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Case Report

A case of acute gastric volvulus due to diaphragmatic hernia in an adult with kyphoscoliosis

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ABSTRACT

Acute gastric volvulus on diaphragmatic hernia is a rare and life-threatening condition, which is seen mostly in fifth decade of life. Presented with vague symptoms of abdominal pain mostly epigastric in nature, retching, may or may not be associated with vomiting, hematemesis, sometime difficult to pass nasogastric tube (Borchardt triad's). Hereby we report a case of 48 year old male with known case of kyphoscoliosis who came with hematemesis and vomiting only; on investigation chest with abdomen X ray, USG, upper GI scopy and CT chest with abdomen, suggestive of gastric volvulus with diaphragmatic hernia and kyphoscoliosis. Patient was operated; as in acute gastric volvulus delay may result in complication like perforation and gangrene which can lead to increase morbidity and mortality in this patient; derotation of stomach done and diaphragmatic defect repaired with meshplasty, gastropexy with gastrostomy done. Postoperative course was uneventful.

Keywords: Gastric volvulus, Diaphragmatic hernia, Kyphoscoliosis, Mesoaxial rotation

INTRODUCTION

Gastric volvulus is rotation of stomach or its part by more than 180 degree creating closed loop obstruction.[1] Gastric volvulus is rotation of stomach around any of the stomach axis which includes organ-axial and mesoaxial. There are two types of gastric volvulus; primary and secondary. Primary gastric volvulus is loosening of ligamentary support of stomach. The secondary gastric volvulus is because of diaphragmatic hernia and para-esophageal hernia.[2] Diaphragmatic hernia is a condition with defect in the diaphragm causing protrusion of intra-abdominal organs into thoracic cavity. Most common cause being congenital.[3] Borchardt's triad may not be present as many as 25% of patients which include difficulty inserting a nasogastric tube, nonproductive vomiting, severe and constant epigastric pain.[4] Large number of patient presented in middle age, up to 75% associated with an abdominal adhesions, paraesophageal hiatal hernia, or other intraabdominal or diaphragmatic conditions.[5] Acute gastric volvulus is an emergency and strong suspicion, early resuscitations, imaging, diagnosis and urgent surgical treatment is prompt to save life of patient from complications such as perforation, gangrene, shock which increased chance of morbidity and mortality.

Herein we are reporting here an interesting case of acute gastric volvulus in a case of diaphragmatic hernia in adult with kyphoscoliosis who presented to us in emergency with hematemesis in clinical examination strong suspicion of gastric volvulus imaging further add diaphragmatic hernia with kyphoscoliosis. Patient was operated, derotation of stomach done and diaphragmatic defect repaired with meshplasty, gastropexy with gastrostomy done. Postoperative course was uneventful.

CASE REPORT

A 48 year old male presented in emergency with complains multiple episodes of foul smelling, blood tinged vomiting since 15-20 days, upon arrival to the emergency department patient was afebrile, pulse was 100 bpm, blood pressure 90/60 mm of Hg, SpO_2 99% on room air. On clinical examination chest barrel shaped, small scaphoid abdomen with kyphoscoliosis. Apex beat was shifted to the right side of sternum. On auscultation there was decreased air entry on left basal region of chest. Initial laboratory investigations were normal (Figure 1). X-ray chest demonstrated the air fluid level on left side of heart almost occupying the one third of left side of chest, heart shifted to right side (Figure 2). UGI endoscopy showed gastric volvulus (Figure 3). CT chest with abdomen, suggestive of defect in left hemidiaphragm with meso-axial rotation of stomach. Patient underwent surgery (Figure 4). Intra operative findings were left sided diaphragmatic hernia, meso-axial rotation of stomach. Left sided ICD placed. The diaphragmatic defect was closed with double breasting over which mesh was placed with gastrostomy and gastropexy done. Postoperative chest X-ray showed normalisation of heart position and expansion of previously compressed lung. Post operative patient recovery was uneventful.

Figure 1: X-ray chest demonstrated the air fluid level on left side of heart almost occupying the one third of left side of chest, heart shifted to right side.

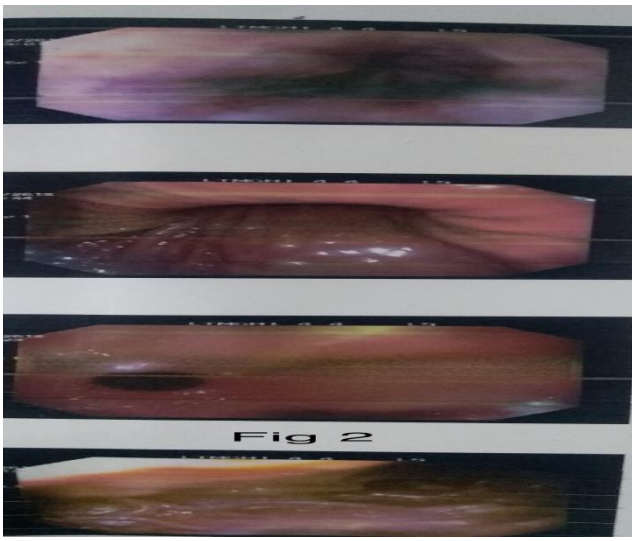

Figure 2: UGI endoscopy showed gastric volvulus.

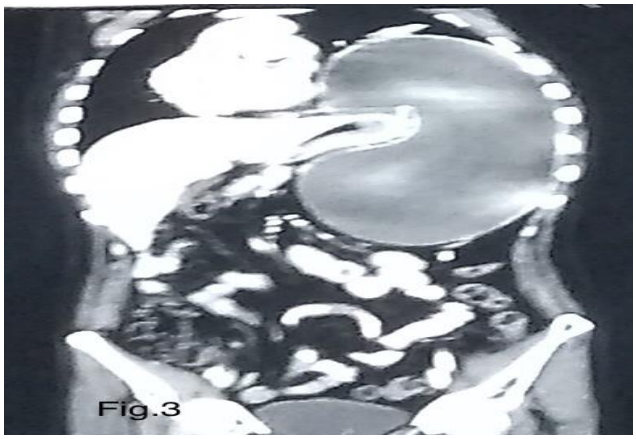

Figure 3: CT chest with abdomen, suggestive of defect in left hemidiaphragm with meso-axial rotation of stomach.

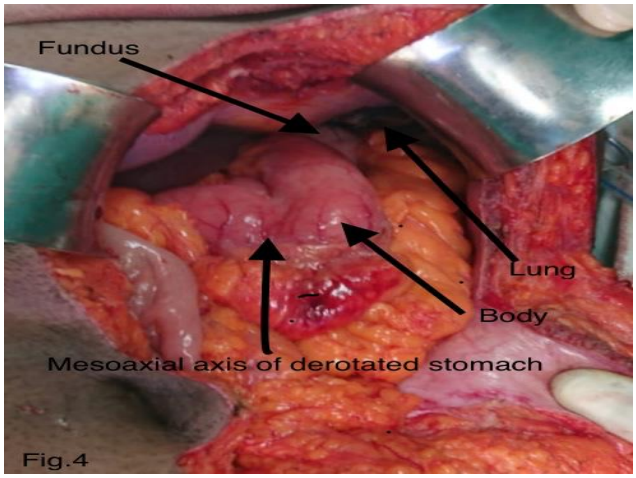

Figure 4: Intra operative findings were left sided diaphragmatic hernia, meso-axial rotation of stomach.

DISCUSSION

The majority cases of gastric volvulus present in fifth decade of life. It occurs in organo-axial or meso-axial direction. Diaphragmatic hernia is more commonly associated with organo-axial volvulus.[6] Symptomatically patient presents with abdominal pain (acute onset), abdominal distention, vomiting, hematemesis, Borchardt's triad (abdominal pain, retching with little vomitus, inability to pass the Nasogastric tube). Plain radiograph usually shows gas filled viscous in chest and upper abdomen. Barium contrast study and upper GI endoscopy, CT scan are investigations of choice. It can be extremely difficult to sort out anatomy endoscopically, so this is a situation in which contrast radiograph is superior.[7] Initial management includes nasogastric decompression, fluid resuscitations and correction of electrolyte imbalance.[8,9] Endoscopic decompression, derotation and percutaneous endoscopic gastrostomy, fixation of stomach to the abdominal wall are first line of management of primary gastric volvulus. Gastric volvulus associated with diaphragmatic hernia, the

content of hernia is reduced and uncoiled through transabdominal approach, diaphragmatic defect should be repaired, detorsion and fixation of stomach by gastropexy or tube gastrostomy or both.[10,11] In case of strangulation, compromised segment of stomach is resected.

CONCLUSION

Gastric volvulus with diaphragmatic hernia associated with kyphoscoliosis is a very rare case, if patient present with pain in abdomen, retching, vomiting, not able to pass nasogastric tube strong suspicious of gastric volvulus with or without diaphragmatic hernia should be in mind. Early diagnosis and prompt treatment, timely surgery has gratifying outcome.

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