Unusual case of severe colitis

A 64-year-old Caucasian male taxi driver was referred for colonoscopy for a six-week history of non-bloody diarrhoea (eight times a day) associated with weight loss and abdominal pain. There were no infectious contacts or relevant travel history. He had a history of hypertension (on amlodipine). Colonoscopy revealed endoscopic

Figure 1 Initial endoscopy—descending colon: endoscopy completed to the hepatic flexure due to poor preparation and significant inflammation. Extensive moderate erythema and granularity (black arrows). Multiple large and pleomorphic ulcers (yellow arrows). Patchy ulceration (particularly in the descending colon and at the hepatic flexure with sparing in the transverse) suggestive of inflammatory bowel disease.

evidence of colitis (figure 1). Given the chronic symptoms and patchy inflammation, Crohn's colitis was considered and urgent gastroenterology outpatient follow-up arranged. While waiting for this appointment, his symptoms worsened significantly (with diarrhoea 20 times a day) so he presented to the emergency department. On examination he had a low-grade fever, sinus tachycardia and a tender, distended abdomen. He was referred urgently to the surgical team. Initial investigations are shown in table 1. CT scan revealed colonic thickening, mesenteric stranding and hypodense liver lesions (figure 2). He was treated with empirical metronidazole, amoxicillin and gentamicin, pending the availability of histological results.

QUESTION

What is the diagnosis?

ANSWER

Histology (figure 3) and further microbiological investigations (table 2) revealed amoebic colitis (with liver abscesses confirmed on ultrasound). The patient's treatment was changed to high-dose, intravenous metronidazole 800 mg three times a day for 10 days. This was escalated further, at 1 week, to tinidazole 2 g once daily for 5 days and then paromomycin 600 mg three times a day for 1 week (due to suboptimal clinical response).

Two-months after discharge, he had persistent diarrhoea. His weight had stabilised (total weight loss: 30 kg). Ultrasound showed resolution of the liver abscesses. Repeat colonoscopy at three months showed resolution of the inflammation but a descending colonic stricture (figure 4). Endoscopic dilatation revealed further strictures. Two months later, while

Table 1 Investigations on admission

Laboratory results	Value	Laboratory results	Value
Haemoglobin (133–167 g/L)	102	White cell count ($3.7\text{--}9.5 \times 10^9/\text{L}$)	18.1
Platelets ($140\text{--}400 \times 10^9/\text{L}$)	241	Neutrophils ($1.7\text{--}6.1 \times 10^9/\text{L}$)	14.8
Sodium ($135\text{--}145 \text{ mmol/L}$)	131	Lymphocytes ($1\text{--}3.2 \times 10^9/\text{L}$)	1.3
Potassium ($3.5\text{--}5.0 \text{ mmol/L}$)	4.8	Eosinophils ($0.0\text{--}0.5 \times 10^9/\text{L}$)	0.1
Urea ($3.3\text{--}6.7 \text{ mmol/L}$)	26.7	Albumin ($35\text{--}50 \text{ g/L}$)	19
Creatinine ($45\text{--}120 \text{ }\mu\text{mol/L}$)	284	Alkaline phosphatase ($30\text{--}130 \text{ IU/L}$)	213
C-reactive protein ($0\text{--}5 \text{ mg/L}$)	322	Gamma-glutamyl transferase (GGT) ($5\text{--}60 \text{ IU/L}$)	164
Lactate ($<2 \text{ mmol/L}$)	5.5	Alanine aminotransferase ($5\text{--}55 \text{ IU/L}$)	65
INR ($0.9\text{--}1.2$)	2.3	Bilirubin ($3\text{--}20 \text{ }\mu\text{mol/L}$)	21
Faeces/microbiology results		Radiology results	
Faecal calprotectin ($0\text{--}50 \text{ mcg/g}$)	2488	Abdominal X-ray	Dilated large bowel loops
Faeces microscopy, culture, sensitivity; OCP (ova, cysts and parasites); clostridium difficile toxin	Negative	Erect chest X-ray	Normal
Blood cultures	Negative		
HIV test	Negative		

INR, international normalised ratio.

Figure 2 Non-contrast CT abdomen and pelvis (in view of acute kidney injury): diffuse thickening of the colon (yellow arrows) with extensive mesenteric fat stranding. Multiple hypodense liver lesions (green arrows). No intraperitoneal free air or collection.

awaiting repeat dilatation, he presented with bowel obstruction secondary to strictures (treated conservatively). Four weeks later, a contrast enema ([figure 5](#)) was performed. He underwent elective laparoscopic subtotal colectomy with ileosigmoid anastomosis nine months after the initial presentation.

Figure 3 Histology- random colonic biopsies: slide shows area of inflammatory debris. Arrow points to amoeba with ingested red blood cell. Iodine staining, which enhances detection of *Entamoeba histolytica*, was not required in this case.

Table 2 Further microbiological investigations

Laboratory results	Value
Faeces amoeba PCR	Positive
Serum amoebic immunofluorescence antibody titre (IFAT)	1:320
Cellulose acetate precipitin test (antibody detection using axenic antigen—verifies result if positive IFAT)	Positive
More accurate than faeces OCP (ova, cysts and parasites) (affected by intermittent carriage and needs to be examined within 30 minutes).	

His symptoms resolved postoperatively. Resection histology confirmed benign strictures.

What was the cause of the strictures?

This is a rare case of amoebic colitis causing multiple benign colonic strictures. It indicates how amoebic colitis can cause significant short-term and long-term morbidity.

Risk factors for amoebiasis include: immunosuppression (the prescription of steroids here may have been fatal), travel (to endemic areas), diabetes, excessive alcohol intake, age over 45 years, male sex and men who have sex with men.¹ We postulate our patient was infected while working (via exchange of currency with international passengers). Ingested amoebic cysts release trophozoites into the bowel lumen interrupting the intestinal mucus layer, causing colitis and occasionally liver abscesses (<1%).² Diagnosis is made via the investigations presented (serology, microbiology, histology, radiology and endoscopy).

The WHO recommends treatment ([table 3](#)) irrespective of symptoms (90% asymptomatic). Large liver abscesses or those within 1 cm of the capsule should be drained due to risk of rupture. Dual therapy is recommended in cases where treatment fails.^{1,3} In the event of antimicrobial

Figure 4 Follow-up colonoscopy at 3 months—descending colon: multiple fibrotic strictures. Two strictures dilated but further stricture encountered (arrow).

Figure 5 Water-soluble contrast enema: performed four weeks after admission for bowel obstruction (seven months after initial admission). Stricture in the ascending colon.

failure with necrotising colitis or toxic megacolon, colectomy is indicated (mortality >30%^{4,5}). In the presence of colonic strictures, efforts should be made to exclude malignancy. Where strictures are multiple, precluding endoscopic dilation, colonic resection should be considered to reduce morbidity, improve quality of life and

exclude malignancy. Imaging is advisable for preoperative planning.

Although our patient ultimately required subtotal colectomy, this was performed electively with a significantly lower morbidity and mortality.

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Table 3 WHO recommendations for treatment (adapted from Ximénez et al [1])

Antimicrobial	Colitis	Liver abscess
Metronidazole	750–800 mg three times a day 5–10/7	750–800 mg three times a day 10/7
Tinidazole	2 g once a day 3/7	2 g once a day 5/7
Paromomycin*	25–35 mg/kg/day in three doses 7/7	NA
Diloxanide furoate*	500 mg three times a day 10/7	NA

*Denotes luminal cysticidal agent.

NA, not applicable.