Right Ventricular Clot-in-Transit With Intraprocedural Embolization During Mechanical Thrombectomy

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Background

Right-heart thrombus accompanying acute pulmonary embolism (PE) is associated with increased short-term mortality.[1]

A mobile clot-in-transit can change location before intervention.

Case Presentation

57-year-old man with stage IIIB rectal adenocarcinoma receiving FOLFIRINOX.

Calf tightness preceded sudden dyspnea and near-syncope.

Initial Assessment

Blood pressure	**88/64 mm Hg**
Heart rate	**122 beats/min**
Oxygen saturation	**87% on room air**

Investigations

CT pulmonary angiography: bilateral PE, small saddle embolus, and RV/LV ratio >1.

Ultrasound: mobile RV thrombus with RV enlargement and McConnell's sign. Doppler: bilateral deep vein thrombosis.

Management

IV unfractionated heparin and urgent Pulmonary Embolism Response Team assessment.

The team selected catheter-based reperfusion to remove thrombus while avoiding thrombolytics.

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Imaging and Intervention

A. Initial RV clot-in-transit



Bedside point-of-care ultrasound identified a large mobile RV thrombus.

B. Interval clot disappearance



Repeat intracardiac echocardiography (ICE) showed disappearance of the RV thrombus.

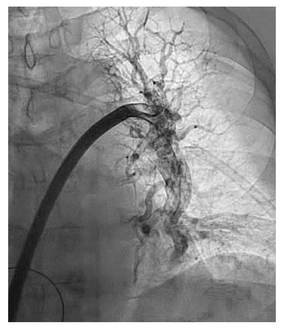
During preparation, the RV clot disappeared on ICE. Angiography then showed increased bilateral pulmonary thrombus burden, prompting pulmonary artery thrombectomy.

C. Right pulmonary artery



Selective right pulmonary angiography during thrombectomy.

D. Left pulmonary artery



Selective left pulmonary angiography during thrombectomy.

E. Retrieved thrombus



Clot retrieved using 24-F and 20-F FlowTriever catheters.

Outcome and Follow-up

Immediately: symptoms and oxygenation improved without vasopressors or thrombolytics.

48 hours: echocardiography showed normal RV size and function with no recurrent thrombus.

Discharged on apixaban. At 3 weeks, no dyspnea or bleeding and normal ambulation. Chemotherapy resumed.

Discussion

Clot disappearance on intracardiac echocardiography (ICE) and increased pulmonary arterial clot burden supported suspected embolization. Direct migration could not be definitively proven.

Mechanical thrombectomy avoided thrombolytic exposure in this patient with active malignancy. PE studies support feasibility, but comparative evidence for clot-in-transit remains limited.[2,3]

Conclusion

Repeat imaging can identify a changing target immediately before thrombectomy. In this case, the team redirected treatment to the pulmonary arteries and achieved recovery without thrombolysis.

A single case cannot establish comparative efficacy or safety.

References

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