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IMAGE

Pulmonary embolism, aortic root aneurysm and floating left heart thrombus

Embolie pulmonaire, anévrisme de la racine aortique et thrombus flottant du cœur gauche

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MOTS CLÉS

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An 87-year-old woman was referred to our institution after reporting syncope. Examination revealed tachycardia (140 beats per minute), cold extremities and clinical signs of elevated jugular venous pressure; her blood pressure was 60/50 mmHg and blood oxygen saturation was 80%. Electrocardiogram showed S1 Q3 and right bundle branch block patterns. Transthoracic echocardiogram revealed a dilated and hypokinetic right ventricle (estimated systolic pulmonary artery pressure 65 mmHg) and an aortic root aneurysm (sinuses of Valsalva: 70 mm). A large serpentine thrombus was trapped in the mitral valve (Fig. 1). Contrast-enhanced computed tomography showed bilateral pulmonary embolism associated with aneurysm of the ascending aorta (Fig. 2). Neither surgical embolectomy nor thrombolytic therapy was performed due to the patient's poor general condition. Medical treatment with saline fluid loading, intravenous unfractionated heparin and oxygen therapy (6 L/min from a medium concentration mask) was started. Venous ultrasonography showed no evidence of deep venous thrombosis in the legs. Evolution was favourable with disappearance of the embolus. The patient did not present clinical evidence of systemic embolism and was discharged home with good autonomy with fluidione at day 34.

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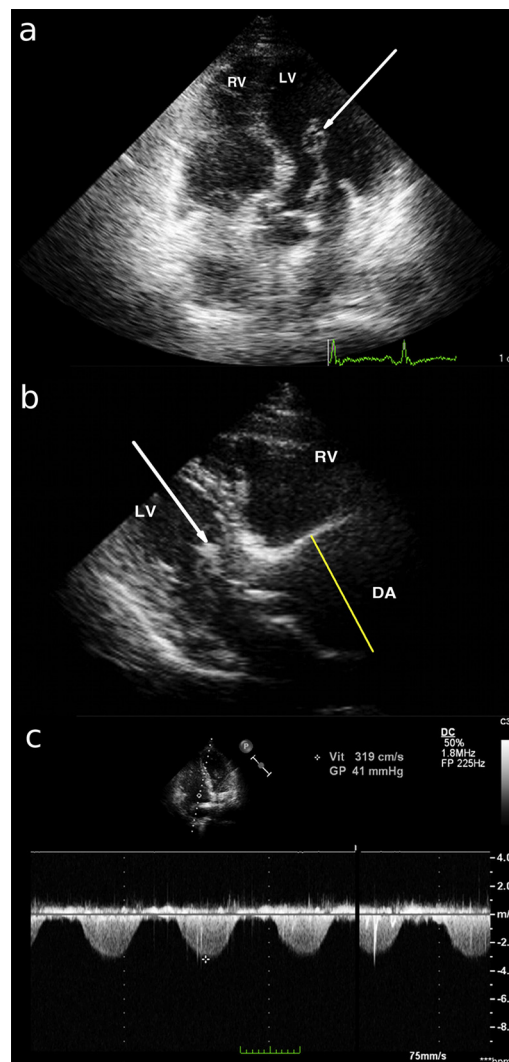


Figure 1. Transthoracic echocardiogram; a: apical view; b: parasternal long-axis view showing dilated right cavities, 70 mm aneurysm of the aortic root and a large serpentine embolus entrapped in the mitral leaflet floating in the left ventricle (white arrow); continuous Doppler of tricuspid regurgitation. RV: right ventricle; LV: left ventricle; DA: dilated aortic root.

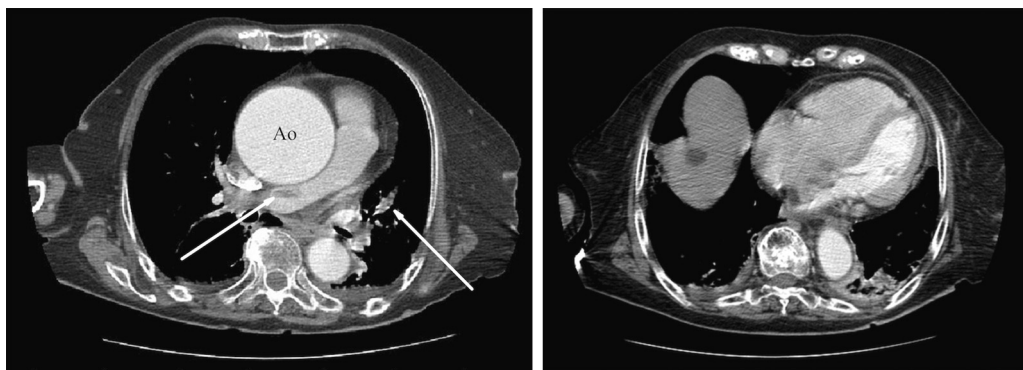


Figure 2. Contrast-enhanced computed tomography of the chest showing a bilateral pulmonary embolism with a large embolus in the right pulmonary artery (white arrows) and a dilated right ventricle, associated with a 70 mm aneurysm of the ascending thoracic aorta (Ao).

Paradoxical embolus is a rare clinical entity complicating pulmonary embolism as a result of right-to-left shunting across a patent foramen ovale, favoured by the sudden increase in right atrial pressure. The presence of an enlarged

aortic root also contributed to this complication. Aortic root aneurysm distorted the interatrial septum, resulting in its horizontal orientation. Consequently, inferior vena caval flow streamed directly towards the foramen ovale,

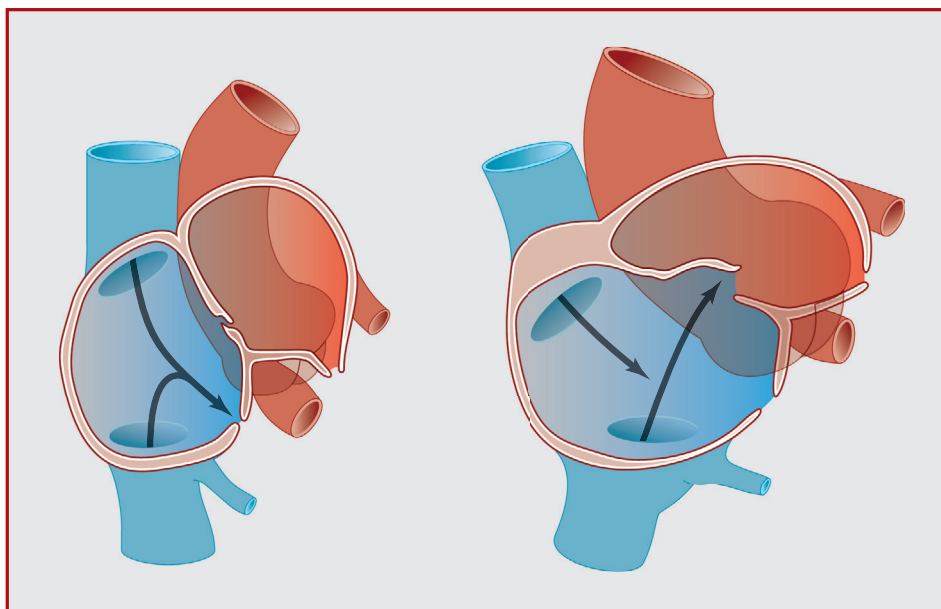


Figure 3. Compression of the right atrium due to enlargement of the aortic root results in horizontal reorientation of the atrial septum. The foramen ovale is in the axis of the inferior vena caval flow, which streams directly toward the reopened foramen ovale.

facilitating the crossing of the interatrial septum by the thrombus (Fig. 3). Heparin infusion may be proposed in older patients who are unsuitable for surgery or at risk of haemorrhage with thrombolytic therapy.

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.