

CASE REPORT

MULTIMODALITY IMAGING APPROACH FOR THE EARLY DIAGNOSIS BOERHAAVE SYNDROME

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Boerhaave's syndrome is a spontaneous transmural rupture or perforation of the oesophagus or post-emesis oesophageal rupture. Boerhaave's syndrome has a high risk of morbidity and mortality, and early, definitive diagnosis leading to prompt management improves outcomes. Definitive diagnosis of this syndrome is made with imaging, including x-ray, USG and computed tomography Scan. This is a case of a 50-year male with history of sudden onset of epigastric pain after an episode of forceful emesis was referred for Ultrasound (USG) abdomen. His USG examination demonstrated fluid collection with internal free floating and linear echoes in left pleural cavity consistent with hemo-pneumothorax his further imaging workup was done with suspicious of Boerhaave's Syndrome which conformed the suspected diagnosis.

Keywords: Boerhaave's Syndrome; Pneumomediastinum; Oesophagus

J Ayub Med Coll Abbottabad 2017;29(1):157-

INTRODUCTION

Spontaneous oesophageal rupture is a rare but life threatening condition. Boerhaave's syndrome is a spontaneous transmural rupture or perforation of the oesophagus or post-emesis oesophageal rupture. Boerhaave's syndrome has high morbidity and mortality secondary to mediastinal contamination; death occurs in 20–50% of the cases even when properly managed.

Ultrasound is an important diagnostic modality used in emergency cases including trauma, deep vein thrombosis, acute abdomen, and to detect thoracic and soft tissue pathologies.¹⁻³ Here we present an unusual case in which ultrasound examination demonstrated features of hemo-pneumothorax in a patient who presented with sudden post-emetic epigastric pain which led to a diagnosis of Boerhaave's syndrome.

CASE REPORT

A 50-year-old male patient was referred by a clinician for ultrasound abdomen with history of severe epigastric pain after an episode of forceful vomiting.

USG showed large fluid collection with internal free floating and linear echoes in left pleural cavity consistent with hemo-pneumothorax, which raised the suspicious of Boerhaave's Syndrome in current scenario. So, his chest X-Ray was done which showed large left sided hydro-pneumothorax and pneumomediastinum.

For further workup, his CT chest was done which showed obliteration of normal fat planes of mediastinum with multiple gas bubbles running along the sheets of soft tissues, large fluid collection of haemorrhagic attenuation was noted in left pleural cavity with large pneumothorax along apical, anterior and lateral margins of the left hemithorax. Bibasilar consolidations were also noted along with mild right-sided pleural fluid with internal densities suggestive of right mild haemothorax (Figure-1).

Based on history and imaging findings, diagnosis of Boerhaaves syndrome was made. Patient was operated at CMH Multan and intraoperative findings confirmed the diagnosis. A 2–3 cm long complete tear was found at distal oesophagus. The tear was repaired and the pleural blood was aspirated.

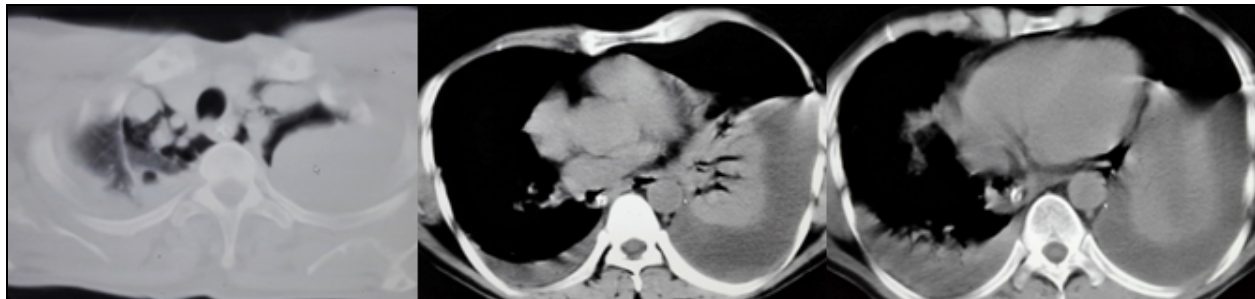


Figure-1: Obliteration of normal fat planes of mediastinum with multiple gas bubbles running along the sheets of soft tissues, large fluid collection of haemorrhagic attenuation in left pleural cavity in keeping with large left hemo pneumothorax.

DISCUSSION

This syndrome was described by Hermann Boerhaave, Professor of Medicine, in one of his publications titled "History of a Grievous Disease in 1724. He actually presented the case of Baron Jan van Wassenaer, an admiral of the Netherland fleet, who developed left sided chest pain after an episode of feast induced vomiting. He died within 24 hours.⁴

Boerhaave syndrome is one of the rare forms of oesophageal rupture. The classic symptoms of Boerhaave's syndrome also known as Mackler's triad, are demonstrated in less than half of the patients; these include: forceful profuse vomiting, acute sharp retrosternal and or epigastric pain, and subcutaneous emphysema in the soft tissues of chest wall, neck, and face.^{4,6} Imaging has vital role in the diagnosis of this syndrome. The major diagnostic tool is the chest radiograph, which has sensitivity of 88% and demonstrates pneumomediastinum, subcutaneous emphysema, pneumothorax, and pleural effusion. Additionally, Barium swallows and CT scan can be used for the definitive diagnosis of Boerhaave's

syndrome.⁶ This condition requires early diagnosis and prompt treatment in order to avoid serious complications and death.

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Received: 11 April, 2016

Revised: 27 November, 2016

Accepted: 5 December, 2016

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