Acute epigastric pain and recurrent vomiting in an elderly man

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A 76-year-old previously asymptomatic man presented to the emergency room with a 4-hour history of severe epigastric pain. This was accompanied by vomiting of food contents followed by repeated dry heaves. Examination was remarkable for tenderness in the epigastrium with no abdominal rigidity and normal bowel sounds. A nasogastric tube could not be inserted despite repeated attempts. The medical history was significant for a motor vehicle accident 2 years prior to admission that resulted in fracture of the left humerus, three left-sided rib fractures, and a splenic laceration that did not require surgery. An upright X-ray of the abdomen (figure 1) followed by computed tomography (CT) scan (figure 2) of the abdomen were performed.

Figure 1 Upright X-ray of the abdomen

Figure 2 Abdominal CT scan

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Questions

- 1 What is the unusual finding in figure 1?
- 2 What are the CT scan findings in figure 2?
- 3 What test would confirm the diagnosis?

Answers

QUESTION 1

There is a single air fluid level in the midline but the gastric bubble normally seen in the left hypochondrium is absent.

QUESTION 2

The CT scan shows an abnormal axis of the stomach with the antrum (open arrow) anterior and lateral to the gastro-oesophageal junction (closed arrow) and at the same level as the gastric fundus. These findings are suggestive of a gastric volvulus.

QUESTION 3

A barium study would confirm the diagnosis. This study showed the greater curvature of the stomach (open arrow) located superior to the lesser curvature with the cardia and pylorus at the same transverse level confirming the presence of an organo-axial gastric volvulus (figure 3).

Figure 3 Barium study

Discussion

A gastric volvulus can be classified based on the axis of rotation (organo-axial, mesentero-axial or combined), severity (acute or chronic), extent (total or partial), direction (anterior or posterior) or aetiology (secondary or idiopathic).¹

The characteristic triad of an acute gastric volvulus (box) was described in 1904 and validated in subsequent studies.² Chronic gastric volvulus usually manifests with vague abdomi-

Characteristic triad of an acute gastric volvulus

- sudden onset of constant and severe upper abdominal pain
- recurrent retching with production of little vomitus
- inability to pass a nasogastric tube

nal symptoms such as dyspepsia, heart burn, eructation, nausea and vomiting long before the diagnosis is made.³

Our patient had an acute organo-axial gastric volvulus which was diagnosed by an abdominal CT scan and confirmed by a barium study. An unusual discovery was the absence of an associated hiatal hernia which is usually present in patients with an organo-axial gastric volvulus. An extensive search of the literature located only two reports of a CT-scan mediated diagnosis of gastric volvulus and both reports were of patients with a hiatal hernia or an intra-thoracic stomach.^{4 5}

The finding of a single midline air fluid level in the upright abdominal radiograph was initially thought to be due to an associated hiatal hernia. However, although a very high dome of the diaphragm was noted during surgery in our patient, no defects or hernias were detected. Acute gastric volvulus is a rare condition but one which needs to be diagnosed quickly to avoid life-threatening complications like ischaemic necrosis, haemorrhage and gangrene. While a CT scan is not necessary to diagnose gastric volvulus, we suggest that a CT scan finding of the stomach in an unusually high position or an abnormal axis of the stomach with the antrum and gastro-oesophageal junction at the same transverse level in a patient with acute abdominal pain and vomiting should elicit the suspicion of a gastric volvulus.

Final diagnosis

Acute organo-axial stomach volvulus.

Keywords: stomach; volvulus; computed tomography

1 Wastell C, Ellis H. Volvulus of the stomach: a review with a report of 8 cases. *Br J Surg* 1971;**58**:557–62.

2 Carter R, Brewer LA, Linshaw DB. Acute gastric volvulus: a study of 25 cases. *Am J Surg* 1980;**140**:99–106.

3 Thorpe JAC. Chronic gastric volvulus: aetiology and treatment. *Br J Clin Pract* 1981;**35**:161–2.

4 Chiechi MV, Hamrick-Turner J, Abbitt PL. Gastric herniation and volvulus: CT and MR appearance. *Gastrointest Radiol* 1992;**17**:99–101.

5 Kesava P, Raval B. Intra thoracic stomach. Another cause of IVC pseudo thrombosis. *Clin Imaging* 1994;**18**:113–4.

An elderly man with dysphasia and pyrexia

N Sathi, R A Shinton

An 85-year-old man presented with a 3-week history of headache, reduced mobility and dysphasia. The headache was unilateral affecting the left side. His reduced mobility was associated with varying levels of weakness of the right arm and leg. His dysphasia was reflected in problems reading the newspaper, and speaking to his wife, as well as understanding what his wife was saying to him. On examination he was found to be alert and orientated in time, place and person, scoring an abbreviated mental test score of 9/10. Neurological examination revealed a right upper motor lesion of cranial nerve VII, increased reflexes in the right arm and leg, and a dysphasia which was both expressive and receptive. In addition he had a temperature of 37.5°C. He had a normal full blood count, routine biochemistry and chest X-ray. Blood cultures were negative. His C-reactive protein was 11 mg/l. Urgent computed tomography (CT) of the brain was organised (figure 1). Following treatment the patient's condition improved gradually over a month. At discharge he had minimal dysphasia and walked independently with ease. Two months later he developed a peripheral sensory neuropathy of a glove and stocking distribution. Serum vitamin B12, folate and thyroid function tests were normal. There was no history of alcoholism, diabetes mellitus or a connective tissue disorder. Following a further adjustment to his treatment he eventually fully recovered (figure 2).

Figure 1 Cranial CT scan with contrast at presentation

Figure 2 Cranial CT scan with contrast after 8 months

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Questions

- 1 Might the medical history help?
- 2 What is the probable initial diagnosis?
- 3 How would you manage his problem?
- 4 Why did he develop peripheral neuropathy?