

Right atrium thrombus-in-transit

Clinical Case Portal

Date of publication:

16 Sep 2013

Topics: Echocardiography (Non-invasive imaging)
Thromboembolic Venous Disease

Authors:

Othman, Hussein

Authors details:

MD

Contact:

St. John Hospital & Medical Center
22101 Moross Road
Detroit, MI 48236
USA
Tel: +1-313-343-4000

Abstract

A 25-year-old male presented to the hospital for progressive dyspnea. The patient had a personal history of morbid obesity and a family history of protein C deficiency. Review of system was negative for chest pain, cough or leg swelling. No recent travel. CT of chest showed extensive pulmonary emboli. Transthoracic echocardiogram showed moderate right ventricle dilation and systolic dysfunction with two thrombi-in-transit seen in the right atrium.

Introduction

A 25 year old male with history of morbid obesity presented to the hospital for progressive dyspnea over 1 month. He denied having chest pain, cough or leg swelling. The patient did not smoke or drink and had no recent travel or surgery. Multiple of his siblings had protein C deficiency.

Case Report

His blood pressure 188/101, heart rate 95, respiratory rate 28 and oxygen saturation 99% on high flow oxygen.

Physical exam showed no jugular venous distension. Heart auscultation revealed normal S1. S2 was increased in intensity and there was no murmur, gallop or rub. Lung fields were clear. Abdomen was soft non tender or distended and there was no pedal edema.

Electrocardiogram showed sinus tachycardia. CT angiogram of the chest showed complete occlusion of the left pulmonary artery with multiple emboli in the right lung and a filling defect in the right atrium.

The patient was started on weight-adjusted Enoxaparin and an echocardiogram was obtained to assess the burden of the pulmonary embolism.

Transthoracic echocardiogram showed moderate right ventricle dilation and moderate to severe systolic dysfunction. Two mobile masses were seen in the right atrium. The first mass was 3.2 x 2.8 cm and appeared to be coming from the inferior vena cava and crossing the tricuspid valve. The second mass was 2.6 x 2.4 cm and was attached to the interatrial septum.

The patient remained hemodynamically stable, however, given the large size of the masses and the echocardiographic evidence of right ventricle strain, a decision was made to give a thrombolytic agent intravenously.

The patient remained symptomatic and a repeat echocardiogram 4 days later showed no change in the masses size or right ventricle function.

Due to failure of Tpa therapy the patient underwent surgical removal of his right atrial thrombi with pulmonary thromboendarterectomy.

The patient had excellent recovery and was discharged home on long-term warfarin. He reported no symptoms on follow up 5 weeks later.

Discussion

Thrombi-in-transit are free floating right atrial thrombi. Reported in 18% of massive pulmonary embolism (PE) with an in-hospital mortality of more than 45%. Initial diagnosis is usually made by transthoracic echocardiogram. They can break down leading to massive PE or they can cause a paradoxical embolism through a patent foramen ovale. In the absence of randomized trials, treatment remains empiric. Treatment options include: anticoagulation, thrombolytics or surgical embolectomy.

Conclusion

This case illustrates the importance of transthoracic echocardiogram in decision-making in patients with pulmonary embolism.

Video 1 :

[transthoracic echocardiogram showing thrombus-in-transit](#)



Video 2 :

[transthoracic echocardiogram showing thrombus-in-transit](#)



Video 3 :

[transthoracic echocardiogram showing thrombus-in-transit](#)

