

Delayed Presentation of Post-Traumatic Blunt Diaphragmatic Hernia with Gastric Volvulus

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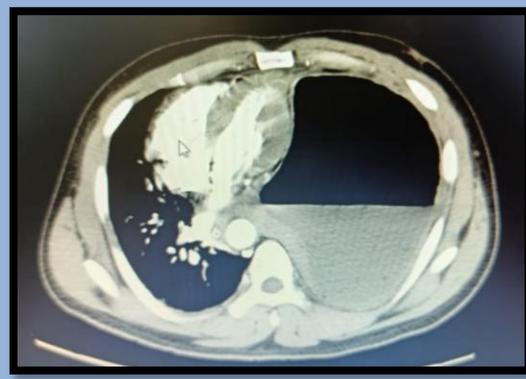
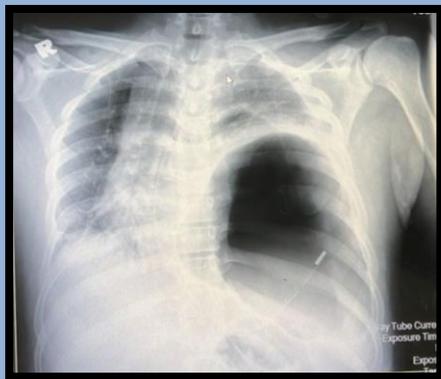
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INTRODUCTION

Post-traumatic diaphragmatic hernia complicated by gastric volvulus may manifest immediately or several years after the incident. Delayed presentation of traumatic diaphragmatic hernia with gastric volvulus is an uncommon surgical emergency with a mortality rate of 15-20%. Complications of acute volvulus include ischaemia and infarction, perforation, peritonitis, shock and death.

CASE DESCRIPTION

A 35-year-old gentleman presented with a three-day of epigastric pain, nausea, vomiting, and no bowel opening. His history revealed that he had blunt left chest trauma three years ago following motor vehicle accident and sustained left pneumothorax, which had been treated by insertion of a left-sided chest tube. Examination revealed that he was in pain with pain score of 10, tachypnoeic, dehydrated, and compensated shock. Respiratory examinations showed a well-healed chest tube scar and a reduced air entry over left lung with borborygmi sounds. Chest x-ray demonstrated an eventration of the left diaphragm and dilated gastric shadow with an air-fluid level with mediastinal shift. Blood gases revealed severe high-anion gap metabolic acidosis with hyperlactatemia. Computed tomography showed left diaphragmatic hernia with whole stomach herniated into the left hemithorax, however no evidence of volvulus reported. On gastroscopic examination, herniated stomach was distended with pangastric ischaemia suggestive of volvulus with strangulation. The patient received fluid resuscitation, nasogastric tube insertion, and antibiotic administration. Despite these efforts, the patient succumbed following a gastroscopic procedure and did not undergo operative intervention.



DISCUSSION

The incidence of occult diaphragmatic hernia in penetrating trauma to the left lower chest is high, at 24%. This case is rather unusual because of the delayed presentation of a missed traumatic diaphragmatic hernia following blunt chest trauma. Borchardt's triad is believed to be diagnostic for acute gastric volvulus that consists of unproductive retching, epigastric pain and distension and the inability to pass a nasogastric tube. The diagnosis of gastric volvulus is made by barium studies with radiological signs of double air-fluid level on upright films. Gastric volvulus should be managed by prompt reduction either by open or laparoscopic surgery.

CONCLUSION

Clinician should have a high index of suspicion of traumatic diaphragmatic hernia which may easily be missed at initial presentation and may present itself with a delayed manifestation of a complication such as gastric volvulus or strangulation.

Williamson JM, et al. Delayed diaphragmatic rupture presenting with acute gastric volvulus. *Ann R Coll Surg Engl.* 2014;96(7):e17-e19.