



Pulmonary embolism during echocardiography: thrombus in transit

Ekokardiyografi yapılmakta olan hastada gelişen pulmoner emboli: Geçiş yapan trombus

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An 85-year-old woman was admitted to our hospital's emergency ward with the signs of dyspnea, chest and right leg pain. On admission, she had a blood pressure of 110/80 mmHg and her heart rate was 100 beat/min. Physical examination revealed swelling and redness of the right leg which was tender. The electrocardiogram showed atrial fibrillation. Right leg ultrasonography revealed a deep venous thrombosis. Transthoracic echocardiography revealed a large thrombus floating in the right atrium, which eventually prolapsed into the right ventricle (Fig. 1-3, see corresponding video movie 1 at www.anakarder.com). The definite diagnosis of pulmonary embolism was concluded during echocardiography procedure, which demonstrated a large snake-like floating thrombus crossing tricuspid valve (Fig. 2, see corresponding video movie 2 at www.anakarder.com). The right ventricle was enlarged and severe tricuspid regurgitation was present. Her pulmonary artery pressure

was 70 mmHg. She was stable after pulmonary embolism event without signs of clinical deterioration, shock or cyanosis. Heparin was started immediately (5000 IU bolus followed by an infusion of 1000 IU/h) and continued indefinitely during hospital stay. She was discharged with oral warfarin treatment and she is comfortable at present time.

Embolus in transit was first diagnosed by two-dimensional echocardiography in 1981 (1). Although transthoracic echocardiography can demonstrate the freely floating embolus inside the right heart chambers as in our case, conclusion of differential diagnosis from other sources of right heart masses should be made, especially if the thrombus is not mobile (2). Absence of a mobile mass on follow-up transthoracic echocardiography can also lead the diagnosis (3). Once the diagnosis of thrombus in transit was concluded emergent therapy can be life-saving, since it is an extreme therapeutic emergency and potentially let-

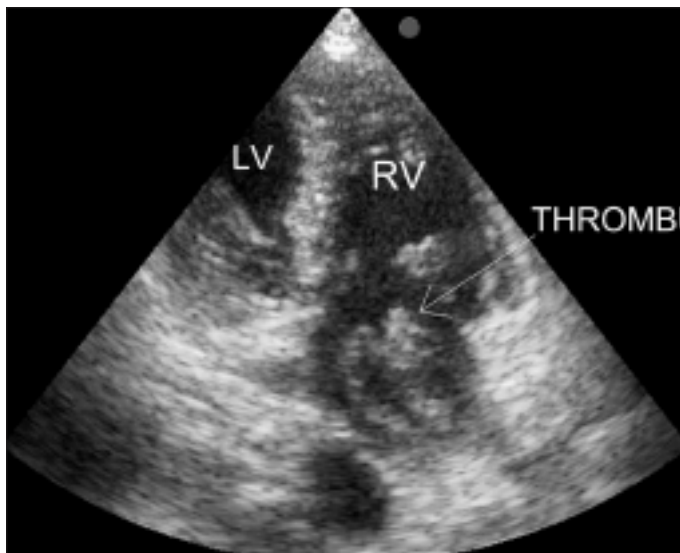


Figure 1. Transthoracic echocardiography demonstrating a mobile snake like thrombus freely floating inside the right atrium

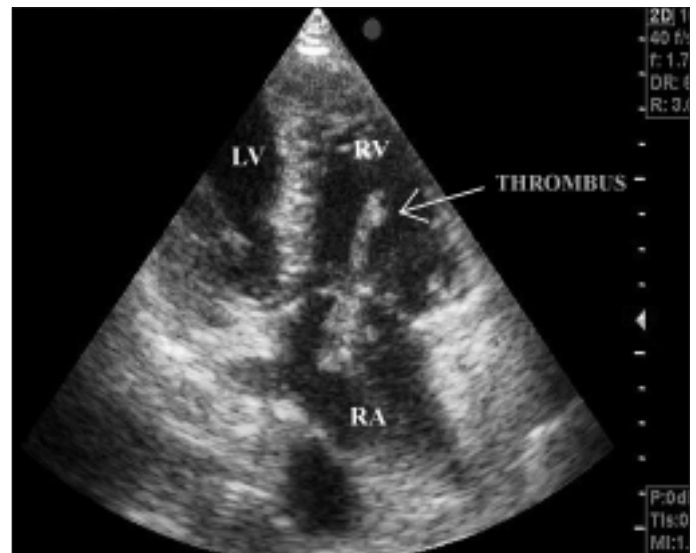


Figure 2. Transthoracic echocardiography image of thrombus passing through the tricuspid valve



Figure 3. Transthoracic echocardiography image of the same patient several seconds after pulmonary embolism

hal (4). Although the optimal management of right heart thromboemboli remains unclear since there are no prospective randomized trials comparing the treatment modalities; heparin should be administered to every patient. If pulmonary embolus is massive, thrombolytics are indicated (5). Surgical embolectomy should only be decided in cases of paradoxical emboli (6). Filter systems should also be considered since these patients carry a high risk of further embolic events. In cases of sub-massive emboli, routine thrombolytics administration may not be needed. Including our case, several cases of sub-massive pulmonary

emboli due to thrombus in transit were reported in the literature, which were treated successfully with only heparin administration (7). Patients should receive subsequent oral anticoagulation which may be continued indefinitely if they carry high risk for recurrence.

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