

Visual Diagnosis in Emergency Medicine

EPIGASTRIC PAIN DUE TO ACUTE GASTRIC VOLVULUS

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INTRODUCTION

Acute gastric volvulus is an uncommon condition that can have a high morbidity and mortality if diagnosis or treatment is delayed. We present a case of acute mesentero-axial volvulus with a favorable outcome, and highlight the importance of early clinical suspicion and diagnosis with computed tomography (CT) on arrival to the emergency department (ED).

CASE REPORT

A 68-year-old African woman with type 2 diabetes mellitus presented to the ED with acute-onset severe epigastric pain, nausea, and non-bilious non-bloody emesis following dinner. She denied dysphagia, odynophagia, melena, hematochezia, or sick contacts. On examination, she was in mild distress and had a distended abdomen with mild epigastric tenderness. Laboratory studies showed mild leukocytosis (white blood cells 12,200/ μ L), but normal liver enzymes, lipase, and lactate levels. An urgent CT of the abdomen with oral and i.v. contrast was performed that revealed a massively distended stomach that was malrotated along its transverse axis in a striking radiographic appearance (Figures 1–3). This was compatible with an acute mesentero-axial gastric volvulus. The gastric antrum was displaced above the gastroesophageal junction without passage of oral contrast into the duodenum, suggestive of a near-complete obstruction. A nasogastric

tube (NGT) inserted for decompression yielded 2 L of non-bilious fluid. An upper endoscopy was performed that showed a large amount of retained food debris in the



Figure 1. Computed tomography of the abdomen with oral contrast (sagittal view) showing a distended stomach that was malrotated (see arrows), along with displacement of the gastric antrum above the gastroesophageal junction.



Figure 2. Computed tomography of the abdomen with oral contrast (coronal view) showing a distended stomach that was malrotated (see arrows) and compatible with a mesentero-axial gastric volvulus.

proximal stomach. Gentle advancement of the upper endoscope along the greater curvature of the stomach resulted in spontaneous reduction of the volvulus, and the entire gastric mucosa appeared healthy with no evidence of ischemia or necrosis. There was no gastric mass on the examination. Given the risk of recurrence of gastric volvulus, she subsequently underwent a percutaneous endoscopic gastrostomy gastroplexy. She was discharged without any complications and was asymptomatic on subsequent follow-up.

DISCUSSION

Gastric volvulus is a rare condition characterized by abnormal rotation of the stomach along its longitudinal (organo-axial) or transverse (mesentero-axial) axis. Mesentero-axial gastric volvulus represents one-third of acute cases, and is more common in children and young adults. Acute gastric volvulus classically presents with the Borchardt's triad consisting of severe epigastric pain, vomiting, and difficulty or inability to pass an NGT. It is a surgical emergency, as there is a risk of



Figure 3. Computed tomography of the abdomen with oral contrast (axial view) showing a distended stomach that was malrotated (see arrows) and compatible with a mesentero-axial gastric volvulus.

gastric ischemia, which can result in necrosis and perforation with high mortality rates (1,2). Initial management should include i.v. fluid resuscitation, correction of electrolyte abnormalities, and immediate gastric decompression with insertion of an NGT. Prompt evaluation and reduction of the gastric volvulus is necessary to prevent gastric ischemia and necrosis. A high clinical suspicion for gastric volvulus should be maintained on initial presentation in the setting of retching, vomiting, epigastric pain, and elderly age. An urgent CT of the chest and abdomen with oral contrast in the ED is essential to improve outcomes and reduce mortality (3).

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