Rare case of a large intracardiac serpiginous thrombus

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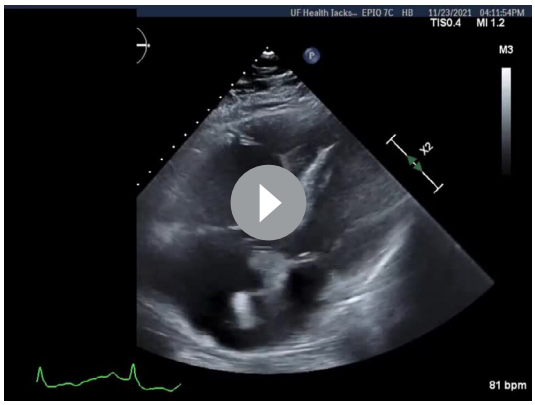
DESCRIPTION

A man in his 50s presented to us with worsening fatigue and shortness of breath for 1 month. He recently underwent orthopaedics surgery and has been less active compared with baseline. Upon arrival, he was in obvious respiratory distress. Vital signs at the time showed blood pressure of 104/76 mm Hg, pulse rate of 90 beats per minute and pulse saturation of 92% on room air. The rest of the physical examination is unremarkable. The patient was put on 4 L of nasal cannula with symptomatic improvement. CT showed bilateral subsegmental pulmonary embolism (figure 1). Transthoracic echocardiogram (TTE) revealed a large serpiginous thrombus measuring at least 8 cm in the right atrium, intermittently protruding into the right ventricle (RV) along with severe RV dysfunction (figure 2A, video 1).

The patient was initially evaluated for a thrombectomy, but it was ultimately deferred due to the high motility of his intracardiac clot. We were worried that even gentle manipulation of the thrombus could possibly lead to secondary embolism. Although he was haemodynamically stable at the time, we decided to administer 50 mg of intravenous systemic tissue plasminogen activator (tPA) infused over 2 hours due to the great embolic potential of his clot. Repeat



Video 1 Off-axis apical four-chamber view showing a large serpiginous thrombus bouncing between the right atrium and right ventricle

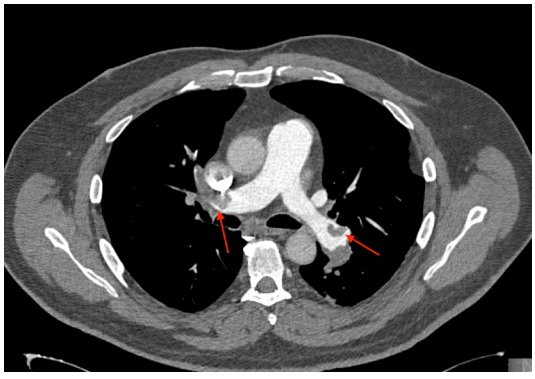
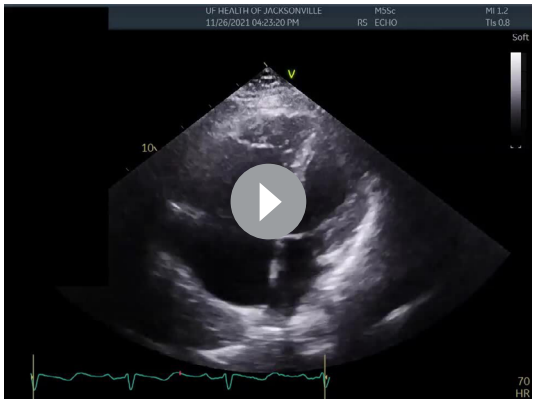


Figure 1 CT angiography of the chest showing bilateral subsegmental pulmonary embolism (red arrow).



Video 2 Off-axis apical four-chamber view taking 48 hours after tissue plasminogen activator administration showing complete resolution of the thrombus

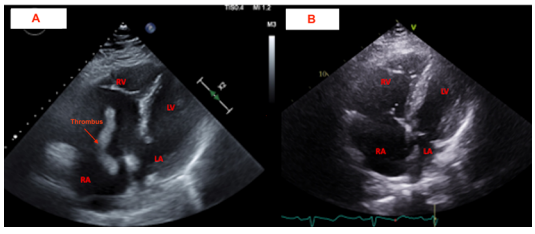


Figure 2 (A) Off-axis apical four-chamber view showing a serpiginous clot between the right atrium (RA) and right ventricle (RV). (B) Complete resolution of the clot after administration of tissue plasminogen activator. LA, left atrium; LV, left ventricle.

Learning points

- Choosing the correct treatment modality in patients with intracardiac thrombus (eg, systemic thrombolytics, thrombectomy).
- Recognising possible fatal complications associated with a highly mobile intracardiac clot.
- The use of transthoracic echocardiography in thromboembolic disease can be lifesaving.

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TTE 48 hours after tPA administration showed complete resolution of the clot (figure 2B, video 2). The patient also reported symptomatic relief without any further clinical deterioration. The patient was discharged with rivaroxaban after 5 days of hospital stay. This case provides striking TTE image and video of an exceptionally rare serpiginous clot moving freely between two cardiac chambers. It demonstrated that transthoracic echocardiography remains a valuable diagnostic modality for evaluation in thromboembolic disease and with timely use can be lifesaving.

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Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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