Aeroportia and pneumatosis intestinalis: discrepancy between radiological and intraoperative findings

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DESCRIPTION

Pneumatosis intestinalis (PI) and aeroportia refer to gas within the intestinal wall and in portomesenteric vessels, respectively. These two entities are not pathognomonic of bowel infarction when separate, but when joint are strongly associated with bowel ischaemia, which is the primary cause and accounts for 70% of cases. Other causes of PI and aeroportia are ulcerative colitis, gastric ulcers, diverticulitis, acute pancreatitis and following invasive procedures.

The pathogenesis is not yet fully known but it is thought to be due to mucosal disruption or the presence of gas-forming bacteria. A contrast-enhanced abdominal CT is useful to establish the diagnosis, determine the underlying aetiology and diagnose associated complications.

When confronted with patients with both entities, an emergent exploratory laparotomy should be done. However, in the face of PI alone, medical conservative approach can be an option if there are no clinical features suggesting underlying acute abdominal emergency.

The association of aeroportia to PI carries a worse prognosis and contributes to a higher mortality rate (85% of patients).

A 90-year-old woman with a history of hypertension, and no other comorbidities, presented to the emergency department complaining of abdominal pain, vomiting, diarrhoea and weight loss with a month of evolution. Clinically, she appeared dehydrated, confused, tachycardic and hypotensive and presented with acute abdomen. Laboratory findings revealed haemoglobin 8.8 g/L, leucocytosis, metabolic acidosis with hyperlactacidemia. An abdominal angioCT scan (Figure 1) showed diffuse intestinal pneumatosis and exuberant aeroportia; extensive venous thrombus in the tributary of the superior mesenteric vein, from venous drainage of a solid mass adjacent to the sigmoid.

Some hours after surgery, we noticed progression of septic shock: the patient became hypotensive again, with a sinking of consciousness and had an episode of vomiting aspiration, so she had to be intubated. Being the patient elderly and frail, and since she never stopped needing aminergic
loops or poor contrast uptake and peritoneal effusion suggests of the loops, as in our patient.9 The existence of thick walled branches, which often translates in visible dilation and oedema is a minimally invasive surgical procedure and it may be a useful one, we decided to perform a diagnostic laparoscopy, because it presented in a subacute manner, since symptoms lasted weeks until diagnosis.7 Venous thrombosis was restricted to peripheral conditions associated with PI in frail elderly patients with severe conditions in the emergency setting.10

In this specific case, venous thrombus was perhaps the result of the malignancy that contributed to the prothrombotic state. It presented in a subacute manner, since symptoms lasted weeks until diagnosis.7 Venous thrombosis was restricted to peripheral branches, which often translates in visible dilation and oedema of the loops, as in our patient.9 The existence of thick walled loops or poor contrast uptake and peritoneal effusion suggests intestinal ischaemia and eventual need for surgery.8 Other rarer signs, but with ominous prognosis, are the existence of pneumatosis intestinal tract, portal vein air or pneumoperitoneum.9

Given the CT findings and being our patient a frail elderly one, we decided to perform a diagnostic laparoscopy, because it is a minimally invasive surgical procedure and it may be a useful option for definitively ruling out the lethal conditions associated with PI.10

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