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IMAGES IN EMERGENCY MEDICINE

Resuscitation

Elderly woman with shortness of breath

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1 | CASE REPORT

A 71-year-old female on apixaban for paroxysmal atrial fibrillation presented to the emergency department with 1 week of worsening dyspnea on exertion and fatigue. She was initially tachycardic and in respiratory distress. Point-of-care echocardiography was promptly performed (Figures 1 and 2) and provided a presumptive diagnosis.

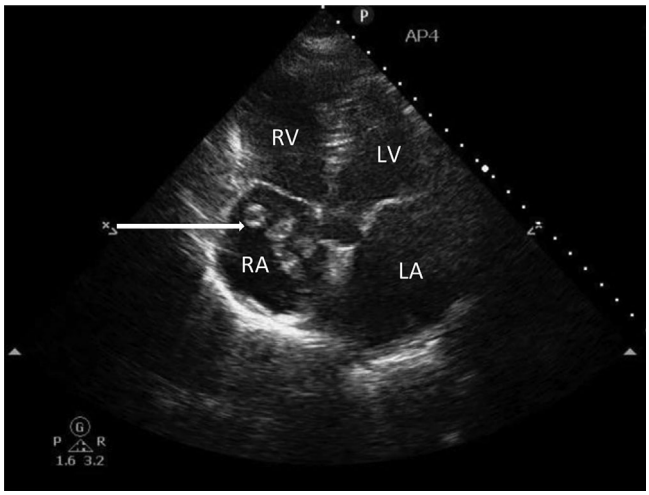

FIGURE 1 Apical 4 chamber with right atrial (RA) thrombus (large arrow)

2 | DIAGNOSIS

2.1 | Clot in transit

Point-of-care echocardiography revealed a mobile, echogenic mass adhered to the tricuspid valve traversing the right atrium and ventricle (Figures 1–3). Right ventricular dilatation and a McConnell's sign suggested acute right heart strain (Figure 2). Immediate action was taken based on point-of-care echocardiography findings; the patient was started on heparin infusion and the ICU was consulted regarding candidacy for thrombolytic therapy. Subsequent computed tomography of the chest confirmed saddle pulmonary embolus (Figure 4). Shortly after presentation, the patient suffered severe cardiopulmonary compromise with profound hypoxia and hypotension at which point the decision was made to administer systemic thrombolytics therapy. However, based on the point-of-care echocardiography findings established early in the clinical course, thrombolytic therapy had already been prepared and thus rapidly administered shortly after clinical decompensation. As a result of rapid diagnosis and treatment aided by point-of-care echocardiography, the patient was able to make recovery to discharge after transition from apixaban to warfarin anticoagulation.

Massive pulmonary embolism in and of itself purports significant morbidity and mortality.[1] Point-of-care echocardiography has often been used as an adjunct in diagnosis and risk stratification based on right heart physiology such as right ventricle dilatation, septal bowing, and ventricular hypokinesis.[2] A clot in transit, when detected on point-of-care echocardiography, has been associated with a greater degree of hemodynamic compromise and marker for worse prognosis.[3] Point-of-care echocardiography in this case was crucial in expediting diagnosis

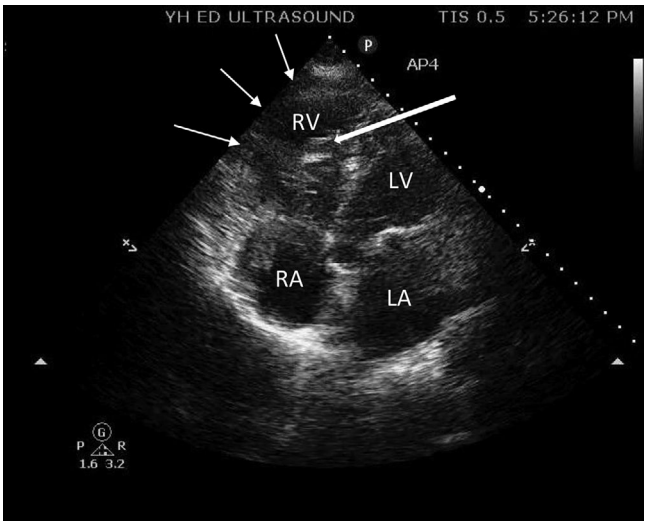

FIGURE 2 A4 clip from Figure 1 demonstrating clot (large arrow) traversing tricuspid valve from right atrium (RA) to right ventricle (RV). Right ventricular dilatation (small arrows)

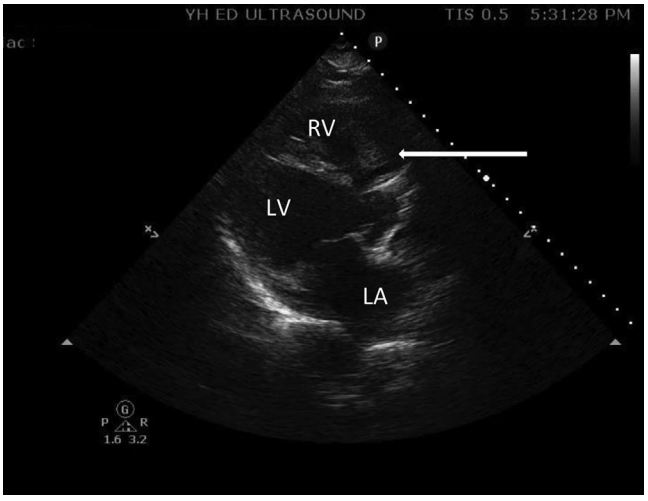

FIGURE 3 Parasternal long axis showing right ventricular (RV) thrombus (arrow)

and therapy. If not performed, there would have been significant delays in initiation of therapy in addition to mobilization of crucial resources

FIGURE 4 Computed tomography angiogram chest demonstrating saddle pulmonary embolism (arrows)

such as ICU care and preparation of thrombolytic medication. This case is a healthy reminder of the power of point-of-care echocardiography in aiding rapid diagnosis and treatment for patients presenting with undifferentiated cardiorespiratory compromise.

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