



Case Report:Gastric Volvulus-The Challenge For Early Diagnosis.

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Abstract

Background: Gastric volvulus is a rare gastric pathology and remains a challenge to diagnose. There are two types; type 1-idiopathic and type 2-congenital/acquired. It affects both sexes equally and ages more than 50 groups. Case presentation: A 47 years old gentleman presented to the Emergency Department with intermittent and worsening symptoms of postprandial vomiting , retching, and epigastric pain with signs of dehydration. Radiological findings confirmed the diagnosis of gastric volvulus and we proceeded with surgery. Conclusion: Gastric volvulus diagnosis remains a challenge as it mimics other abdominal pathology and delay in diagnosis may lead to life threatening complications like perforation, ischaemia and bleeding.

Keywords

Gastric volvulus, paraesophageal hernia

Introduction

Gastric volvulus is an uncommon gastric pathology which may present as acute abdomen. The diagnosis remains a challenge and some gastric volvulus are undiagnosed due to its chronicity and vague symptoms. Gastric volvulus is defined as abnormal rotation of the stomach more than 180 degrees which creates closed loop obstruction, and may result in strangulation and incarceration. There are only a few reported cases of acute mesenteroaxial gastric volvulus in children. (1) It can be divided into either type 1; idiopathic, or type 2; congenital or acquired, in which the occurrence of gastric volvulus is secondary to other anomaly, i.e paraesophageal hernia. The first case of gastric volvulus was reported in 1866 by Berti and the first successfully operated case was performed by Berg in 1897. (2) Acute idiopathic mesenteroaxial gastric volvulus in adult males is rarely reported. Delay in diagnosis of gastric volvulus may be associated with life threatening complications such as perforation, obstruction and bleeding. Hence, early detection and intervention are important for better prognosis. We report a case of a gentleman with gastric volvulus(mesenteroaxial type) with paraesophageal hernia and discuss our management strategies.

Case

A 47 years old gentleman presented with recurrent episodes of postprandial vomiting for 5 months with increasing frequency, associated with epigastric pain, but no signs of intestinal

obstruction. Clinically, he appeared lethargic and dehydrated with hypotension. Blood gases showed metabolic alkalosis and leukocytosis, CT scan (Figure 1 and Figure 2) showed features of gastric volvulus of mesenteroaxial type and paraesophageal hernia, with no features of perforation or necrosis. Patient then underwent an emergency exploratory laparotomy. Intraoperatively, there was paraesophageal hernia grade 4 with gastric volvulus(mesenteroaxial type)and omentum content. Noted 3/4th of stomach herniated through a defect in posterior diaphragm which is lateral to left hiatal pillar. The greater curvature of the stomach is rotated cephalad and herniated through the paraesophageal opening. Subsequently proceeded with gastric volvulus reduction, gastropexy and anterior partial fundoplication. He was discharged well on day 7 post operatively. Last seen in clinic during follow up, he was asymptomatic and well.

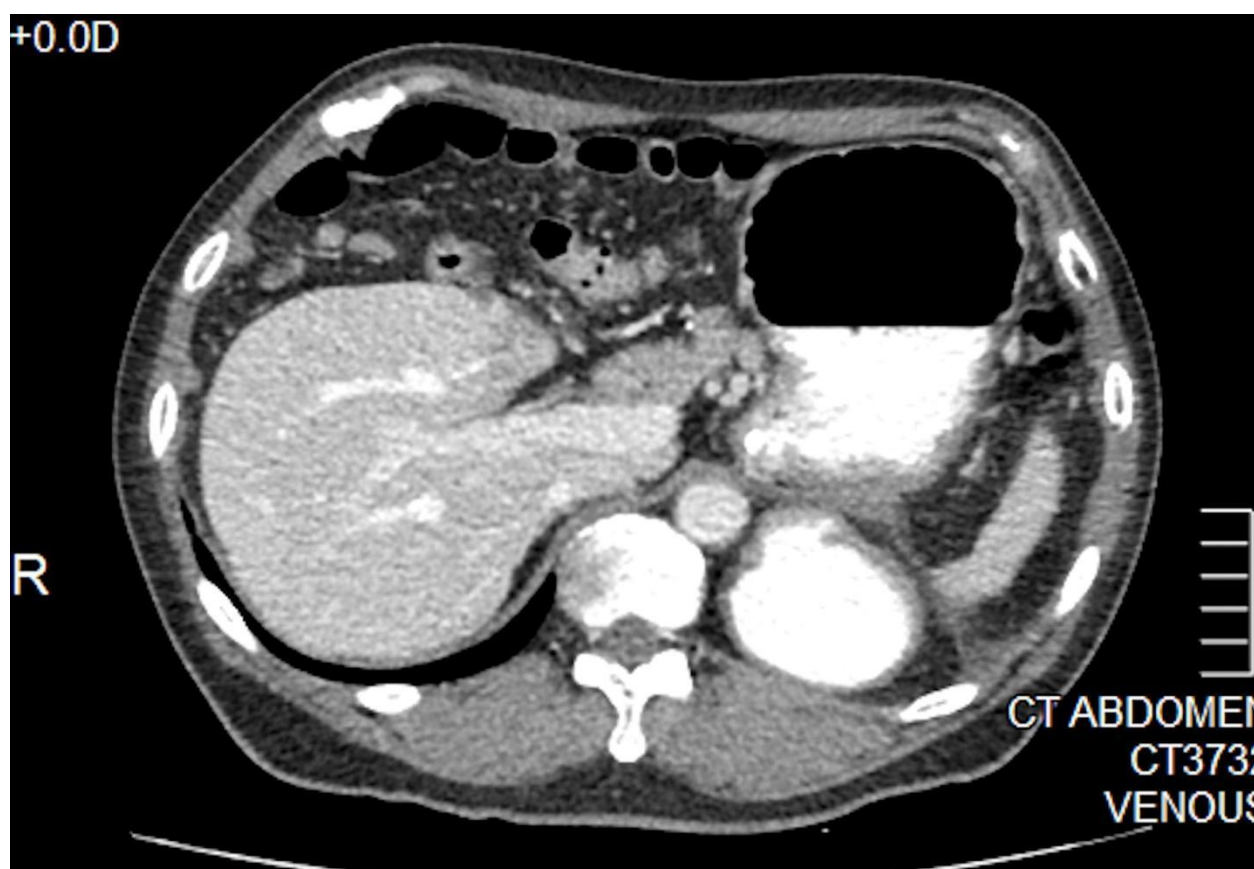


Figure 1: CT scan showed distended and twisted body of stomach with air fluid level

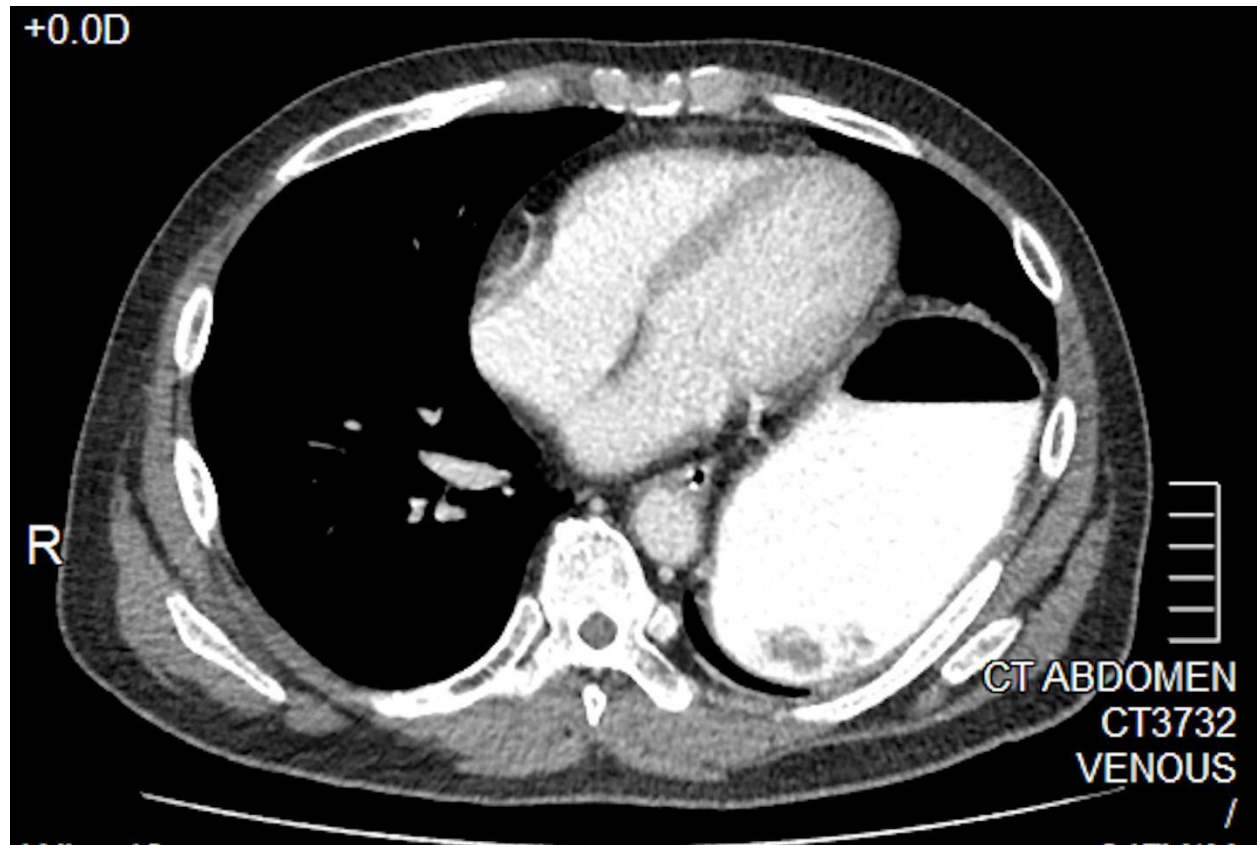


Figure 2: Intrathoracic gastric volvulus with air fluid level.

Discussion

Diagnosis of gastric volvulus especially the intermittent type remains a challenge due to its vague symptoms. It can be classified based on several parameters including the direction of rotation and etiology. Singleton proposed the most accepted classification of gastric volvulus with 3 different categories: organoaxial, mesenteroaxial, and combined, which are based on the axis around which the stomach rotates. (4) Organoaxial type refers to the rotation of stomach over an axis that combines the gastroesophageal junction with the pylorus. In this situation the antrum rotates in reverse direction to the fundus. This type of volvulus is associated with diaphragmatic defects with frequent strangulation and necrosis reported in 5–28% of cases.

The mesenteroaxial volvulus, is another type, in which the mesenteroaxial axis bisects the lesser and greater curvatures. Herein, the antrum, twists anteriorly and superiorly, therefore the posterior surface of the stomach lies anteriorly with incomplete rotations. Diaphragmatic defects are usually observed with typical chronic symptoms. Finally, combined type is a rare entity with simultaneous presentation of mesenteroaxial and organoaxial rotation of the stomach, which is typically observed in patients with chronic volvulus .

In terms of etiology, it is classified as either idiopathic or secondary (congenital or acquired). Congenital Induced gastric volvulus mainly occur in children secondary to congenital diaphragmatic defect while the acquired type mainly involves adults more than 50 years old.

One useful suggestive symptom include *Borchardt's* triad which include severe epigastric pain; unproductive retching and inability to pass nasogastric tube. Early detection may prevent life threatening complications. Barium swallow is the gold standard for the diagnosis of gastric volvulus. In a study by Mazaheri et al of 30 patients with surgically proven gastric volvulus who underwent preoperative CT, the most frequent and sensitive CT findings of volvulus with high positive likelihood ratio were stenosis at the hernia neck and transition point at the pylorus. The presence of perigastric fluid or a pleural effusion were significantly more frequent in patients with ischemia at surgical pathology. The transition point at the pylorus was the most sensitive (70–80%) and specific (100%) overall CT finding for the diagnosis of gastric volvulus. (5)

Pertaining the treatment, gastric volvulus presenting with acute abdomen shall be treated via surgical approach including anterior partial fundoplication and repair of underlying hernia defect. Subtotal or total gastrectomy is done if there are associated complications like perforation or necrosis. Conservative and endoscopic management of gastric volvulus may be reserved for patients who are clinically stable, with no cardiac obstruction and/or those who are not fit for operative intervention. Chronic gastric volvulus may be treated via laparoscopic approach or conservatively however conservative management is associated with high recurrence rate. (6,7)

CONCLUSION

Gastric volvulus is a diagnosis which requires a high index of suspicion combined with radiological intervention. Surgical intervention is recommended for patients with acute abdomen or with complications. Conservative management is reserved for patients that are clinically stable or unfit surgical candidates. However it is associated with a high recurrence rate. Delay or failure in diagnosis may lead to life threatening complications like bleeding, perforation or necrosis. Mortality rate of gastric volvulus is around 40-50%. (7)

CONFLICT OF INTEREST STATEMENT

There are no conflicts of interest to declare.

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ETHICS APPROVAL

Ethics approval was not required from the institution for the publication of this case report.

CONSENT

Informed consent was obtained from the patient for the publication of this case report and accompanying images

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