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Case Report

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Cardiac Compression and Tamponade from Gastric Volvulus Presenting as Acute Chest Pain

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Introduction

Gastric volvulus is an uncommon condition that classically presents with Borchardt's triad of severe epigastric pain, retching without vomiting, and inability to pass a nasogastric tube [1]. We report a rare and fatal case of severe gastric volvulus presenting as chest pain with electrocardiographic changes in a patient with a significant cardiac history.

Case Presentation

A 77 year-old woman with a recent stent placement for coronary artery disease and atrial fibrillation presented with an acute onset of diffuse chest pain radiating to the right axilla with associated dyspnea, nausea, and non-bilious vomiting. Her home medications included aspirin, clopidogrel, apixaban, and amiodarone. An ECG was significant for T-wave inversions in anterolateral leads (Figure 1). Her chest radiograph showed elevation of the right hemi diaphragm with a large right diaphragmatic hernia containing bowel loops. A non-contrast chest CT outlined the diaphragmatic hernia extending into the right thoracic cavity with a portion of the pancreas abutting the left atrium (Figures 2 and 3). An ultrasound confirmed presence of peristaltic bowel in the right hemithorax

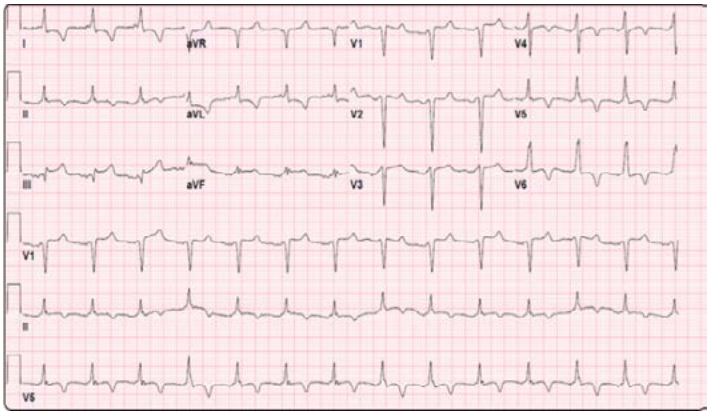

Figure 1: Electrocardiogram on admission suggesting inferior ischemia

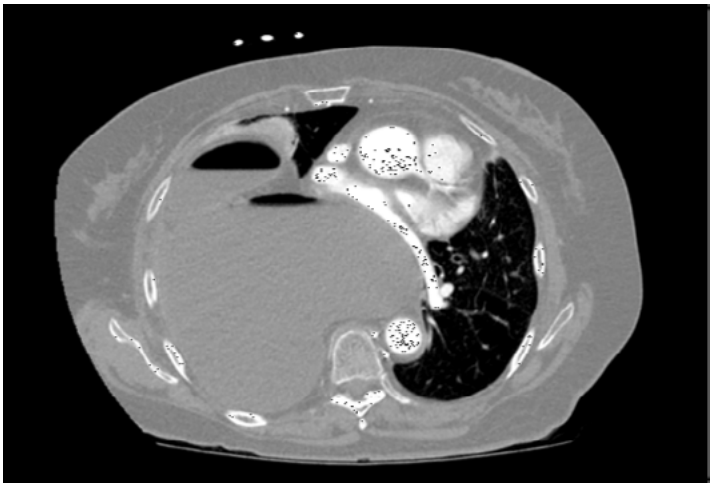

Figure 2: Computed tomography showing mass effect from large intrathoracic gastric volvulus causing significant cardiac compression and mediastinal displacement (axial view).

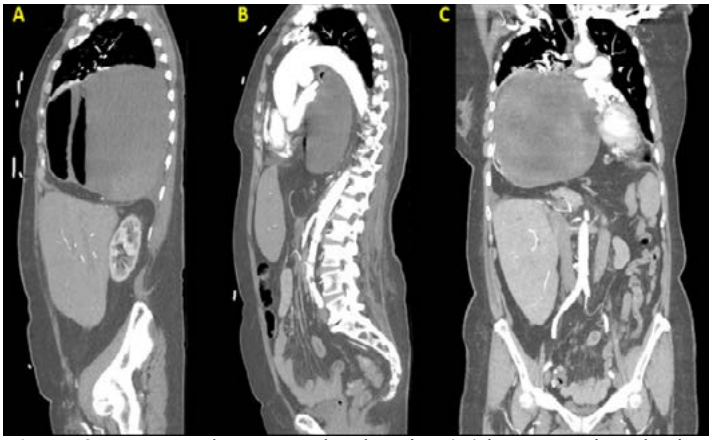

Figure 3: Computed tomography showing (A) large gastric volvulus in the right hemithorax (sagittal view) causing compression and displacement of the cardiac structures (B) anteriorly (sagittal view) and (C) to the left (coronal view).

While awaiting surgical evaluation for suspected gastric volvulus, the patient experienced worsening pain and dyspnea, and developed atrial fibrillation with rapid ventricular response. She was treated with amiodarone and heparin infusions. Her nasogastric tube became dislodged and could not be reinserted. She went into asystolic cardiac arrest, requiring multiple rounds of cardiac compressions and defibrillation, and ultimately, expired.

Discussion

Organoaxial volvulus (rotation along the longitudinal axis of the stomach) is more common than mesenteroaxial volvulus (rotation along the horizontal axis) [2]. Gastric volvulus is typically caused by abnormal ligament laxity and stomach hypermobility. Acute volvulus is diagnosed radiographically by upper GI series, radiographs, or CT. Prompt management of an acute gastric volvulus with intravenous fluids, electrolyte balance, and gastric decompression is critical to prevent further gastric ischemia. Definitive management is surgical and involves paraesophageal hernia repair, gastropexy, or gastrectomy, depending on the extent of gastric ischemia and perioperative risk [3].

A gastric volvulus large enough to cause significant mass effect on cardiac structures has rarely been reported in literature. The patient's cardiac history led her physicians to initially anchor on possible cardiac-related causes of chest pain, until the large volvulus was identified. This case highlights the importance of considering extra-cardiac causes of chest pain, and to be aware of cognitive biases in clinical reasoning.

References

1. Brown A, Augstin D, Kanakala V (2017) Cardiac compression due to gastric volvulus: an unusual cause of chest pain. BMJ Case Rep 2017: bcr-2017-219595.

2. Patel JB, Akshintala D, Patel P, Emani VK, Kalva N, et al. (2017) Intermittent Gastric Volvulus Mimicking Acute Coronary Sydrome. Am J Med 130: e47-e49.

3. Rodriguez-Garcia HA, Wright AS, Yates RB (2017) Managing obstructive gastric volvulus: challenges and solutions. Open Access Surg 10: 15-24.