

Perforated Gastric Volvulus: A Rare Life-threatening Complication of Paraesophageal Hernia

Talia F Malik, MD¹; Shreya Desai, MD²; Pallavi Shah, MD³

^{1,2}Department of Internal Medicine, Chicago Medical School at Rosalind Franklin University of Medicine and Science, North Chicago IL

³Department of Gastroenterology, Captain James A. Lovell Federal Health Care Center, North Chicago IL

Introduction

- Gastric volvulus is a rare condition characterized by abnormal rotation of the stomach along its long (organoaxial) or short (mesenteroaxial) axis.
- Rotation of more than 180° may lead to complete gastric outlet obstruction, strangulation with necrosis, and perforation.
- We present a case of a patient with paraesophageal hernia that was complicated with perforated gastric volvulus.

Case Description

- A 69-year-old male with history of diabetes, peptic ulcer disease, and paraesophageal hernia presented with worsening epigastric abdominal pain for 3 days.
- The pain radiated to the left shoulder and worsened with inspiration and food intake. It was associated with an episode of coffee-ground emesis one hour before the presentation.
- On exam, he had mild diffuse abdominal tenderness with increased tenderness over the epigastric region.
- Laboratory studies showed WBC of 23.7 K/uL, lactic acid of 3.2 mmol/L, and hemoglobin of 11.5 g/dL.
- Chest x-ray showed pneumoperitoneum and a large hiatal hernia. CT abdomen and pelvis showed a perforated mesenteroaxial gastric volvulus with extensive free fluid and air.

Imaging

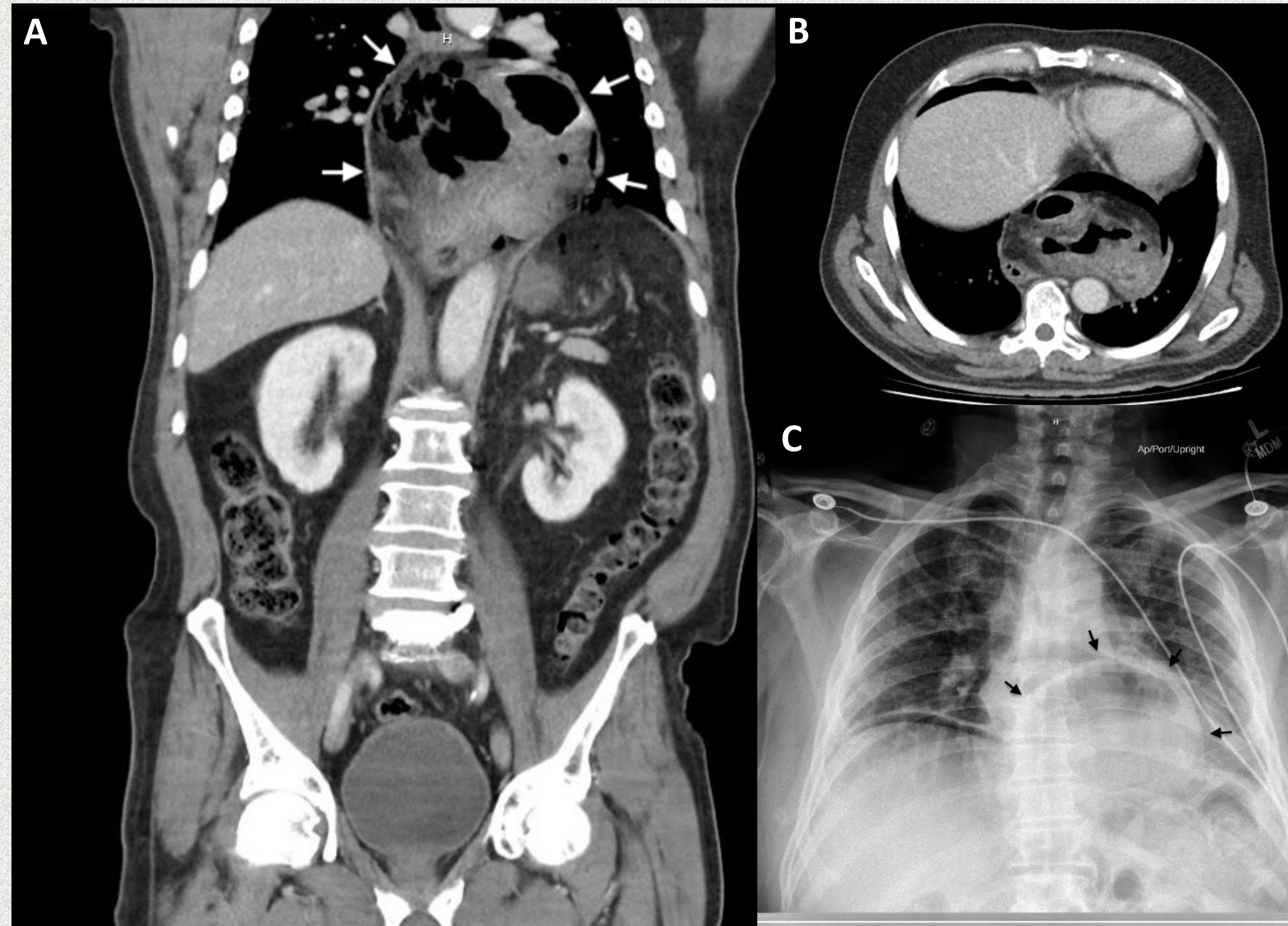


Figure A and B. CT scan of the abdomen and pelvis (coronal and axial view) showing markedly distended stomach in the thoracic cavity.

Figure C. Chest x-ray showing pneumomediastinum and retrocardiac air-fluid mass.

- The patient underwent emergent surgery with laparoscopic paraesophageal hernia repair, gastropexy, and perforation repair. He had a jejunostomy feeding tube placed.
- The patient experienced no postoperative complications and was discharged on day three.

Discussion

- Acute gastric volvulus is a life-threatening condition associated with a 5-28% risk of ischemia. It carries high mortality but is commonly misdiagnosed due to its rarity, variable presentation, and non-specific imaging findings.
- 30% of patients with gastric volvulus do not present with the classic features of epigastric pain, unproductive retching, and failure of nasogastric tube insertion (Borchardt's triad).
- Only 4% of hiatal hernias are complicated by gastric volvulus with organoaxial volvulus being the most commonly associated type. Our case is unique as the patient had a mesenteroaxial volvulus that has not been widely reported.

Conclusions

- This case emphasizes the importance of considering gastric volvulus as a differential in patients with paraesophageal hernia presenting with abdominal pain.
- A high index of clinical suspicion is needed as timely diagnosis and prompt surgical intervention can be lifesaving.