Massive Pulmonary Embolism in high bleeding risk patient - Thrombolyse or not to Thrombolyse?

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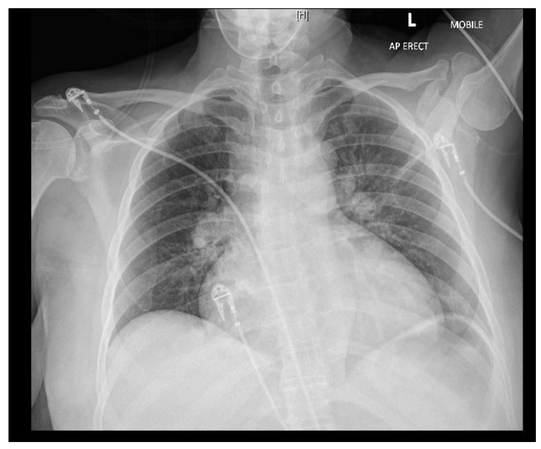
BACKGROUND

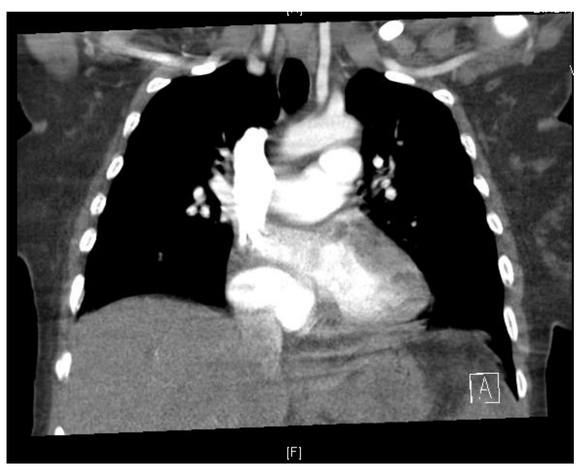
- Pulmonary embolism (PE) is an acute and potentially fatal condition in which the embolic material, usually a thrombus originating from one of the deep veins of the legs or pelvis, blocks one or more pulmonary arteries. This causes impaired blood flow and increased pressure to the right cardiac ventricle.
- Massive PE with right heart failure is a life-threatening condition which requires urgent treatment with anticoagulants or even thrombolysis. However, these drugs are contraindicated after a recent haemorrhagic episode, as they may induce further haemorrhage. There are no straightforward guidelines for treatment in these circumstances.
- Here, we are going to discuss two cases of massive PE with severe bleeding risk presenting at the William Harvey Hospital in Ashford, Kent.

CASE 1

- 51 old lady admitted under the gynaecology team with collapse, PV bleeding and low Hb (47).
- She was previously diagnosed with endometrial carcinoma but declined surgical intervention (total hysterectomy) to preserve fertility.
- She was transfused 2 units of packed RBCs and then self discharged against medical advice.
- She subsequently represented to ED the following day with severe SOB.
- <u>O/E:</u> Hypotensive, tachycardic and hypoxic, requiring 35% O_2 via venturi mask to maintain saturation > 90%.
- <u>Investigations:</u>
- ABG: T1RF
- ECG: sinus tachycardia
- Bloods: Hb 64



- CTPA (urgent): multiple small thrombi in the pulmonary arteries
  bilaterally with dilated right heart chambers in keeping with right ventricular strain.



- Patient initiated on anticoagulation.
- She was reviewed by the gynaecology team who advised that the patient would require an emergency hysterectomy in the event of catastrophic bleeding.
- The patient continued to deteriorate and a decision to thrombolyse was made.
- Following thrombolysis, the patient was transferred to CCU for monitoring.
- Unfortunately, the patient suffered a fatal cardiac arrest.

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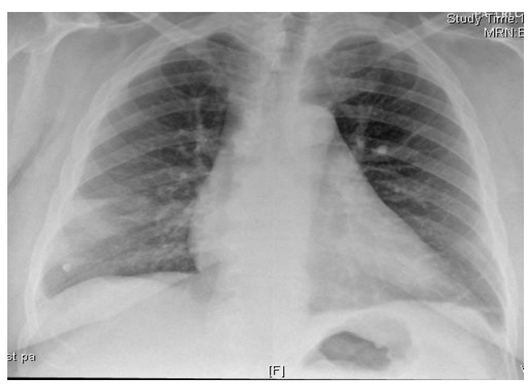
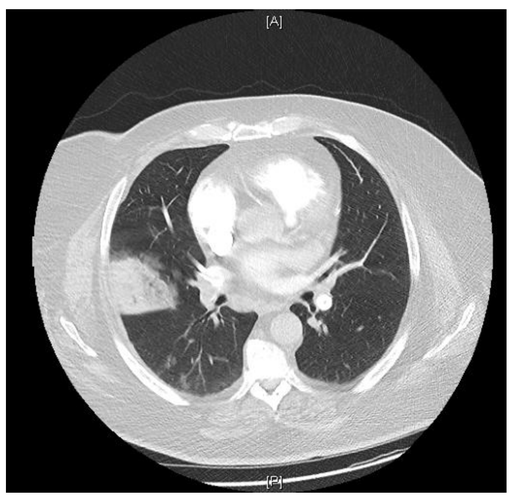
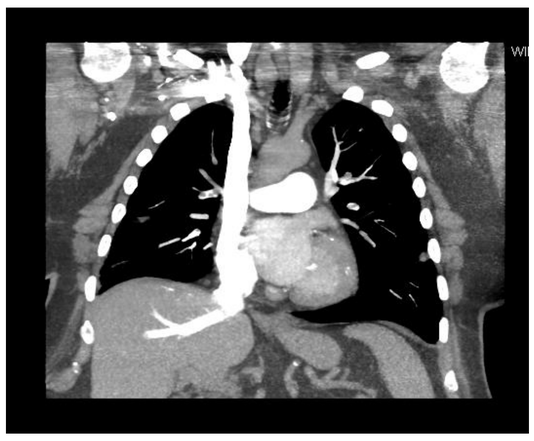
CASE 2

- 68-year-old gentleman brought to the ED with worsening SOB and new onset AF with fast VR.
- Background: RCC with pulmonary and brain metastasis. ECOG performance status of 2. Currently awaiting neurosurgical opinion regarding recent MRI findings of solitary hemorrhagic metastasis following an acute frontal bleed around 3 months prior. He was treated with Pazopanib and previously underwent a right radial nephrectomy.
- O/E: Tachycardic and hypoxic.
- Investigations:
- CXR: right sided wedged shaped infarct



- ECG: AF with fast VR
- CTPA(urgent): extensive B/L pulmonary embolism with evidence of right heart strain.





- PESI Score: 157
- HAS-BLED: 13
- Haematology team advised against thrombolysis given history of recent intracranial bleed.

- Subsequently, he was treated with 0.75mg/kg (100mg) enoxaparin BD followed by an IVC filter as advised by haematology. His anti factor Xa levels were within target range indicating that the dose of enoxaparin was adequate.
- One month after starting anticoagulation, he developed a rectus sheath haematoma and so his enoxaparin dose was reduced to 40 mg BD
- Due to patient convenience, he was later switched to apixaban 2.5 mg BD.
- Unfortunately, after 3 months of the initial event, he suffered a fatal cardiac arrest.

DISCUSSION

- Despite several guidelines existing, the management of PE can be difficult in challenging scenarios, especially when there is a history of bleeding with massive or sub-massive PE.
- Age (>65 years) and female gender could be associated with higher rates of intracranial bleeding.
- The initial weeks of anticoagulation treatment are associated with the highest incidences of bleeding in anticoagulation-naive patients. There is a twofold increase in incidence in the first 3 months of anticoagulation than during long-term treatment.

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