CASE IMAGE

Thrombus-in-transit: Simple solution for a complex situation

Transit trombüs: Karmaşık bir durum için basit bir çözüm

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A 75-year-old woman presented with a 4-day history of acute progressive dyspnea. On admission, she was distressed and hypoxic but vitally stable with clear lung fields. An electrocardiogram (ECG) revealed sinus tachycardia. The patient's laboratory investigations were normal except for elevated cardiac biomarkers and D-dimer levels. Transesophageal echocardiography (TEE) and 2-dimensional and 3-dimensional transthoracic echocardiography (TTE) demonstrated dilatated right ventricular (RV) dimensions with preserved RV systolic function, moderate tricuspid regurgitation, and pulmonary hypertension (estimated pulmonary artery systolic pressure [ePASP]=60 mmHg). There was evidence of RV pressure overload pattern with flattening of the interventricular septum and a D-shaped LV cavity. The right atrium revealed a large, freely mobile thrombus that progressed through the patent foramen ovale to the left atrium with evidence of interatrial septal aneurysm, confirming the diagnosis of thrombus-in-transit (TT) with suspected acute pulmonary embolism (PE) (Figure 1 and Video 1*). Computed tomography pulmonary angiography confirmed the diagnosis of acute PE. The patient refused surgical intervention and thrombolytic therapy; therefore, she was treated conservatively with a therapeutic dose of low-molecular-weight heparin (enoxaparin). A few days later, her symptoms improved gradually. After 1 month, follow-up TTE demonstrated marked improvement in RV dimensions, without the presence of residual atrial thrombi or pulmonary hypertension (Video 2*).

TT is seldom reported and often associated with PE or paradoxical systemic thromboembolism if intracardiac shunts are present. Echocardiography has been successfully used for diagnosing intracardiac thrombi including

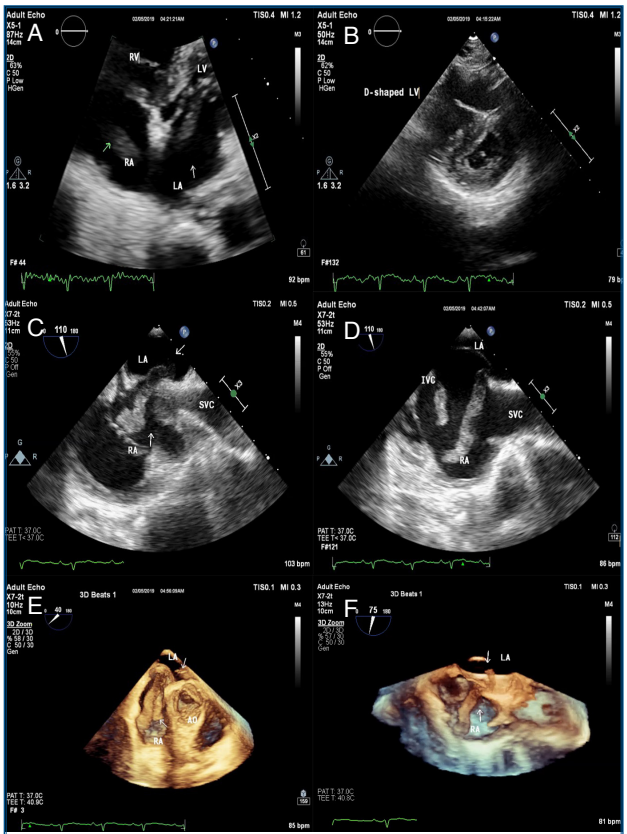

Figure 1. (A) Two-dimensional TTE apical 4-chamber view demonstrating thrombi in both the left and right atrium; **(B)** Two-dimensional TTE parasternal short-axis view demonstrating a D-shaped septum; **(C-F)** Two-dimensional and 3-dimensional TEE demonstrating a thrombus progressing through the PFO from the right to left atrium (Arrows).
TTE: transthoracic echocardiography; PFO: patent foramen ovale.

TT and intracardiac shunts. Three-dimensional TEE enables the sequential sectioning of an intracardiac mass and the inspection of its inner aspects from multiple angles. Evidence-based strategies for the treatment of TT are not yet defined; treatment options include anticoagulation, thrombolysis, catheter-guided interventions, and surgery.

Informed consent was obtained from the patient for the publication of the case image and the accompanying images.

*Supplementary video files associated with this article can be found in the online version of the journal.