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Faculty of Medical Sciences
The University of the West Indies
Mona, Kingston 7
Jamaica, WI

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Dr S Bozkurt
Emergency Medicine Department
Medical Faculty
Mersin University
Turkey

Dear Dr Williams-Phillips,

Your manuscript, number **2014-377** entitled:

"Boerhaave's Syndrome: Presenting with Chest Pain"

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Yours Sincerely,

Adenike Ovundah (Mrs.)
Administrative Editor

Boerhaave's Syndrome; Presenting with Chest Pain

AUTHORS:

1-Seyran Bozkurt MD; Mersin University Medical Faculty, Emergency Medicine Department, Turkey, Mobile: +90 5306020402 , Email: seyranbozkurt@yahoo.com

2- İpek Gülin Ağar MD; Mersin University Medical Faculty, Emergency Medicine Department, Turkey, phone: 03242410000 e-mail: ipek_agarhotmail.com

3- Mehmet Akif Kartal MD; Mersin University Medical Faculty, Emergency Medicine Department, Turkey, phone:03242410000 e- mail : makifkartal@hotmail.com

4- Ataman Köse MD; Mersin University Medical Faculty, Emergency Medicine Department, Turkey Mobile: +90 532 775 05 12, e-mail: ataberk76@yahoo.com

5- Cüneyt Ayrık MD; Mersin University Medical Faculty, Emergency Medicine Department, Turkey, phone:03242410000 e-mail:ayrikc@gmail.com

6-Hüseyin Narcı MD; Mersin University Medical Faculty, Emergency Medicine Department, Turkey, phone:05493053233 e-mail:hsnnarci@gmail.com

Corresponding Author:

Seyran Bozkurt MD;

Mersin University Medical Faculty, Emergency Medicine Department

Email: seyranbozkurt@yahoo.com

Mobile: +90 5306020402

Short title: Boerhaave's Syndrome

Key words: Boerhaave syndrome, chest pain, diagnosis

Boerhaave's Syndrome; Presenting with Chest Pain

The editor,

Boerhaave syndrome or spontaneous esophageal rupture is a rare, potentially fatal condition (1-3). Patients usually present with pain, dyspnea, 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 left hemithorax. A chest X-Ray taken for diminished breath sounds on left hemithorax showed pneumothorax and pleural effusion in left hemithorax (Figure 1). A thoracic computerized tomography (CT) was performed, which showed left-sided pneumothorax, pneumomediastinum, distal paraesophageal air-fluid densities (esophageal perforation?), bilateral pleural effusion with left predominance and rightward mediastinal shift (Figure 2A, B). The patient was consulted with the thoracic surgery department a tube thoracostomy was performed. It was immediately noted that gastric contents drained out of the tube (Figure 3). Thus, the patient was consulted with the general surgery department for suspected esophageal rupture. A fluoroscopy was performed, after which the patient deteriorated and was urgently taken into operation. Distal esophagus was resected in the operation and the patient was transferred to the intensive care unit for postoperative respiratory failure. She also developed fever at follow-up and died on 22th day of admission.

Boerhaave syndrome, or spontaneous esophageal 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, spontaneous pneumothorax, perforated ulcer, acute pancreatitis, aortic dissection, or pulmonary disease (3,5,8,9). Our patient admitted to our emergency department with chest pain that developed after vomiting. In our patient, acute coronary syndrome, pneumothorax and hemothorax were considered in the differential diagnosis. The diagnosis of the condition may be considerably delayed owing to not giving consideration to esophageal perforation or the case is misdiagnosed as other conditions (4). Chest X-Ray usually demonstrates pleural effusion, pneumothorax, hydropneumothorax, pneumoperitoneum, and

retropenumoperitoneum. Endoscopy can be used for diagnosis in patients who are suspected for esophageal 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. As thorax CT demonstrated signs of esophageal rupture and chest tube drained gastric content, esophageal 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 rapid diagnosis within the first 3-4 hours and an urgent surgical intervention.

Esophageal rupture should be suspected especially in patients presenting to emergency department with chest pain after vomiting. Further tests and imaging should be performed without delay.

References

1- Soreide JA, Viste A. Esophageal Perforation: Diagnostic Work-Up And Clinical Decision Making İn The First 24 Hours. Scand J Trauma Resusc Emerg Med 2011; 19: 66.

2- Teh E, Edwards J, Duffy J, Beggs D. Boerhaave's Syndrome: A Review Of Management And Outcome. Interact Cardiovasc Thorac Surg 2007:6; 640–643

3- Tonolini M, Bianco R. Spontaneous Esophageal Perforation (Boerhaave Syndrome): Diagnosis With CT-Esophagography. J Emerg Trauma Shock 2013;6:58-60

4- Zanini G, Pelati A, Racheli M, Virgillo A, Bortolotti M, Pasini GF. Boerhaave's Syndrome-a Difficult Differential Diagnosis Of Chest Pain. Kardiol Pol 2010;689:1040-2

5- Hingston CD, Saayman AG, Frost PJ, Wise MP. Boerhaave's Syndrome-Rapidly Evolving Pleural Effusion; A Radiographic Clue. Minerva Anestesiol 2010;76(10):865-7

6- Xia M, Pustilnik S. Boerhaave Syndrome Resulting From Homicidal Blunt Trauma. Am J Forensic Med Pathol 2014;35:176-177

7- Antonis JHA, Poeze M, Heurn LWEV. Boerhaave's Syndrome İn Children: A Cease Report And Review Of The Literature. J Pediatr Surg 2006; 41:1620– 1623

8- Chirica M, Champault A, Dray X, Sulpice L, Munoz-Bongrand N, Sarfati E et al. Esophageal Perforations. J Visc Surg 2010;147:117-128

9- Suzuki M, Sato N, Matsuda J, Niwa N, Murai K, Yamamoto T et al. A Case Of Rapid Diagnosis Of Boerhaave Syndrome By Thoracic Drainage. J Emerg Med 2012;43(6):419-23.

10- Blencowe NS, Strong S, Hollowood AD. Spontaneous Oesophageal Rupture. BMJ 2013;346:3095

FİGURE LEGENDS

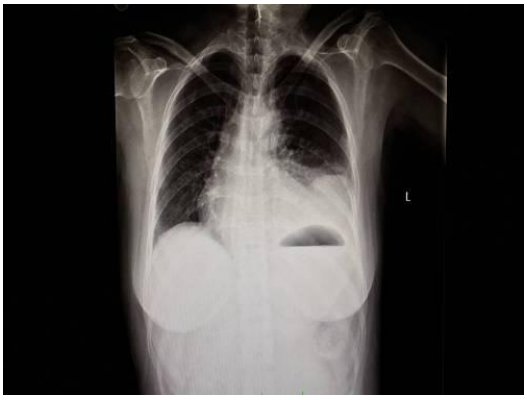

Figure 1: Chest X-Ray; Left hemithorax showed pneumothorax and pleural effusion in left hemithorax.

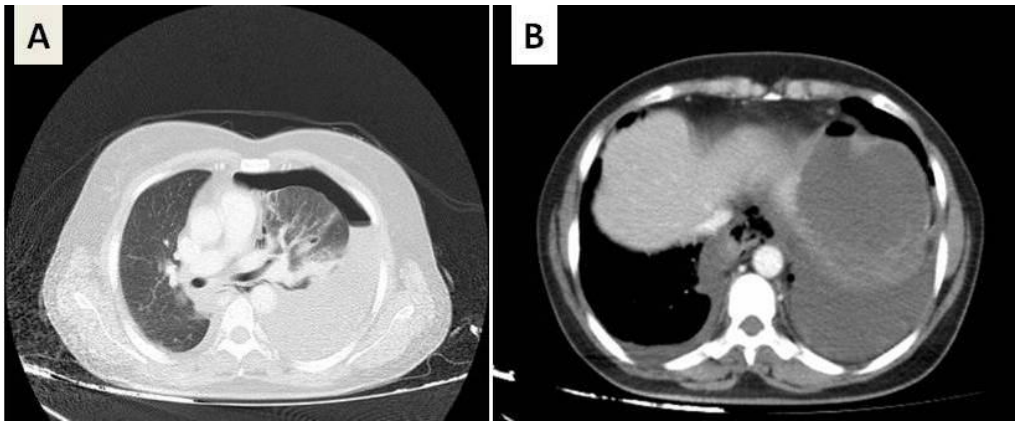

Figure 2: Thoracic computerized tomography (CT): **A**:Showed left-sided pneumothorax, pneumomediastinum, distal paraesophageal air-fluid densities and rightward mediastinal shift, **B**: Bilateral pleural effusion with left predominance

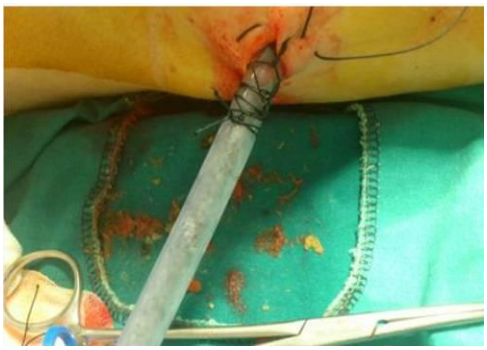

Figure 3: Tube thoracostomy; The gastric content was observed in tube thoracostomy