



Medical Imagery

## Acute Aortic Aneurysm Rupture: A Fatal Condition at Emergency Department

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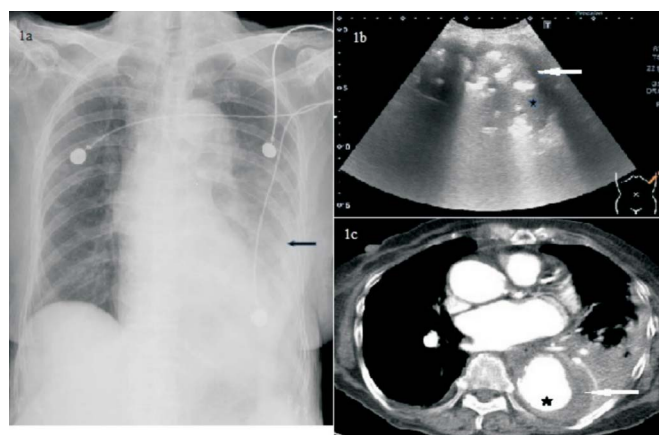
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A 95-year-old woman with a medical history of hypertension and chronic atrial fibrillation presented to the emergency department because of a cough with hemoptysis and progressive dyspnea for a few days. Upon presentation, she was fully conscious with a body temperature of 37.8 °C, pulse rate of 82 beats per minute, blood pressure of 124/60 mmHg, and room air saturation of 98%. On physical examination, her breath sound was coarse while the abdomen was soft without tenderness. Chest X-ray revealed left lower lung field opacity (Figure 1a).

Point-of-care ultrasound (POCUS) was promptly performed on a heterogeneous and hyperechoic lesion (Figure 1b), the potential differential diagnosis were lung tumor, empyema, esophageal rupture, hemothorax or left pulmonary arteriovenous malformation. Contrast tomography showed descending thoracic aorta aneurysm (TAA) rupture with a transverse diameter of approximately 5.3 cm (Figure 1c). Adjacent hemothorax were present. The patient then underwent endografting for thoracic aorta.

After completing an eight-week course of antibiotics, the patient recovered well and was discharged with tracheostomy. TAAs have an estimated incidence of at least 5–10 per 100,000 person-years.<sup>1</sup> TAA rupture has very high morbidity and mortality rates. Therefore, early detection is crucial. For TAAs, mean rate of rupture or dissection was 3% per year for those measuring 5.0–5.9 cm.<sup>2</sup> Once an aortic aneurysm has ruptured, emergent surgical intervention is usually indicated. It requires a high index of suspicion by the emergency physician and the liberal use of POCUS to make a timely diagnosis of the aortic aneurysm rupture.



**Figure 1.** (a) Plain radiograph showing radiopaque lesion in left lower lung field (arrow) with obscured left hemidiaphragm. (b) Point-of-care ultrasound over the lateral side of the left thorax wall demonstrating a heterogeneous and hyperechoic lesion (arrow) in the left lung (star). (c) Computed tomography demonstrating a ruptured aneurysm (arrow) in the descending aorta (star).

### Declaration of any potential financial and non-financial conflicts of interest

There is no financial support or conflicts of interest to declare.

### References

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