

## Aortopulmonary Fistula

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**Section:** Cardiovascular

Case Type: Clinical Cases

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**Patient:** 55 years, female

### Clinical History:

A 55 year old female patient presented to the accidents and emergency department with sudden onset of haemoptysis.

### Imaging Findings:

A 55 year old female presented to the accident and emergency department with sudden onset of severe haemoptysis. Her past medical history included a road traffic accident 10 years ago during which she sustained injury to left side of her chest and traumatic injury to the aorta. At that time, she underwent surgery where the aortic arch was repaired with synthetic graft. There was no other significant past medical history to note and she was not on any regular medications. Her family history was unremarkable. She was a heavy smoker, but had no history of excessive alcohol use or binge drinking.

Upon arrival, she was coughing up a large amount of fresh blood and her GCS was 5. She was hypotensive, tachycardiac, hypoxic and severely acidotic. She was intubated and ventilated and was resuscitated accordingly. Her chest radiograph and CT scan was urgently arranged (see images) and she was immediately transferred to tertiary care centre via air ambulance where she had emergency aortopulmonary fistula repair. Unfortunately she did not recover post-operatively.

### Discussion:

The aortopulmonary fistula is a rare disorder with very high mortality if not promptly surgically treated. The most common aetiology reported for aortopulmonary fistulas is erosion and/or rupture of a degenerative or false aneurysm of the distal aortic arch or descending thoracic aorta into the lung [2, 3, 4]. An aortic false aneurysm may occur as a complication of a true aneurysm, infectious aortitis, aortic dissection, traumatic aortic tear, or aortic suture line breakdown. Rarely, an indwelling chest tube, spinal fixation device, or some other foreign body has been the inciting factor [3].

The most frequent symptoms of an aortopulmonary fistula are chest pain and haemoptysis. Haemoptysis is characteristically intermittent or recurrent. The hemoptysis is a result of leakage of false aneurysm or contained haematoma into the bronchopulmonary tree. Most of the times, it is difficult to predict the pattern of haemoptysis but usually results in a fatal hemorrhage into the lung, though the false aneurysm can rupture with exsanguination into the pleural space [3, 4].

It is pertinent to take detailed history of any previous thoracic injury and aortic surgical procedure. Chest radiography/CT scans confirm the diagnosis of an aortic aneurysm and/or pulmonary infiltrates.

Once the diagnosis is confirmed, prompt surgical intervention is indicated [4]. The first successful repair of an aortopulmonary fistula was reported in 1947 [5]. Recently, successful management using an intra-aortic stent/graft

has been reported [6,7].

**Differential Diagnosis List:** Aortopulmonary Fistula

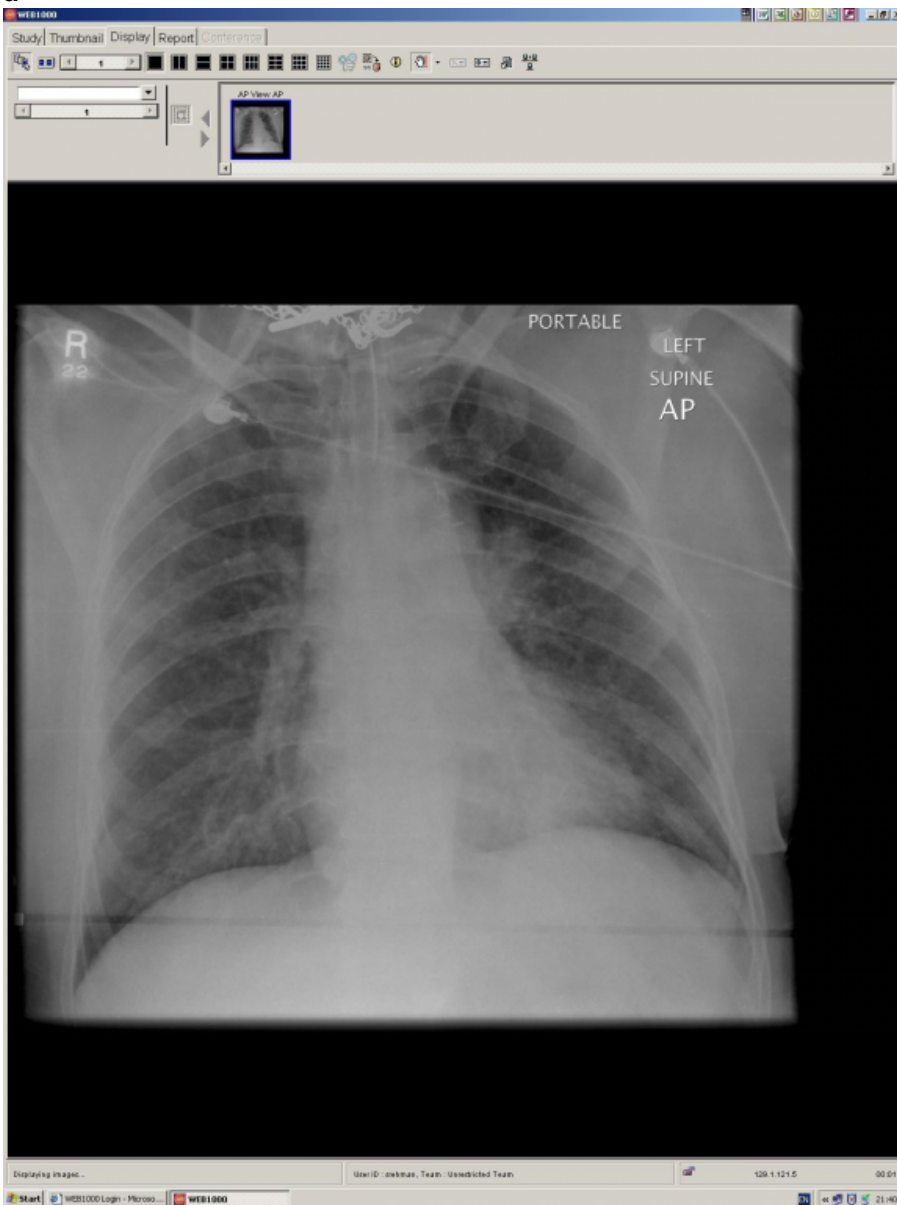
**Final Diagnosis:** Aortopulmonary Fistula

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**Figure 1**

**a**



**Description:** Chest Xray showed endotracheal tube in situ, surgical clips in relation to previous aortic arch repair and bilateral patchy opacities in both lungs. **Origin:**

**Figure 2**

**a**



**Description:** Aortopulmonary fistula/late false aneurysm on the lateral and postero-lateral aspect of the aorta at the distal anastomosis of thoracic graft involving the apical segment of left lower lobe. **Origin:**

**b**



**Description:** Lateral image of CT Chest with late false aneurysm of thoracic aorta. **Origin:**

C



**Description:** Bibasilar widespread ground glass changes secondary to aspiration of blood, suggestive of early ARDS. **Origin:**