

IMAGES AND VIDEOS

# Thrombus in transit: traveling from the inferior vena cava to the left ventricle

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A 54-year-old previously healthy woman presented with shortness of breath following a long car journey. The patient was found to have massive pulmonary embolism on computed tomography (CT) angiography (Fig. 1). Transthoracic echocardiography showed a dilated and poor-functioning right ventricle with a snake-like large mobile thrombus extending from the inferior vena cava (Video 1) to the right atrium and prolapsing to the right

ventricle (Video 2) across the tricuspid orifice with each diastole (Video 3). The thrombus was entrapped in the patent foramen ovale (PFO) and extended to the left atrium, protruding into the left ventricle through the mitral valve (Video 4). There was no sign of peripheral emboli. The patient underwent urgent surgical embolectomy. Post-operative course was complicated with a large pericardial effusion that required drainage. The patient was well at 6 months follow-up.

## Video 1

Transthoracic echocardiogram from subxiphoid view showing a large snake-like thrombus extending from the inferior vena cava (IVC) to the right atrium (RA). Download Video 1 via <http://dx.doi.org/10.1530/ERP-14-0033-v1>.

## Video 2

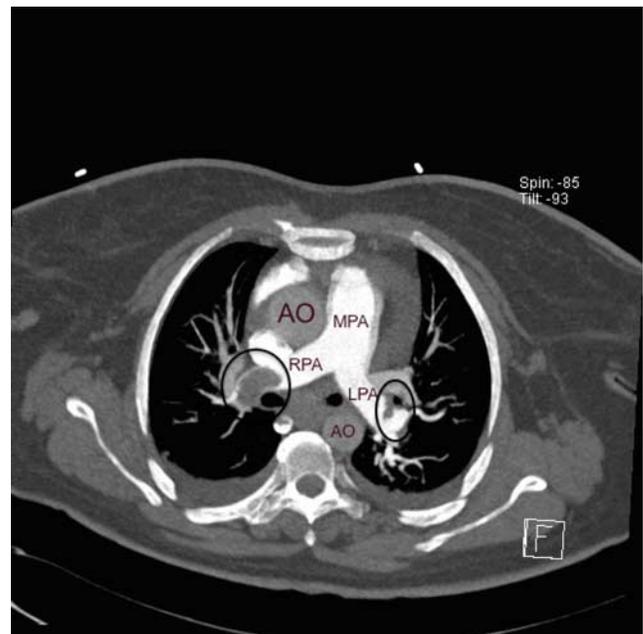
Transthoracic parasternal long-axis echocardiogram showing the mobile thrombus in the right ventricle. Download Video 2 via <http://dx.doi.org/10.1530/ERP-14-0033-v2>.

## Video 3

Transthoracic four-chamber echocardiogram showing a large mobile thrombus entrapped in the patent foramen ovale (PFO). Thrombus extends from atria to ventricles during diastole. Download Video 3 via <http://dx.doi.org/10.1530/ERP-14-0033-v3>.

## Video 4

Transthoracic four-chamber echocardiogram showing a large mobile thrombus entrapped in the patent foramen ovale (PFO). Thrombus extends from atria to ventricles during diastole. Download Video 4 via <http://dx.doi.org/10.1530/ERP-14-0033-v4>.



**Figure 1**

CT angiogram of the chest showing bilateral pulmonary embolism (circles). Ao, aorta; MPA, main pulmonary artery; RPA, right pulmonary artery; LPA, left pulmonary artery.

Thrombus straddling the PFO rarely occurs as a consequence of thromboembolism, with the migration of thrombus to the left-sided chambers. Most reported cases have been treated with surgical embolectomy (1), yet there is no medical consensus about the best option for treatment with anticoagulant treatment remaining an acceptable alternative to surgery in patients at high risk for surgery (2).

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#### Declaration of interest

The authors declare that there is no conflict of interest that could be perceived as prejudicing the impartiality of the work reported.

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#### Patient consent

Informed consent was obtained from the patient for publication of the submitted article and the accompanying images/videos.

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#### Author contribution statement

R Salehi performed the echocardiography and helped in manuscript draft. R Parvizi performed the embolectomy and helped in manuscript preparation. L Pourafkari is the physician in-charge of the patient and critically revised the paper and the literature review.

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#### References

- 1 Fauveau E, Cohen A, Bonnet N, Gacem K & Lardoux H 2008 Surgical or medical treatment for thrombus straddling the patent foramen ovale: impending paradoxical embolism? Report of four clinical cases and literature review. *Archives of Cardiovascular Diseases* **101** 637–644. (doi:10.1016/j.acvd.2008.08.011)
- 2 Baydoun H, Barakat I, Hatem E, Chalhoub M & Mroueh A 2013 Thrombus in transit through patent foramen ovale. *Case Reports in Cardiology* **2013** Article ID 395879. (doi:10.1155/2013/395879)

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