Acute-on-chronic mesenteric ischaemia by early and diffuse atherosclerosis in a young adult patient

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DESCRIPTION

A 48-year-old Caucasian man with gypsy ethnicity had smoking habits (35 pack-years) and previous alcohol consumption (10 g/day; abstinent for 3 years). There was no relevant personal/family cardiovascular disease, history of illicit drug abuse, non-steroidal anti-inflammatory drug use or other previous/current medications. He had a 3-year history of chronic diarrhoea (3–4 bowel movements/day), abdominal pain and weight loss (25.9% of usual weight; body mass index=13.7 kg/m²). In the last month, an exacerbation of abdominal pain occurred with excruciating postprandial episodes requiring opioid analgesia. Laboratory analysis showed leucocytosis (34.8; N: 4–11 × 10⁹/L), neutrophilia (90.6%), normocytic/normochromic anaemia (haemoglobin: 8.0; N: 13–17 g/dL), high Erythrocyte sedimentation rate (ESR) (54; N<20 mm/hour), faecal calprotectin (4890; n<50 mg/kg) and C-reactive protein (CRP) (10.7; N<0.5 mg/dL). Oesophagogastroduodenoscopy and ileocolonoscopy with biopsies showed multiple *Helicobacter pylori*-negative gastroduodenal ulcers (figure 1A,B) and non-specific mild ulceration of the terminal ileum and proximal colon, without granulomas. CT enterography showed distended small bowel loops without parietal thickening/stenosis. Capsule enteroscopy revealed diffuse ulcerative enteropathy (figure 1C). An extensive diagnostic work-up

Figure 1 Oesophagogastroduodenoscopy showed a congestive and erosive duodenal mucosa (A) and multiple and extensive ulcers in the distal body and the antrum of the stomach (B). Biopsies of stomach and duodenum revealed unspecific *Helicobacter pylori*-negative gastroduodenal ulceration without specific features for inflammatory bowel disease as granulomas or other diseases; capsule enteroscopy showing multiple and diffuse ulcers in the entire small bowel, which increase in number and size in the proximal-to-distal direction (C).

Figure 2 Abdominopelvic Doppler ultrasonography (A) and CT angiography (B) showing a 14 mm plaque in the emergence of coeliac trunk conditioning haemodynamically significant stenosis; abdominopelvic Doppler ultrasonography (C) and CT angiography (D) showing a 25 mm plaque in the emergence of the superior mesenteric artery conditioning total occlusion with distal collateral circulation.

for ulcerative enteropathy was negative. Abdominopelvic Doppler ultrasonography/CT angiography showed diffuse atherosclerosis of the abdominal aorta and significant strictures of the emergence of coeliac trunk (>90%; figure 2A,B) and superior mesenteric artery (>99%; figure 2C,D) with distal collateral circulation. There was no significant stenosis of coronary or vertebrocarotid territories and vasculitis signs. Hypercoagulable work-up was remarkable for high lipoprotein (a) (130; N<30 mg/dL). Angiography of the coeliac trunk with endovascular stent placement was possible despite the total occlusion of the superior mesenteric artery emergence, blocking the guidewire passage. A fast clinical improvement occurred after revascularisation. Atorvastatin, dual antiplatelet therapy (acetylsalicylic acid and clopidogrel) and smoking cessation were started. He remained asymptomatic during the 11-month follow-up.

Although chronic mesenteric ischaemia (CMI) is not uncommon in patients older than 75 years, this condition is underdiagnosed and the diagnosis is often delayed due to the low index of suspicion, especially in young adult patients.¹ It is generally caused by atherosclerosis, but early and diffuse atherosclerosis conditioning occlusive strictures of major bowel-providing arteries are rare in young adult patients.^{1,2} Lipoprotein (a) has been associated with early aortic atherosclerosis and its progression.³ Endovascular revascularisation is the therapy of choice.² We report the case of an acute-on-CMI of two major bowel-providing arteries (the coeliac trunk and superior mesenteric artery) secondary to early and diffuse atherosclerosis in a young adult

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patient, facilitated by smoking and high lipoprotein (a). We emphasise the importance of keeping in mind an acute-on-CMI diagnosis in a patient with risk factors for atherosclerosis, typical symptoms (chronic diarrhoea, weight loss and severe abdominal

pain), right-sided colitis and *H. pylori*-negative gastroduodenal ulcers. Early diagnosis and prompt treatment with intestinal revascularisation are crucial to improve prognosis and avoid fulminant bowel necrosis.

Learning points

- ▶ Although chronic mesenteric ischaemia is not uncommon in patients older than 75 years, this condition is underdiagnosed and the diagnosis is often delayed, especially in young adult patients.
- ▶ In a patient with risk factors for atherosclerosis and classic symptoms (chronic diarrhoea, weight loss and severe abdominal pain), right-sided colitis and *Helicobacter pylori*-negative gastroduodenal ulcers should raise the suspicion for acute-on-chronic mesenteric ischaemia.
- ▶ Acute-on-chronic mesenteric ischaemia is a potentially fatal condition. A high index of suspicion, early diagnosis and prompt treatment with intestinal revascularisation are crucial to avoid fulminant bowel necrosis.

Contributors MG-S and EG-S contributed equally, writing the manuscript and reviewing the literature. MG-S is the article guarantor. PF and LT critically reviewed the manuscript.

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