

## Boerhaave's Syndrome

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**Section:** Abdominal imaging

Case Type: Clinical Cases

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**Patient:** 88 years, female

### Clinical History:

An 88 year old lady presenting with sudden onset of pleuritic chest pain.

### Imaging Findings:

An 88 year old lady presented to hospital with a twelve hour history of sudden onset right-sided pleuritic chest pain and shortness of breath. There was no history of vomiting. On examination she was afebrile and dyspnoeic at rest. She had decreased air entry and an increased percussion note on the right side of her chest. Her oxygen saturation on air was 87% and she was tachycardic and hypotensive. An initial diagnosis of pneumothorax was made and needle aspiration was performed. Clinical suspicions were confirmed by a chest X-ray which showed a large right-sided pneumothorax, but also a small ipsilateral pleural effusion (fig 1a). A chest drain was inserted which led to a clinical improvement (fig 1b). 1100mls of thick green fluid were drained. A provisional diagnosis of empyema was made and intravenous antibiotics and fluids were commenced. Twelve hours later she deteriorated, becoming pyrexial, shocked and hypoxic. Repeat clinical examination revealed wide-spread bilateral coarse crepitations in the chest. An urgent gastrograffin contrast swallow showed a large perforation of the oesophagus approximately 10cm above the gastro-oesophageal junction with free flow of contrast into the right pleural space (fig 2a-c). She was not considered to be fit for theatre and so conservative management was continued. Unfortunately, she died within 12 hours, 36 hours within onset of symptoms.

### Discussion:

Common causes of oesophageal perforation are: 1)trauma (typically following oesophagoscopy or due to a foreign body) 2)spontaneous Boerhaave's syndrome is a rare condition initially described by Boerhaave in 1724. The cardinal symptom is sudden onset of chest pain after vomiting. Most patients present more than 24 hours after the onset of pain (Ref 1). Spillage of gastric contents into the pleural space causes the patient to present with chest or upper abdominal pain radiating to the back and in a state of shock. Most patients have a prior history of dysphagia or odynophagia which should alert the clinician to a possible diagnosis of Boerhaave's syndrome (Ref 2). The primary radiological investigation should be a chest X-ray. 91% of patients with this condition will have an abnormal chest radiograph: 63% have a pleural effusion; 46% have a pneumomediastinum and 37% have subcutaneous emphysema (Ref 3). If these signs or a pneumo/hydrothorax are noted then an oesophageal contrast study should be performed (Ref 4). Early diagnosis is crucial: morbidity and mortality is significantly increased if surgical repair and drainage is delayed beyond 72 hours. The prognosis is also related to the degree of respiratory failure and to the amount of contamination of the mediastinum (Ref 3). Most studies advocate early surgical treatment by primary sutured closure with soft tissue reinforcement and mediastinal irrigation (Ref 1), although early conservative treatment has been demonstrated to give morbidity and mortality results that equal those achieved by patients undergoing surgery (Ref 5).

**Differential Diagnosis List:** Boerhaave's Syndrome

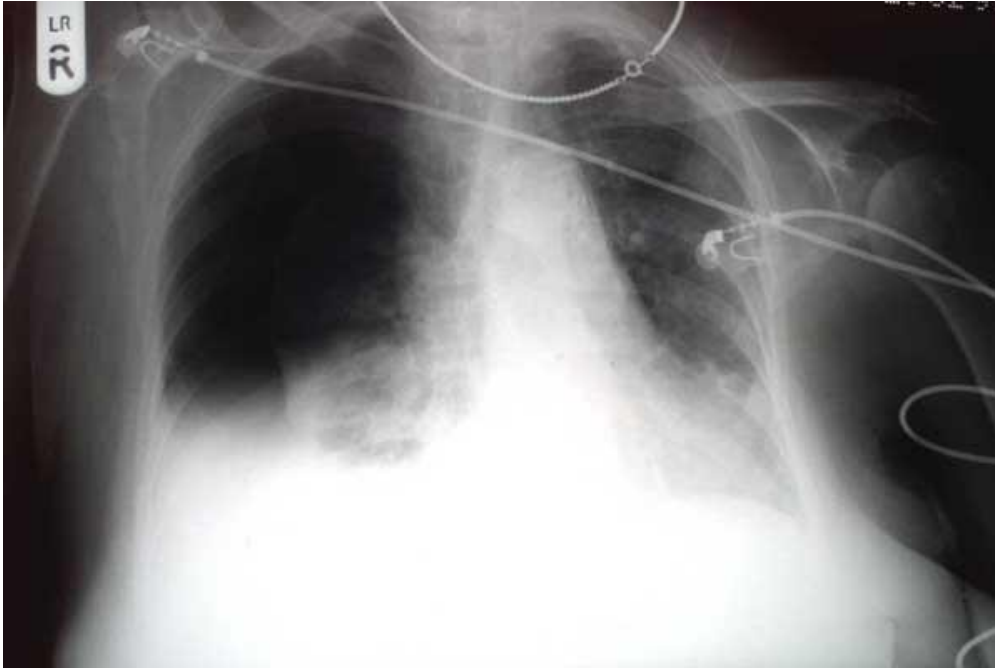
**Final Diagnosis:** Boerhaave's Syndrome

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**Figure 1**

**a**



**Description:** On admission: a right-sided pneumothorax and pleural effusion visible. **Origin:**

**b**



**Description:** Following insertion of chest drain **Origin:**

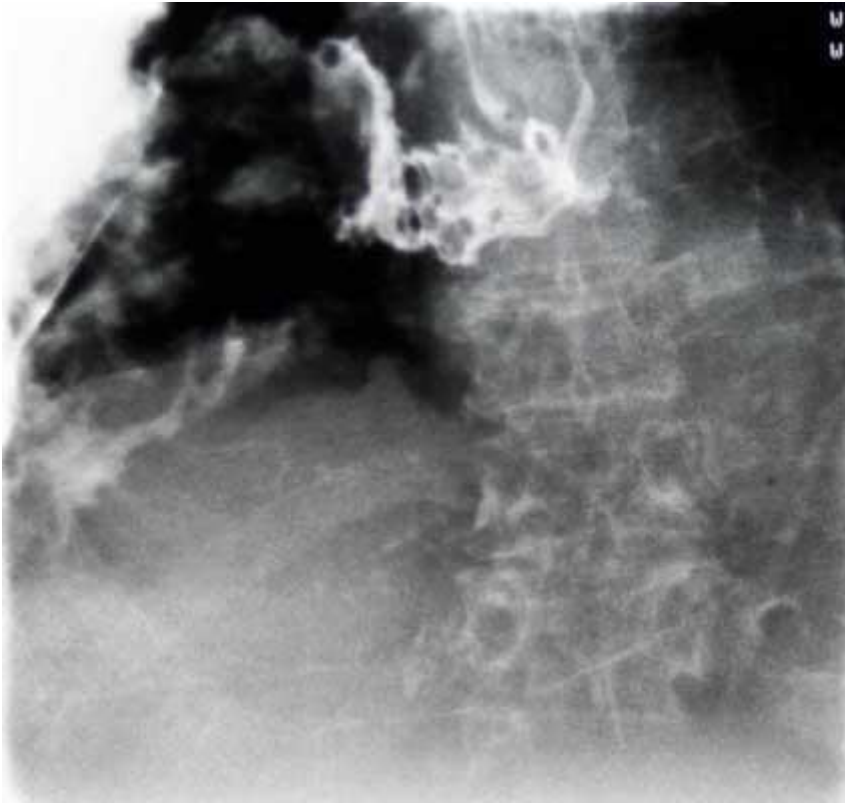
**Figure 2**

a



**Description:** The contrast study series shows free leakage of contrast into the pleural cavity. **Origin:**

**b**



**Description: Origin:**

**c**



**Description: Origin:**