Diagnosis of coeliac disease after incidental finding of pneumatosis cystoides intestinalis

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DESCRIPTION

A 71-year-old woman presented to the emergency department with abdominal pain, vomiting, fever and dehydration. The patient had suffered for many years from chronic constipation with recurrent episodes of diarrhoea, abdominal bloating and pain associated with ingestion of food containing gluten. On examination the abdomen was distended with tenderness on percussion and rebound tenderness on palpation. The blood tests revealed elevation of WBC. An abdominal radiography showed free intraperitoneal gas and small bowel distension with gas-fluid levels (figure 1). CT of the abdomen confirmed the small-bowel obstruction but failed to identify the cause of perforation. At exploratory laparotomy, pelvic adhesions from previous surgery were found to be responsible for the intestinal obstruction while a cluster of air-filled cysts within the intestinal wall of an ileal loop was identified as the source of free intraperitoneal gas (figure 2). Lysis of obstructing adhesions and resection of the ileal loop were performed. Histology confirmed the diagnosis of pneumatosis cystoides intestinalis (PCI). The patient recovered uneventfully and thereafter the diagnosis of coeliac disease was confirmed by small-bowel histology and serological antibody tests after a gluten challenge.^{1 2}

Very few case reports have described the occurrence of PCI in association with coeliac disease.^{3–6} In this case, intestinal obstruction may have contributed to the rupture of the air-filled cysts and therefore to the development of the pneumoperitoneum. However, the patient's medical history and the incidental finding of PCI made possible the

Figure 2 The intraoperative image of air-filled cysts arising from the wall of the small bowel loop.

diagnosis of coeliac disease as the underlying disease associated with PCI.

Learning points

- ▶ Pneumatosis cystoides intestinalis (PCI) is an increasingly detected condition that can rarely occur in the setting of coeliac disease.
- ▶ During urgent surgical exploration for pneumoperitoneum and acute abdomen of unknown origin, incidental PCI can be found as the unique source of the intra-abdominal free gas.
- ▶ PCI can be a primary manifestation of an underlying disease that should be ascertained in order to explain PCI pathophysiology and to provide adequate therapy.

Figure 1 Preoperative plain radiographs showing free intrabdominal gas (A), small-bowel distension and the gas-fluid levels (B).

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