

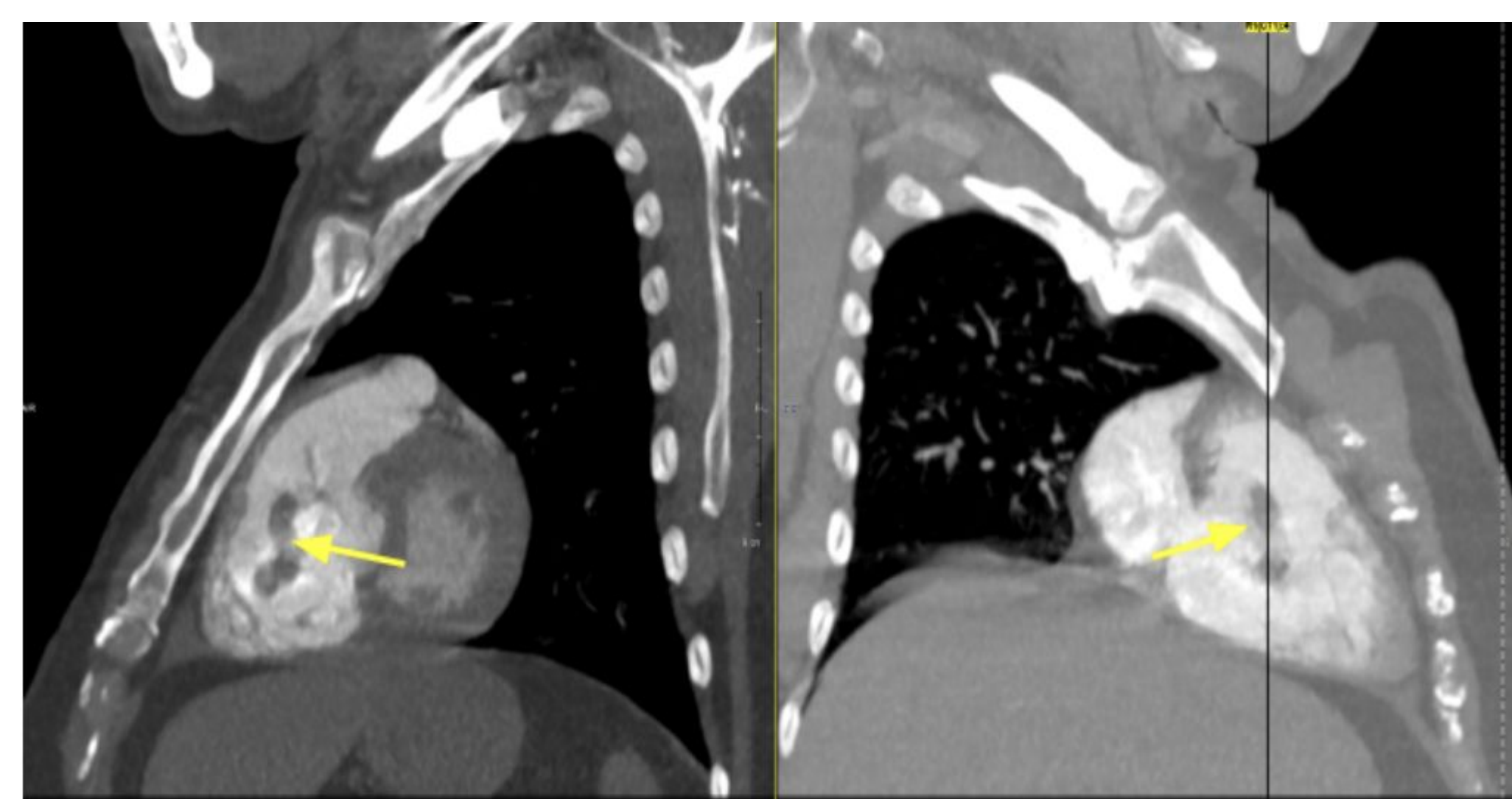
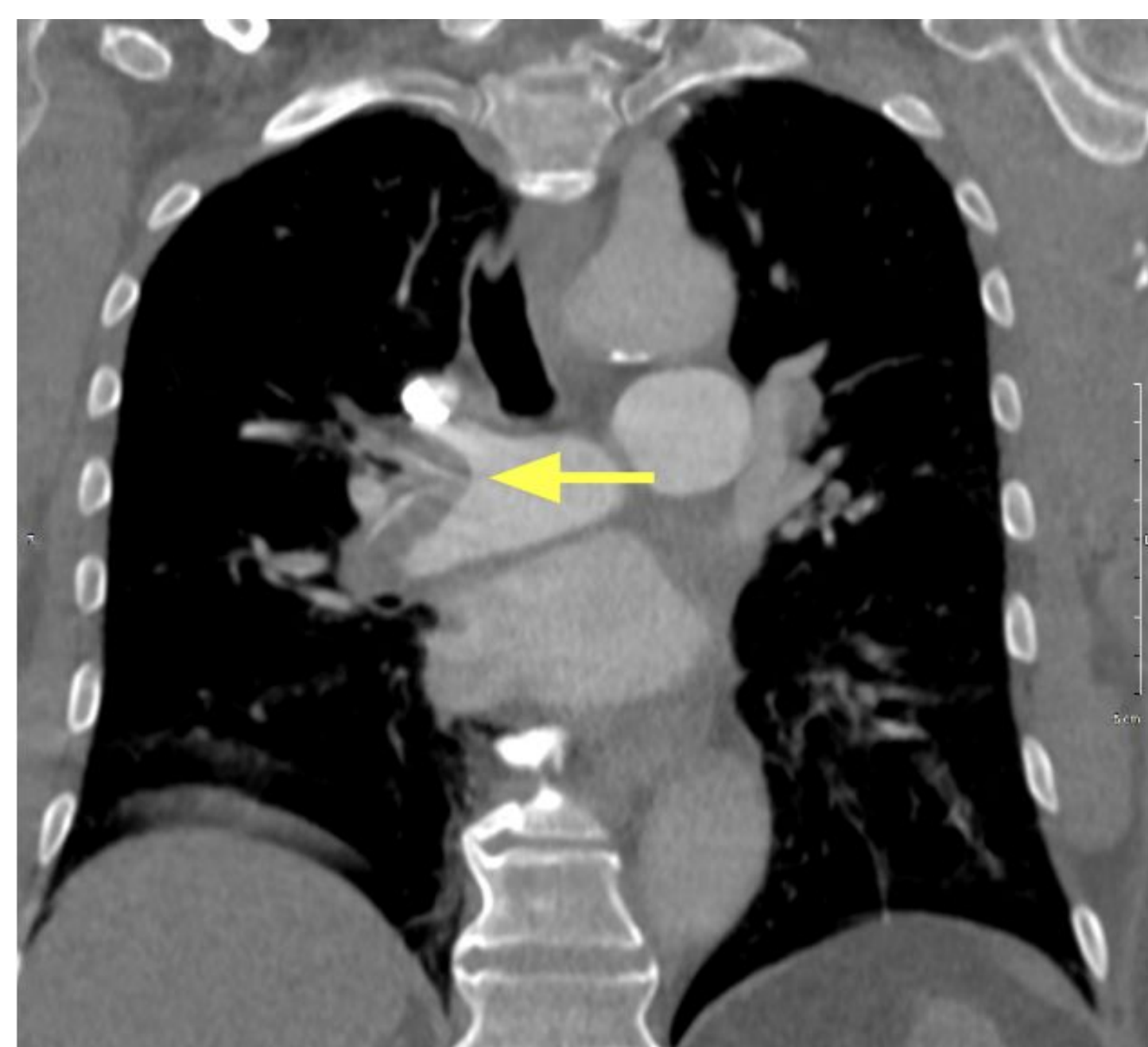
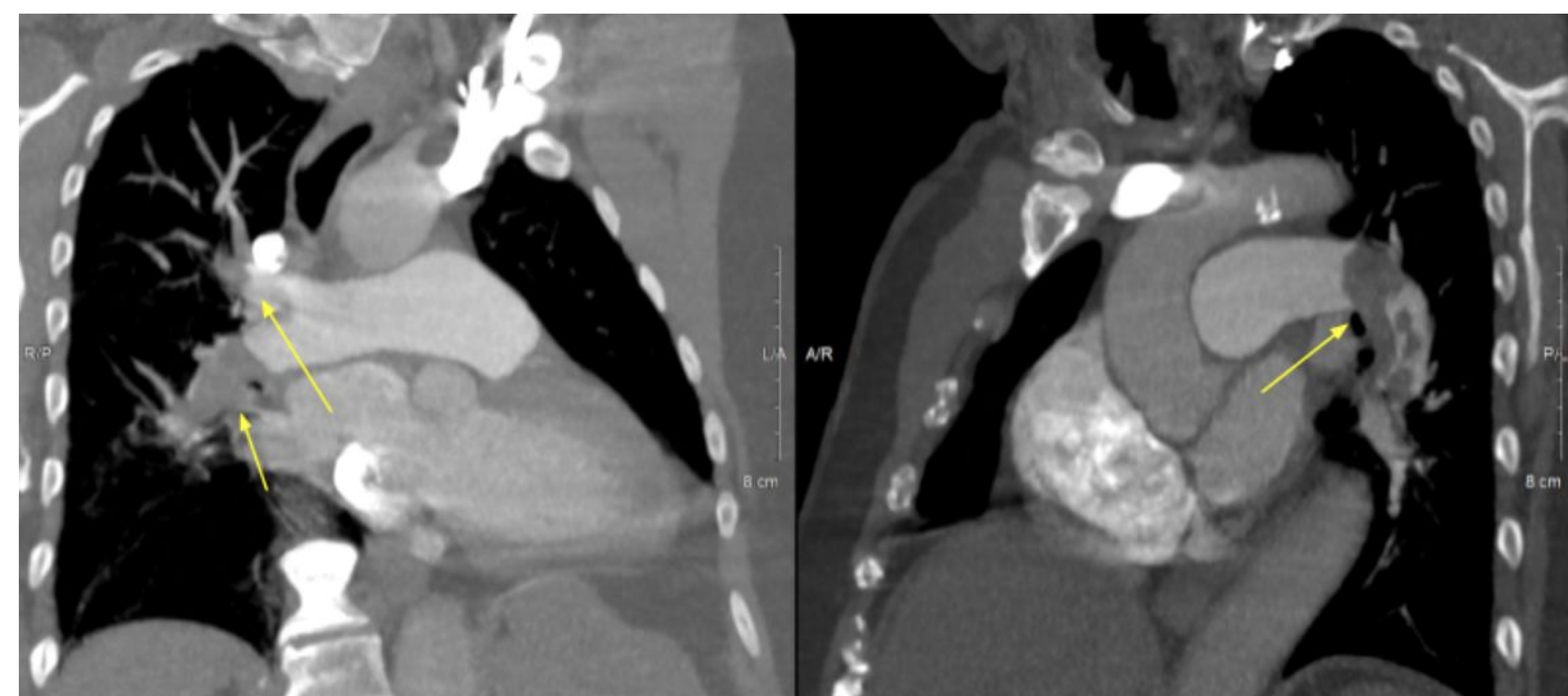
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INTRODUCTION

- Pulmonary embolism (PE) is the third most common cause of cardiovascular death.¹
- Management of submassive-massive PE with the use of mechanical thrombectomy is rapidly evolving
- Experts have reported a 10-fold increase in catheter-based therapy (CBT) for PE from 2004 to 2016.²
- With the rapid rise, it is imperative to report complications that arise from CBT and mechanical thrombectomy.
- We report a case of a **73-year-old male who was found to have an acute submassive pulmonary embolism who underwent percutaneous mechanical thrombectomy, resulting in life-threatening focal alveolar hemorrhage.**

Pre-Procedure

- Patient presented to the Emergency Department with **acute altered mental status and visual hallucinations.** Found on the floor at home, unknown when patient had fallen.
- Past Medical History: prostate cancer, severe obesity, untreated diabetes mellitus type 2.
- Vitals - HR 114 bpm, RR 28 bpm, O2 saturation 93% on room air
- Imaging:
 - CXR: Mild cardiomegaly and pulmonary congestion
 - Head CT: no acute intracranial bleed
- **2 Hours Later:** Patient was given fluids and became more oriented, started to complain of substernal chest pain and shortness of breath.
- EKG and cardiac biomarkers ruled out acute coronary syndrome.
- Patient acutely worsened unable to wean from oxygen
- **CT-PE: Bilateral extensive pulmonary embolisms,** right ventricular thrombus, and significant right heart strain.



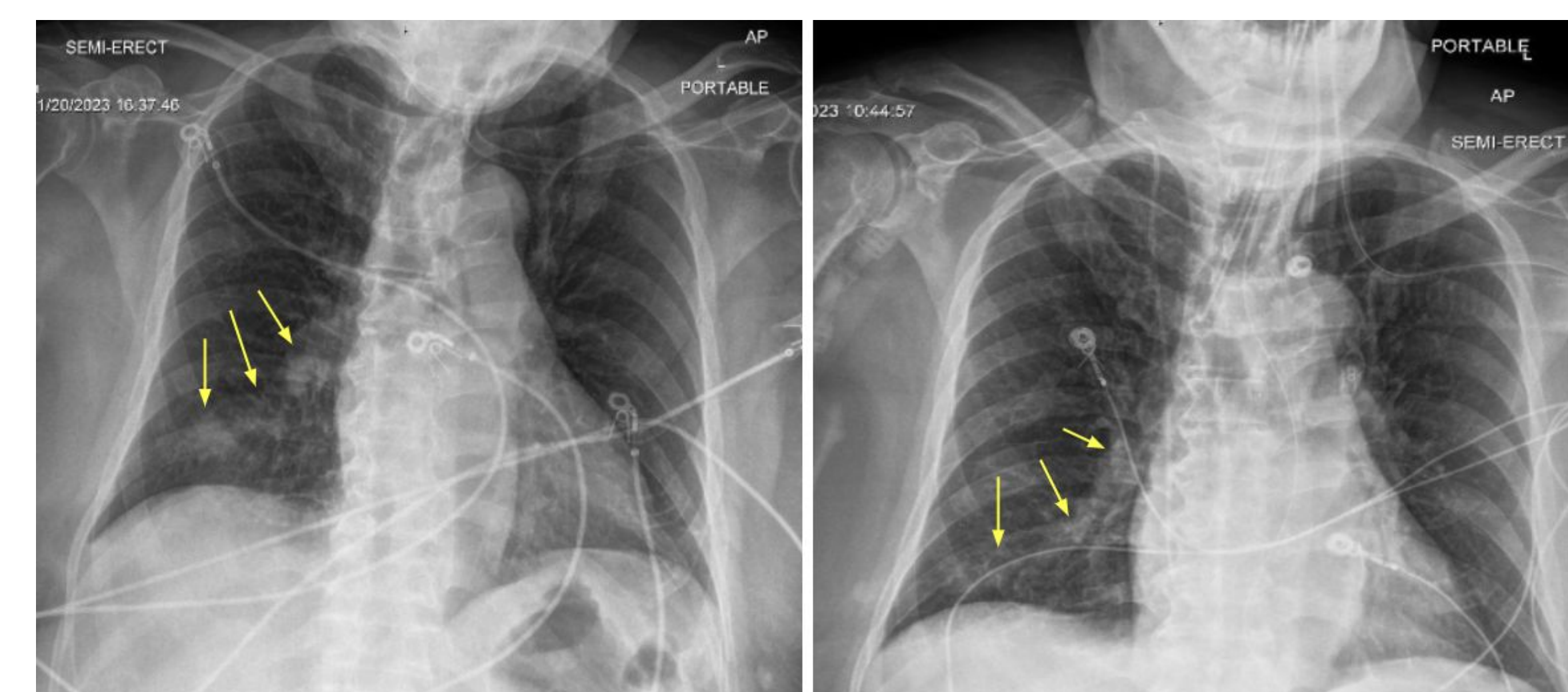
Procedure:

- PERT Team was activated and patient immediately started on IV anticoagulation.
- Significant right heart strain met criteria for percutaneous mechanical thrombectomy.
- Patient underwent percutaneous mechanical thrombectomy using INARI FlowTrievers. Results shown below.
- Post-thrombectomy angiogram yielded successful patency.



Post-Procedure Complication

- **In recovery patient acutely developed hemoptysis and became severely hypoxic requiring intubation.**
- Suctioning of the ET tube produced 100 cc of bright red blood.
- Bedside chest X-ray showed focal opacity in right lower lung field. Results shown below.
- Patient's IV anticoagulation was promptly discontinued.
- Monitored in ICU overnight with bloody sputum in ET tube.
- **It was determined the patient's acute respiratory failure was most likely due to pulmonary reperfusion injury resulting in alveolar hemorrhage.**
- Transthoracic echocardiogram showed normal LV function with no further evidence of intracardiac thrombus.
- Patient extubated 2 days later to 6L NC oxygen, transferred out of ICU after 3 days with significant respiratory improvement.



Discussion and Conclusion

- Literature supports the use of catheter-based therapy (CBT) for faster RV strain relief and hemodynamic stability compared to systemic anticoagulation for treatment of PE.³
- Despite advantages, CBT is known to cause pulmonary reperfusion injury from dramatic improvement in blood flow.
- In rare instances, injury can cause endothelial damage, resulting in focal alveolar hemorrhage as shown here.
- Other diagnosis that were considered included iatrogenic vascular perforation, vascular injury, and pneumonia.
- Cath angiogram was carefully reviewed with no evidence of intraprocedural complication.
- In the event of this complication, prompt recognition, discontinuation of anticoagulation, and high oxygen is needed.

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