The Case

A 75 year old male presented to the Emergency department (ED) with acute onset right sided pleuritic chest pain and shortness of breath.

Initial observations:
RR 16, sats 92% on RA, BP 96/65, HR 78, temp 35.5
In ED a CXR revealed a small right sided pneumothorax (Fig. 1). So consequently a pleural aspiration was carried out, with 370mls of air aspirated.
A repeat CXR showed no resolution of pneumothorax and the patient was still in a lot of discomfort so a chest drain was inserted.

Acute Medicine

The patient was transferred to the acute medical unit, where it was noted that his chest drain contained 600mls of black/brown liquid.
On review of the history, the patient reported vomiting and retching prior to the onset of severe chest pain, making oesophageal rupture the main differential diagnosis.
An urgent CT scan was requested. This was reported as a large right sided haemothorax of uncertain origin. (Fig. 2).
The report stated that the chest drain was not in a position to drain the haemothorax. We were advised to insert a further posterior chest drain. This was not in keeping with the clinical picture and therefore not undertaken.

A high index of clinical suspicion

The suspicion of oesophageal rupture remained despite the CT report.
This led to a second CT scan, on the same day, with oral contrast which demonstrated a spontaneous oesophageal perforation (Fig. 3).
The patient was urgently taken to theatre for an emergency thoracotomy with T-tube insertion and post operatively was cared for on intensive care.

Boerhaave’s syndrome

Was first described by Dr Herman Boerhaave, a physician from The Netherlands. In most cases the tear occurs at the posterolateral aspect of the distal oesophagus.

Clinical manifestations:
Classically severe retching and vomiting is followed by excruciating retrosternal chest and upper abdominal pain.

Investigation & Diagnosis
CXR is almost always abnormal with mediastinal or free peritoneal air seen. Diagnosis is confirmed with CT imaging.

Treatment
Surgery is required for thoracic perforations. Conservative management can be considered in contained perforations with NG suction, IV antibiotics and parenteral nutrition.

Discussion
The was a difficult case as oesophageal ruptures are left sided and the chest drain decompressed the air delaying the diagnosis, confidence in the clinical history was key.
The case highlighted many key learning points:
1. The importance of an accurate history.
2. Radiological imaging should be correlated to the history and clinical findings.
3. Radiology requests need accurate information including the need for contrast.
4. A second opinion should be sought if clinical suspicion remains high or unusual features present.

Oesophageal Rupture
Also known as Boerhaave’s syndrome, is a spontaneous perforation of the oesophagus due to a sudden increase in intraoesophageal pressure combined with negative intrathoracic pressure caused by straining or vomiting.

References
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Fig. 1: CXR on admission

Fig. 2: CT scan without contrast

Fig. 3: CT with contrast