Portomesenteric venous gas and pneumatosis intestinalis due to intestinal ischaemia

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DESCRIPTION

A 60-year-old man was admitted to our hospital with abdominal distention and pain. Physical examination revealed severe abdominal distention and tenderness. Laboratory studies revealed elevated levels of aspartate aminotransferase, alanine transaminase, urea and creatine. He had a history of renal failure. Abdominal sonography failed to show the detailed anatomy of the abdomen because of the gas artefact in the distended bowel loops. Hyperechogenicities due to intraluminal gas were seen within the portal vein by intercostal sonography. CT was planned but contrast media was not used because of the renal failure. Non-contrast abdominal CT scans showed branching pattern of gas lucencies (white arrow) in the hepatic portal venous system (figure 1A). Furthermore, bubble-like pneumatosis intestinalis (white arrowhead) and air lucencies were seen in the superior mesenteric vein (black arrow) (figure 1B). After the CT scan, the patient was severely deteriorated and subsequently died within a few minutes.

Figure 1 Non-contrast abdominal CT scan (A) shows branching pattern of gas lucencies (white arrow) in the hepatic portal venous system. (B) Bubble-like pneumatosis intestinalis (white arrowhead) and air lucencies are seen in the superior mesenteric vein (black arrow).

Portomesenteric gas is the existence of air in the portal and mesenteric venous system.¹ The prognosis is so poor that only a few cases were recorded as having survived. The underlying pathological conditions of portal and mesenteric gas could be intestinal ischaemia and necrosis (75%), ulcerative colitis (8%) and intra-abdominal abscess (6%). Pneumatosis intestinalis is a separate entity but it can be associated with portomesenteric gas. It has many causes such as infectious diseases, trauma and interventional procedures. If there is an association with portomesenteric gas, it is generally linked to intestinal ischaemia.

Learning points

- ▶ If pneumatosis intestinalis is an association with portomesenteric gas, it is generally linked to intestinal ischaemia.
- ▶ CT scan is extremely helpful in localising the extraluminal gas, differentiating the air lucencies in the portal system from the air in the biliary tree and differentiating the underlying pathological cause

Competing interests None.

Patient consent Obtained.

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