

CASE REPORT

An Uncommon Presentation of Boerhaave's syndrome: A case Report

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ABSTRACT

BACKGROUND AND OBJECTIVES: Although rare, Boerhaave's syndrome can lead to significant morbidity and mortality. It was first described by Herman Boerhaave in 1724. Boerhaave's syndrome is spontaneous transmural perforation of esophagus. Classical presentation is Mackler's triad, consisting of vomiting, lower thoracic pain and subcutaneous emphysema, however this classical triad is rarely found. Other findings are pleural effusion and tachypnoea. Today, Boerhaave's syndrome accounts for approximately 15% of all cases of esophageal rupture.

Key Words : Esophageal perforation, Mediastinitis, Pleural effusion

INTRODUCTION

Boerhaave's syndrome results from sudden increase in esophageal pressure along with negative intra-thoracic pressure. Diagnosis is often delayed, resulting in substantial mortality. Common presentation is in a middle aged male with episodes of repeated vomiting or retching followed by lower chest or upper abdominal pain and subcutaneous emphysema.¹⁻² Chest radiograph is abnormal in 90% of cases and may show evidence of pleural effusion, pneumomediastinum, pneumothorax, hydropneumothorax or subcutaneous emphysema³.

This case report describes a 40 year old man who presented with hydropneumothorax and pleural effusion after an episode of severe vomiting.

CASE REPORT

A 40 year old male presented to our department with complaints of breathlessness and swelling of neck since two days, which started after an episode of severe vomiting. He was a chronic alcoholic since 10 years. On examination, there was subcutaneous emphysema in neck extending to jaw from chest. Chest x ray revealed left sided hydropneumothorax and right sided pleural effusion. The actual diagnosis was delayed because of chest radiograph findings. Intercostal drainage tube was inserted on left side on the day of admission and pleural fluid revealed food particles and fat globules were seen on staining. Hemogram revealed total count of 11,000 and 68% neutrophils. Esophageal rupture was suspected based on these findings. CT thorax was done immediately which showed a focal defect in the lower part of esophagus and

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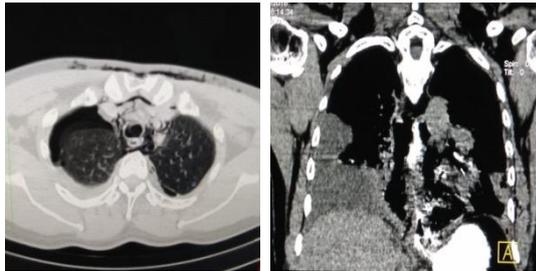
pneumomediastinum associated with spillage of oral contrast in posterior mediastinum, confirming the diagnosis. Following this diagnosis, patient underwent corrective surgery and recovered.

OBSERVATION

Chest x ray



CT thorax



DISCUSSION

The presentation of Boerhaave's syndrome is usually non specific and may mimic many other clinical disorders. It typically occurs after forceful emesis. Common causes of esophageal perforation include medical instrumentation, foreign body ingestion and trauma. The first sign may be subcutaneous emphysema. Boerhaave's syndrome may also be suspected based on mediastinal widening, pneumothorax, hydrothorax, hydropneumothorax, mediastinal shift or subcutaneous emphysema. Clinical picture depends on the level of perforation and the time interval between rupture and presentation of the patient. The mid esophagus lies next to the right pleura while the lower esophagus abuts the left pleura. Once a

perforation occurs, saliva, retained gastric contents, bile and acid enter the mediastinum, resulting in mediastinitis, pleural collections and pneumomediastinum. Initially, the patient presents with pain at the site of perforation usually in the neck, chest, epigastric area or upper abdomen. The first sign may be subcutaneous emphysema.^{4,5} Other early symptoms may include fever, breathlessness, tachycardia, diaphoresis and hypotension. However, these findings are non specific and are due to sepsis from the mediastinitis and pleural collections. In contrast to Mallory weiss tears, hematemesis if present is seldom a significant feature of the presentation⁶ The gold standard for diagnosis is to perform a contrast enhanced esophagogram, initially with water based contrast such as gastrograffin. If this study is negative and the index of suspicion is still high, diluted barium contrast should be performed to confirm the diagnosis and localize the perforation. Tube thoracostomy and drainage of pleural effusions can rapidly diagnose Boerhaave's syndrome. Food particles or biliary contents with pH <6, high amylase content, salivary squamous cells and polymicrobial gram stain or cultures from the pleural fluid are all diagnostic of esophageal perforation. In our case, the diagnosis of esophageal perforation was delayed because of Chest X ray findings of hydropneumothorax and pleural effusion. But, principally a high index of suspicion lead to timely diagnosis. CT scan was done immediately after oral contrast administration which helped in confirming the diagnosis. Management of Boerhaave's syndrome is either surgical or medical. Surgery is the mainstay of treatment. Medical management consists of broad spectrum

antibiotics, intravenous fluids, nasogastric suction, no oral intake and adequate drainage with tube thoracostomy. Early nutritional supplementation is beneficial. Barrett did first successful surgical repair of esophagus in 1947.⁷ Surgical repair within 12 to 24 hours is associated with a mortality rate of 34% while delay of 24 hours is associated with 64% mortality.⁸ Direct repair of the esophageal perforation and adequate drainage of mediastinum and pleural cavity provide best survival rates. Successful therapy depends on the size of perforation, time between perforation and diagnosis, and the underlying health of the patient. In conclusion, spontaneous rupture of the esophagus is the most lethal disease of the gastrointestinal tract. Its diagnosis is usually neglected during the initial assessment. Hence, a high degree of suspicion is essential when hydropneumothorax or pleural effusion presents with subcutaneous emphysema after a bout of severe vomiting. Early diagnosis helped our patient to undergo corrective surgery.

REFERENCES

1. Derbes VJ, Mitchell RE Jr. Hermann Boerhaave's (1) atrocis, nec Descripti priu, morbi Historia; (2) the first translation of the classic case report of rupture of the esophagus, with annotations, Bull Med Libr Assoc, 1955, vol. 43 pg. 217
2. Boerhaave syndrome, Anisha R. Turner, Sherry D. Turner, Stat Pearls, 2017; Apr 19.
3. Han SY, McElvein RB, Aldrete JS, Tishler JM. Perforation of the esophagus: correlation of site and cause with plain film findings. AJR Am J Roentgenol. 1985;145(3):537-40.
4. Eroglu A, Kurkcuoglu C, Karaoğlanoğlu N, Tekinbaş C, Cesur M. Spontaneous esophageal rupture following severe vomiting in pregnancy. Dis Esophagus. 2002;15(3):242-3
5. Di Maggio EM, Preda L, La Fianza A, Dore R, Pallavicini D, Di Maggio G, et al. [Spontaneous rupture of the esophagus (Boerhaave syndrome): computerized tomography diagnosis in atypical clinical presentation] Radiol Med. 1997;94(1-2):52-7
6. Henderson JA, Péloquin AJ. Boerhaave revisited: spontaneous esophageal perforation as a diagnostic masquerader. Am J Med. 1989;86(5):559-67
7. Chu HN, Chang CH, Hui CK, Hui YL. Anesthetic management of Boerhaave's syndrome. Acta Anaesthesiol Taiwan. 2004;42(2):103-6.
8. Janjua KJ. Boerhaave's syndrome. Postgrad Med J. 1997;73(859):265-70.