

## Boerhaave's Syndrome: Presenting with Chest Pain

The Editor,

Sir,

Boerhaave Syndrome or spontaneous oesophageal rupture is a rare, potentially fatal condition (1–3). Patients usually present with pain, dyspnoea and signs of shock after forced vomiting (4). The Meckler triad consisting of vomiting, pain and subcutaneous emphysema is characteristic for Boerhaave Syndrome, although it is observed in only 30–50% of affected patients (5, 6). We present a case report of Boerhaave's syndrome presenting with chest pain after vomiting.

A 47-year-old woman presented to our Emergency Department after sudden, left-sided chest pain after vomiting. On admission, her general status was moderately well. On physical examination, her breath sounds were diminished on the left haemithorax. A chest X-ray taken for diminished breath sounds on the left haemithorax showed pneumothorax and pleural effusion in the left haemithorax (Fig. 1).

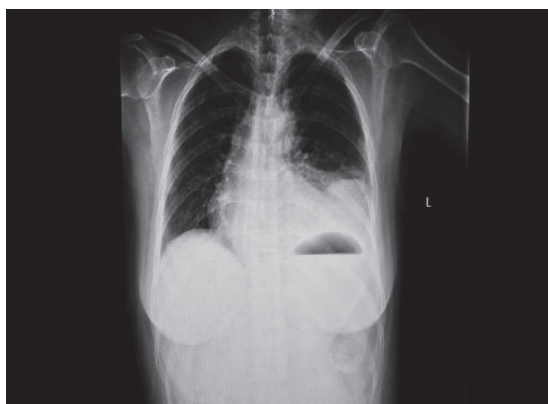


Fig. 1: Chest X-ray: Left haemithorax showed pneumothorax and pleural effusion.

A thoracic computerized tomography (CT) was performed, which showed left-sided pneumothorax, pneumomediastinum, distal paraesophageal air-fluid densities (oesophageal perforation?), bilateral pleural effusion with left predominance and rightward mediastinal shift (Figs. 2A, B).

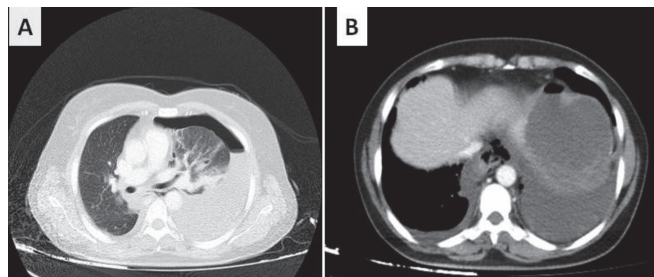


Fig. 2: Thoracic computerized tomography (CT):

A: Showed left-sided pneumothorax, pneumomediastinum, distal paraesophageal air-fluid densities and rightward mediastinal shift.

B: Bilateral pleural effusion with left predominance.

The patient was referred to the Thoracic Surgery Department and a tube thoracostomy was performed. It was immediately noted that gastric contents drained out of the tube (Fig. 3).



Fig. 3: Tube thoracostomy; the gastric content was observed in tube thoracostomy.

Thus, the patient was referred to the General Surgery Department for suspected oesophageal rupture. A fluoroscopy was performed, after which the patient deteriorated and was urgently taken into operation. The distal oesophagus was resected and the patient was transferred to the intensive care unit for postoperative respiratory failure. She also developed fever at follow-up and died on 22<sup>th</sup> day of admission.

Boerhaave syndrome, or spontaneous oesophageal rupture, was first defined by Boerhaave in 1724 (2, 5, 6). The syndrome is usually characterized by chest pain that occurs after forceful vomiting or gagging (6, 7). The initial symptoms first suggest myocardial infarction, spon-

taneous pneumothorax, perforated ulcer, acute pancreatitis, aortic dissection, or pulmonary disease (3, 5, 8, 9). The index patient was admitted to the Emergency Department with chest pain that developed after vomiting.

In our patient, acute coronary syndrome, pneumothorax and haemothorax were considered in the differential diagnosis. The diagnosis of the condition may be considerably delayed owing to not giving consideration to oesophageal perforation or the case may be misdiagnosed as other conditions (4). Chest X-ray usually demonstrates pleural effusion, pneumothorax, hydropneumothorax, pneumoperitoneum and retropneumoperitoneum. Endoscopy can be used for diagnosis in patients who are suspected to have oesophageal rupture but who have negative radiological tests (1).

Thoracentesis or thoracic drainage can also be used to confirm the diagnosis (9). A thoracic CT was obtained in our patient upon detection of pneumothorax and pleural effusion on chest X-Ray. The thorax CT demonstrated signs of oesophageal rupture and the chest tube drained gastric contents; oesophageal perforation was considered in the differential diagnosis and the patient was operated on an urgent basis (8). A delayed diagnosis may confer a substantially increased mortality risk (4). Death usually occurs as a result of infectious mediastinal complications and septic shock (1, 5, 10). Our patient died despite a diagnosis within the first 3–4 hours and urgent surgical intervention.

Oesophageal rupture should be suspected especially in patients presenting to Emergency Departments with chest pain after vomiting. Further tests and imaging should be performed without delay.

**Keywords:** Boerhaave Syndrome, chest pain, diagnosis

*S Bozkurt, İG Ağar, MA Kartal, A Köse, C Ayrik, H Narci*

*From: Emergency Medicine Department, Medical Faculty Mersin University, Turkey.*

*Correspondence: Dr S Bozkurt, Emergency Medicine Department, Medical Faculty Mersin University, Turkey. Email: seyranbozkurt@yahoo.com*

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