

IMAGES IN EMERGENCY MEDICINE**Abdominal****A 90-year-old man presents with abdominal pain**

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1 | INTRODUCTION

Gastric volvulus is described as an unusual rotation of the stomach that can create a closed loop obstruction. Based on the axis of rotation, it can either be classified as organoaxial, mesenteroaxial, or both.¹ In mesenteroaxial gastric volvulus, the stomach rotates along its longitudinal line parallel to the gastrohepatic omentum.² Patients with gastric volvulus either have recurrent or acute volvulus. An acute volvulus can be deemed an abdominal emergency as a rotation greater than 180° may lead to strangulation, necrosis, and perforation of the stomach.³

2 | CASE PRESENTATION

A 90-year-old man presented to the emergency department complaining of abdominal pain, nausea, and vomiting with a past medical history of coronary artery disease, dementia, hypothyroidism, hiatal hernia, failure to thrive, and coronary artery bypass graft. Initial chest x-ray (shown as Figure 1) revealed loop of bowel with lucency in the chest cavity. Computed tomography (CT) scan of the abdomen and pelvis suggested an early mesenteric axial gastric volvulus, which was confirmed by upper gastrointestinal fluoroscopy (Figures 2 and 3). The patient was admitted to the hospital to consider various treatment options, including surgery.



FIGURE 1 Chest x-ray is shown depicting bilobed area of lucency in the epigastric region with extension into chest cavity, suggesting volvulus

3 | DIAGNOSIS: ACUTE MESENTEROAXIAL GASTRIC VOLVULUS

Acute mesenteroaxial gastric volvuli are less common than organoaxial volvuli, occurring in 29% and 59% of all reported cases, respectively.¹

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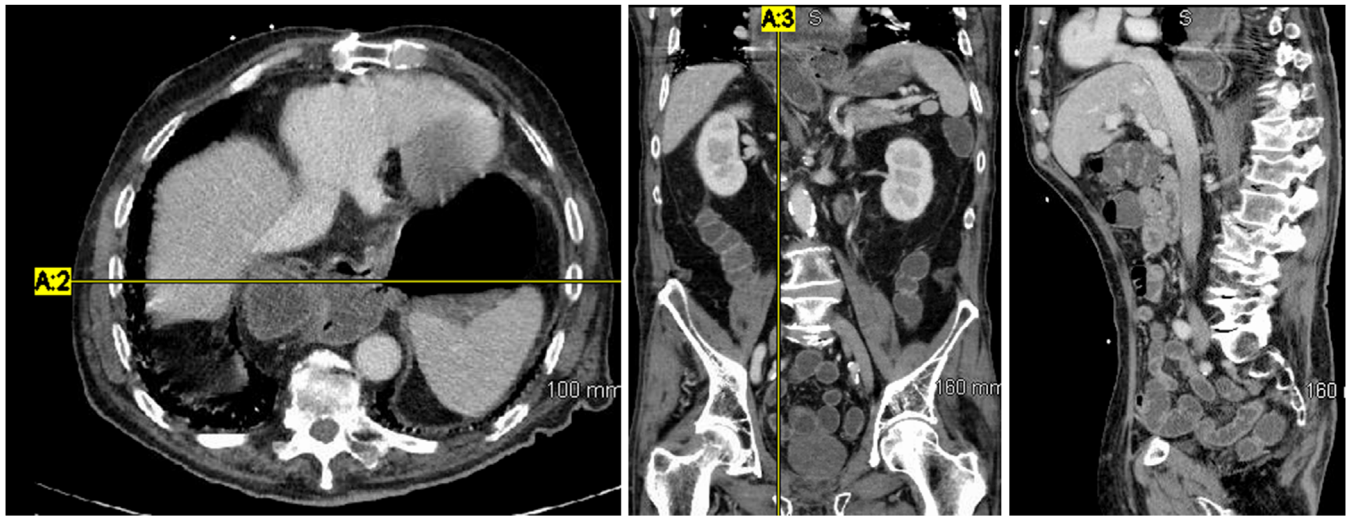


FIGURE 2 Axial and coronal views on contrast-enhanced abdominal computed tomography (CT). Contrast-enhanced CT shows fluid-filled dilated gastric antrum and duodenum extending into the intrathoracic cavity. There is twisting of the stomach along the longitudinal line parallel to the gastrohepatic omentum

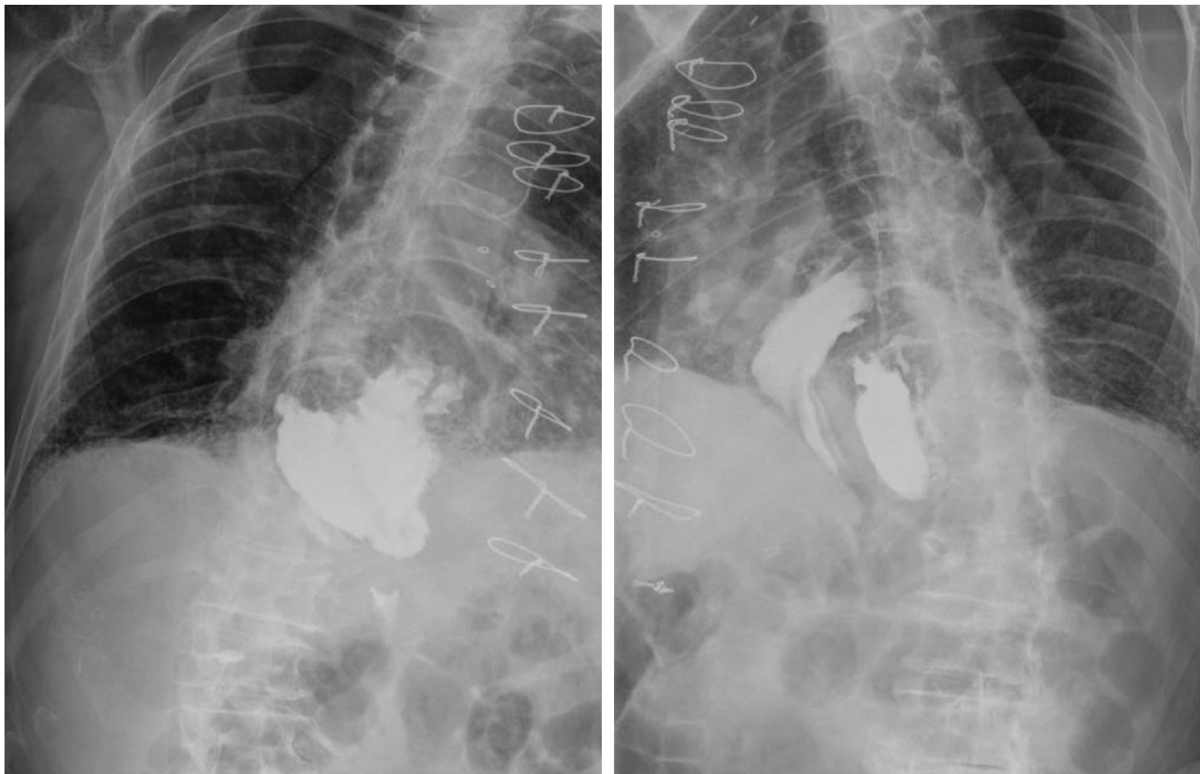


FIGURE 3 Upper gastrointestinal gastrograffin examination shows twisting of the stomach along the longitudinal line parallel to the gastrohepatic omentum

Gastric volvuli can occur at any age, but mostly in young children.¹ It has a mortality rate of 30% to 50%, demonstrating the importance of detecting and treating acute mesenteroaxial gastric volvuli early.

The clinical presentation depends on the speed of onset, type of volvulus, and degree of obstruction.⁴ Often symptoms are nonspe-

cific, and imaging can only detect the abnormality when patients are symptomatic. CT imaging is ideal as it can offer a detailed and immediate diagnosis.¹ Symptoms can range from nausea, recurrent vomiting, abdominal pain, and hiccups to sepsis attributed to necrosis of the gastric volvulus.²

Gastric volvulus can be classified as primary or secondary. A primary gastric volvulus involves absent or loose gastrosplenic or gastrocolic ligaments. A secondary gastric volvulus results from diaphragmatic abnormalities, such as hiatal hernias, an incidence of which is higher in elderly patients.⁵ In one review with gastric volvulus, 86% of patients had secondary volvulus, and 44% of those were related to an esophageal hiatal hernia.⁵

Treatment can vary due to the degree of obstruction and the patient's prior conditions. Some elderly patients may receive surgery or less invasive management such as endoscopic or laparoscopic gastropexy.⁵ Others do not receive surgery because their severe comorbidities may place them at a higher risk of surgical complications, such as ulceration, perforation, hemorrhage, and omental avulsion.⁴

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