LETTER TO THE EDITOR

Hepatic portal venous gas and intestinal pneumatosis as initial presentation of Crohn's Disease: First case report☆

KEYWORDS
Crohn's disease; Hepatic portal venous gas; Pneumatosis intestinalis

Dear Sir,

A 43-year-old female presented to our emergency department with progressive crampy abdominal pain, vomiting and pyrexia. Her past medical history was unremarkable. She was a social smoker. On her physical examination she was noted to be dehydrated and febrile yet hemodynamically stable. Her abdomen exhibited generalised tenderness on palpation with guarding on the right. Signs of peritonism were absent. Initial laboratory investigations revealed leukocytosis and elevated C-reactive protein. An emergent abdominal ultrasound revealed extensive hepatic portal venous gas (HPVG) (Fig. 1A). Interestingly, terminal ileum thickening, with pneumatosis intestinalis (PI) in its posterior wall (Fig. 1B) was also noted. An abdominal contrast-enhanced computed tomography (CT) scan confirmed these findings. No pneumoperitoneum or mesenteric ischaemia was noted. The patient was hospitalized and treated with intravenous fluids and empirical broad-spectrum antibiotics. She subsequently developed diarrhoea, progressive jaundice, generalised peripheral oedema and ascites accompanied by hypotension. Biochemical tests revealed lactic acidosis with transaminitis, hyperbilirubinaemia and hypoalbuminaemia. She exhibited haematological dysfunction with thrombocytopenia, leukopenia, and deranged clotting. This clinical picture was suggestive of sepsis with multi-organ dysfunction. As there were no signs of bowel perforation or necrosis, conservative management was adopted. She was transferred to the Intensive Care Unit for close monitoring and aggressive fluid resuscitation. She responded well to these measures and made a good clinical recovery. This correlated with her laboratory investigations.

Subsequent CT revealed clear improvement in the ileal wall thickening, and complete resolution of HPVG. She was discharged on the sixteenth day of admission. A colonoscopic examination with biopsies confirmed the diagnosis of ileal Crohn’s disease (CD).

HPVG occurs when intraluminal gas from the gastrointestinal tract or gas-forming bacteria enter the portal venous circulation.1 It can be associated with PI, the presence of extra-luminal bowel gas within the bowel wall.2 HPVG and PI

Figure 1 Abdominal ultrasound revealed extensive bilateral hepatic portal venous gas, with highly echogenic patches within the hepatic parenchyma (Panel A), as well as terminal ileal wall thickening with pneumatosis intestinalis in its posterior wall (Panel B).


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are rare, but impressive radiological findings, traditionally regarded as ominous intra-abdominal signs. Nowadays, they can be seen in a wide spectrum of non-ischaemic conditions, with a relatively favourable outcome. To our knowledge, this is the first case of CD whose presenting features included both HPVG and PI. Although complicated with sepsis, the patient was successfully managed with maximal organ support. The treatment of this rare condition is controversial. Over the past 10 years, there has been a major shift from early surgical intervention with laparotomy to aggressive medical treatment. Therefore, HPVG and/or PI associated with CD do not mandate surgical intervention, especially in the absence of peritoneal signs or free intra-peritoneal gas, as illustrated in our case. It is the clinical features and the related complications that ultimately determine the therapeutic approach. Physicians should be aware of HPVG and/or PI as a potential complication of CD. Early recognition and treatment are crucial to minimise morbidity and mortality associated with this condition.

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References


Teresa Pinto Pais*
Rolando Pinho
João Carvalho

Department of Gastroenterology and Hepatology, Centro Hospitalar de Gaia/Espinho, Gaia, Portugal

*Corresponding author at: Department of Gastroenterology and Hepatology, Centro Hospitalar de Gaia/Espinho, Rua Conceição Fernandes, 4434-502 Vila Nova de Gaia, Portugal. Tel./fax: +351 227 865 100.

E-mail addresses: teresapintopais@gmail.com (T. Pinto Pais), roandopinho@gmail.com (R. Pinho), joaorodcarvalho@gmail.com (J. Carvalho).

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