CLINICAL PRACTICE

Clinical Images

Pulmonary Emboli in Transit

Suresh Sharma, MD¹, Ananda Dharshan, MD², Buddhadeb Dawn, MD¹, and Farshid Radparvar, MD²

¹Division of Cardiovascular Medicine, University of Kansas Medical Center, Kansas City, Kansas, USA; ²Department of Medicine, Mount Sinai School of Medicine/ Queens Hospital Center, New York, NY, USA.

KEY WORDS: deep venous thromboembolism; Pulmonary Emboli in transit; Echocardiography.

J Gen Intern Med 28(1):154

DOI: 10.1007/s11606-012-2065-x

© Society of General Internal Medicine 2012

Figure 1. Echocardiography showing globular interconnected freely moving masses of varying sizes in the right atrium.

An 87-year-old female with history of breast, lung and vulvar cancer was resuscitated after cardiac arrest. Lower extremity Doppler ultrasound revealed deep vein thrombosis (DVT). Echocardiography showed globular interconnected freely moving masses of varying sizes in the right atrium (like “strings of popcorns”), some of which were protruding into the right ventricle (Fig. 1). Similar masses were seen in the inferior vena cava (IVC) and hepatic veins (Fig. 2). These masses were thought to be DVT fragments travelling centrally (emboli in transit). The patient received anticoagulation therapy with unfractionated heparin but could not receive systemic thrombolytic therapy due to metastatic brain lesions and expired despite supportive measures.

Figure 2. Echocardiography showing similar masses in the inferior vena cava (IVC) and hepatic veins.

Among patients with acute pulmonary embolism (PE), right heart thromboemboli are found in more hemodynamically compromised patients.¹ They are also a marker of worse prognosis in initially stable patients treated with heparin alone.¹ The mortality rate for emboli in transit may reach 50%.² It is estimated that 33% of emboli in transit initially detected by echocardiography will proceed to full pulmonary embolism within 24 hours.³ PE in transit should be treated with pharmacologic or mechanical thrombolysis if the patient is hemodynamically unstable. If hemodynamically stable, patients are frequently treated with heparin; however, consideration of thrombolysis should be entertained.

Corresponding Author: Suresh Sharma, MD; Division of Cardiovascular Medicine, University of Kansas Medical Center, 3901 Rainbow Blvd, Room 1001 Eaton, Kansas City, Kansas 66160, USA (e-mail: ssharma@kumc.edu).

REFERENCES

1. Torbicki A, Galie N, Covezzoli A, Rossi E, De Rosa M, Goldhaber SZ. Right heart thrombi in pulmonary embolism: Results from the international cooperative pulmonary embolism registry. *J Am Coll Cardiol*. 2003;41:2245-2251.
2. Proano M, Oh JK, Frye RL, Johnson CM, Tajik AJ, Taliencio CP. Successful treatment of pulmonary embolism and associated mobile right atrial thrombus with use of a central thrombolytic infusion. *Mayo Clin Proc*. 1988;63:1181-1185.
3. The European cooperative study on the clinical significance of right heart thrombi. European working group on echocardiography. *Eur Heart J*. 1989;10:1046-1059.

Received November 10, 2011

Revised December 30, 2011

Accepted March 27, 2012

Published online July 3, 2012