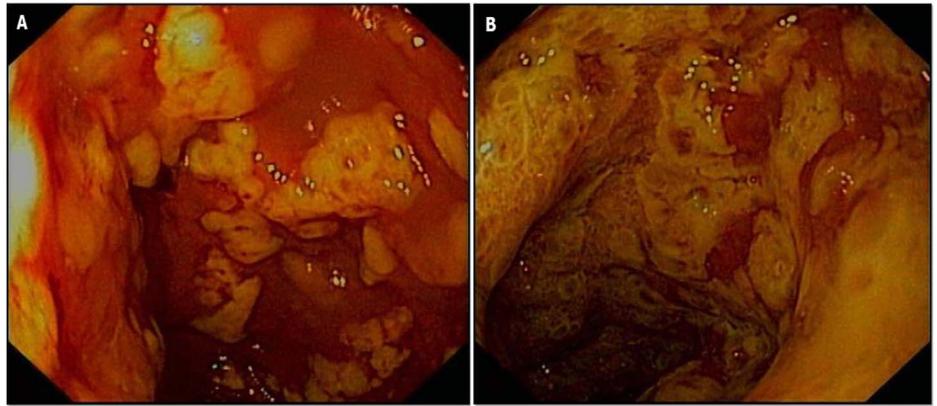
Complete blood count	Normal range	Results
White cell count	3.9–11×10 ⁹ /l	48.2×10 ⁹ /l
Haemoglobin	135–180 g/l	73
Platelet	155–435×10 ⁹ /l	443
Renal chemistry		
Blood urea nitrogen (BUN)	2.5–7.5 mmol/l	14.0
Creatine	64–115 µmol/l	235
Sodium	135–147 mmol/l	130
Potassium	3.5–5 mmol/l	4.6
Chloride	98–111 mmol/l	94
Bicarbonate	22–31 mmol/l	18
Magnesium	0.7–1 mmol/l	0.85
Ionised calcium	1.13–1.32 mmol/l	0.76
Phosphorus	0.7–1.45 mmol/l	2.56
Venous blood gas		
pH	7.30–7.40	7.30
Mixed venous oxygen saturation (SVO ₂)	60–80%	60%
Lactic acid	0.05–2 mmol/l	4.0
Other blood chemistries		
Procalcitonin	<0.5 ng/ml	3.21
Albumin	32–48 g/l	27
Billirubin	0–21 µmol/l	197



Figure 1 Abdominal CT without intravenous contrast enhancement showing colonic wall thickening.

To cite: Abdulaziz S, Abou-Shala N, Al-Tarifi A, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2013-008786

Figure 2 (A and B) Sigmoidoscopy picture showing typical multiple polypoid lesions of yellow colour with friable inflamed mucosa.



serum antitoxin IgG.² The use of IVIG was supported by the literature, as a proven treatment modality in the treatment of severe pseudomembranous colitis associated with CDI.³ After the patient had finished the course of IVIG, his haemodynamic status and symptoms improved significantly, and he was subse-

quently transferred to the general medical ward. Oral vancomycin was stopped after a 14-day course, with no relapse of the bowel infection.

Learning points

- ▶ *Clostridium difficile* infection (CDI) can present with severe colitis complicated by multiorgan failure.
- ▶ Intravenous IgG might facilitate recovery of the disease and avoid surgery together with standard therapy to help manage severe CDI and may result in less recurrence of CDI.

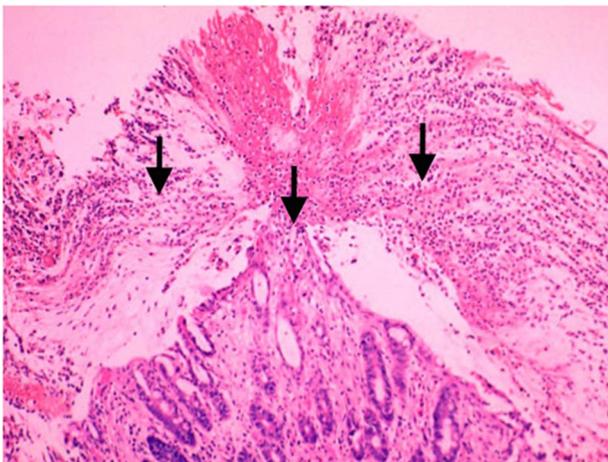


Figure 3 Histopathological examination of sigmoid colon biopsy showing neutrophilic infiltrate in the lamina propria pouring to the surface epithelium like an angry volcano. No features suggestive of bowel ischaemia (H&E).

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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