Self-assessment corner

Abdominal pain

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The patient

A 65-year-old man presented with a three-day history of dull epigastric pain and vomiting, followed by persistent retching. Endoscopy demonstrated oesophagitis with linear ulceration, and a sliding hiatus hernia beyond which it was impossible to pass. The patient's symptoms were not improved by ranitidine. His pain worsened, and his abdomen became distended and tender.

Figure

Questions

- 1 What two radiological features are illustrated?
- 2 How should this condition be managed?

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Answers

QUESTION 1

The stomach is grossly distended. In addition, there is air within the stomach wall. The clinical picture and distribution of air suggest raised intragastric pressure and gastric emphysema. The differential diagnosis is emphysematous gastritis.

QUESTION 2

The patient requires urgent gastric decompression.

In this case a barium study suggested distal gastric obstruction within a para-oesophageal hiatus hernia. Laparotomy revealed volvulus of the gastric antrum within a para-oesophageal hernia with compression of the proximal stomach, causing gastric inlet and outlet obstruction. The hernia was reduced and the defect repaired. The body of the stomach was crepitant, but viable. The patient made an uncomplicated recovery.

Discussion

Gastric emphysema is a rare radiological finding in which gas is observed in a linear pattern, apparently following tissue planes, within the stomach wall.¹ It is caused by raised intragastric pressure forcing air into the sub-

mucosa or subserosal plane. The increased pressure may be due to:

- gastric outlet obstruction
- vomiting
- endoscopic insufflation

There may be an associated breach in mucosal integrity, eg, an ulcer or erosion.

Provided that the intragastric pressure is reduced, gastric emphysema usually resolves, often without recourse to surgery.^{1,2} In the present case gastric emphysema probably reflected ischaemia of the stomach wall and increased intragastric pressure consequent on a 'closed loop' obstruction, which was not amenable to non-operative decompression.

Gastric emphysema must be differentiated from emphysematous gastritis. The latter is caused by gas-forming organisms infecting the stomach wall. Patients tend to have evidence of sepsis, and radiographs may show thickening of the stomach wall, with intramural gas distributed in bubbles, streaks and mottled radiolucencies, rather than along tissue planes.^{1,3} Management involves intravenous fluids and nutritional support, with broad-spectrum antibiotics. Surgery is required in the event of perforation.

Final diagnosis

Gastric emphysema caused by an obstructed para-oesophageal hiatus hernia.

Keywords: gastric emphysema, hiatus hernia

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