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Fatal paradoxical emboli captured in transit through a patent foramen ovale

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A 73-year-old male patient with history of hypertension presented to the hospital with altered mental status, right facial droop, and bilateral leg swelling. His last known normal (LKN) time was unclear. Patient was homeless with no prior documented medical conditions, no prior history of stroke or coagulopathy. Computed tomography of his brain on presentation was concerning for left hyperdense middle cerebral artery sign; subsequent computed tomography angiography of his head confirmed occlusion of the M1 segment of the left middle cerebral artery. An ultrasound of the lower extremities showed a thrombus in the femoral and popliteal veins bilaterally. Arterial Doppler ultrasound showed diminished flow in the bilateral femoral arteries with no flow in the popliteal arteries.

A transthoracic echocardiogram revealed an echogenic density in the right atrium extending into the left atrium and left ventricle across the mitral valve via a patent foramen ovale (PFO) (*Figure 1*, Supplementary material online, *Video S1*). The findings were suggestive of an embolus in transit through a PFO.

Patient was anticoagulated with unfractionated heparin. Endovascular embolectomy was attempted but unsuccessful. He was not a candidate for thrombolysis given unclear LKN in the context of stroke. He passed away with multiorgan ischaemia after a complicated hospital course.

In discussion, the association between PFO and cryptogenic stroke has been controversial.[1] Certain features of a PFO have been

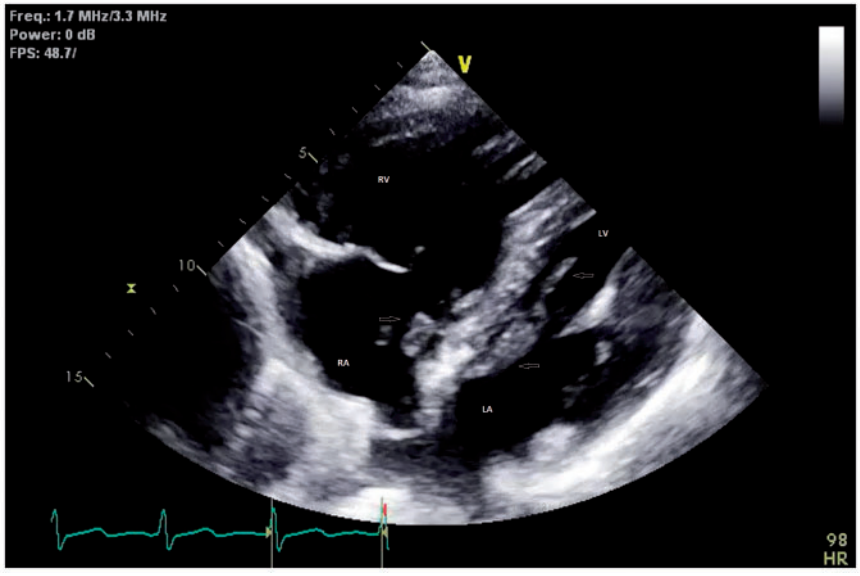

Figure 1 Modified subcostal view focused on the interatrial septum (IAS) at end diastole. Elongated echogenic density (arrows) in the right atrium (RA) extending into the left atrium (LA) and left ventricle (LV) through the mitral valve, via a patent foramen ovale. RV, right ventricle.

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recently described as high risk for cryptogenic strokes, such as atrial septal aneurysm, or large size PFO.[2] Our patient had an aneurysmal atrial septum. It has been suggested that PFO closure in these patients could result in lower risk of embolization.[2]

There are no definite guidelines to manage a clot in transit through an intracardiac shunt. Surgical embolectomy has been suggested, followed by PFO closure and anticoagulation.[3] Our patient had already progressed to multiorgan embolization on presentation and would have unlikely recovered from an open heart surgery.

Supplementary material

Supplementary material is available at *European Heart Journal - Case Reports* online.

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Consent: The author/s confirm that written consent for submission and publication of this case report including image(s) and associated text has been obtained from the patient in line with COPE guidance.

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