Pneumatosis intestinalis with pneumobilia

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DESCRIPTION

A 58-year-old patient came to our emergency department with abdominal pain and constipation for 1 day. Patient had a history of diabetes mellitus, hypertension, coronary artery disease and end stage renal disease and was on regular haemodialysis. His Blood Pressure was 86/59; Pulse rate, 98; Temperature, 36.7°C; O₂, 99% and Glasgow Coma Scale, 15/15. On examination, abdomen was mildly distended though soft and non-tender. A plain radiograph of the abdomen was performed. Abdominal X-ray showed dilated caecum containing concentric air in the bowel wall suggesting bowel ischaemia (figure 1). Subsequently abdominal CT scan of abdomen was performed which confirmed the dilated caecum and ascending colon with intramural circumferential air (figure 2A,B). Intramural air extended upto distal ileum. Interestingly, air was also seen in intrahepatic bile ducts extending till periphery of the left lobe (figure 2C). ECG did not show atrial fibrillation and echocardiogram ruled out any intracardiac thrombus. His inflammatory markers were very high (White Blood Cells, 24 600; Haemoglobin, 14.6; C-Reactive Protein, 514.5; lactate, 5.6; procalcitonin, 96.69). Our impression was pneumatosis intestinalis along with pneumobilia due to bowel ischaemia. Patient underwent laparotomy and terminal 75 cm of ileum and ascending colon were found to be gangrenous which were resected and end to end anastomosis was performed. Biopsy findings were consistent with non-viable mucosa and thrombosed vessels in the mesentery. Postoperative course in the hospital and follow-up was uneventful. The most common

Figure 1 An anteroposterior radiograph of the abdomen showing dilated caecum on the right side containing concentric air rings in the bowel wall.

Figure 2 A coronal section (A) and transverse section (B) of the abdominal CT scan confirming the intramural gas in bowel extending up to the liver bile ducts (C).

emergent causes of intramural bowel gas are the result of bowel necrosis due to infarction, necrotising enterocolitis and volvulus.¹ About 50% of the patients with pneumatosis intestinalis can be managed conservatively but the presence of additional portal vein gas causes higher mortality rate.² Prompt recognition with the help of clinical examination, imaging and laboratory findings and involving a surgeon early in the course in the emergency department is quintessential in the management of bowel ischaemia which otherwise carries a high rate of mortality.

Learning points

- ▶ Soft and non-tender abdomen especially in a patient with comorbidities does not guarantee a benign condition.
- ▶ Patients with diabetes mellitus have altered pain processing. Pain is not always out of proportion.
- ▶ Do not overlook plain radiographs in busy emergency department. There might be a big clue.

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