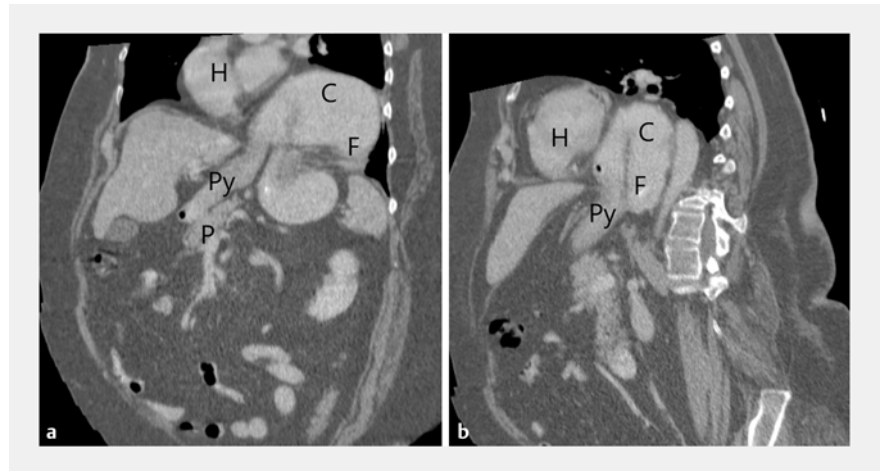


## Unfolding the stomach in the chest

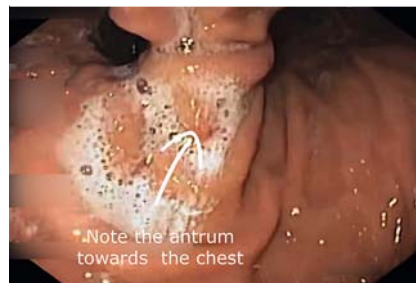
A 72-year-old woman with obesity presented with recurrent episodes of emesis, mild abdominal pain, and intolerance to oral intake. Overall, she was in good clinical condition. Her vital signs were normal but physical examination revealed mild epigastric tenderness without peritoneal signs or ileus. Laboratory studies were unremarkable but chest X-rays showed distended mediastinum. Computed tomography of the chest and abdomen revealed herniation of nearly the entire stomach into the mediastinum, compatible with mesenteroaxial gastric volvulus (► **Fig. 1**).

During upper gastrointestinal endoscopy, advancement of the endoscope along the greater curvature revealed displacement of the antrum and the pylorus superiorly, almost antidiamentrically from the expected position (► **Fig. 2**, ► **Video 1**). Gastric mucosa was normal with no evidence of ischemia or necrosis. ► **Fig. 3** shows the proper position of the pylorus compared with that of the fundus following reduction of the volvulus with rightward withdrawal maneuver upon intubation of the duodenum. The patient became asymptomatic, started eating, and was discharged after 24 hours.

Gastric volvulus is a rare condition characterized by abnormal rotation of the stomach along its longitudinal (organo-axial) or transverse (mesentero-axial) axis. Acute gastric volvulus classically presents with the Borchardt's triad consisting of severe epigastric pain, vomiting, and difficulty in passing a nasogastric tube. It is a surgical emergency, as there is a risk of gastric ischemia, which can result in necrosis and perforation with high mortality rates [1]. However, frequently not all signs are evident and early diagnosis can be difficult especially in elderly patients with multiple comorbidities. Clinicians should suspect gastric volvulus in elderly patient presenting with pain, vomiting, and a chest X-ray suggesting significant hiatus hernia [2]. If signs of



► **Fig. 1** Computed tomography (CT) scans showing malrotation of the stomach compatible with a mesenteroaxial gastric volvulus. **a** Coronal CT scan. **b** Sagittal CT scan. C, corpus; F, fundus; H, heart; P, pancreas; Py, pylorus.



► **Fig. 2** Displacement of the antrum and the pylorus compatible with gastric volvulus.



► **Fig. 3** Proper position of the pylorus after reduction of the volvulus.

gastric wall necrosis are not present, acute endoscopic detorsion may be considered. This is particularly relevant in frail patients with high operative risk. Otherwise, immediate surgical consultation should be obtained [3].

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### Competing interests

The authors declare that they have no conflict of interest.

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**Video 1** Unfolding the stomach in the chest.

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