A pensioner with dyspnoea: cardiac magnetic resonance reveals pulmonary embolism

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DESCRIPTION

An obese pensioner with a 50-pack-year history of smoking, moderate chronic obstructive pulmonary disease and mixed rheumatic mitral valve disease presented with acute-on-chronic dyspnoea. A chest radiograph and lung function tests were unchanged compared to previous investigations. Hyperinflated lungs and obesity made transthoracic echocardiography technically challenging.

Cardiac magnetic resonance (CMR) was requested to investigate suspected left ventricular dysfunction and further evaluate the mitral valve pathology. Unexpectedly, CMR demonstrated a dilated right heart, pulmonary infarcts (video 1) and a large pulmonary embolus, with only mild-to-moderate mitral valve pathology and preserved left ventricular systolic function (figure 1). Acute pulmonary embolism (PE) was felt to be in keeping with the clinical presentation. Anticoagulation was started, though complicated by a significant gastrointestinal bleed. The patient passed away during a subsequent readmission less than 6 months after the diagnosis.

Dyspnoea is a common clinical presentation with a diverse range of aetiologies. Our case illustrates the complexity of diagnosing dyspnoea in patients with multiple medical comorbidities. CT pulmonary angiography remains the preferred imaging technique in suspected PE,1 2 though the pulmonary arteries can also be visualised using other modalities such as CMR. This case emphasises the need to consider extracardiac pathology during such investigations and illustrates the utility of CMR in the assessment of cardiac disease when transthoracic echocardiography may be technically challenging.

Learning points

▸ Identifying the aetiology of dyspnoea in patients with complex comorbidities often requires multimodality imaging techniques to establish a unifying diagnosis, as illustrated in this case.

▸ While cardiac magnetic resonance is not the preferred method to investigate pulmonary embolism, the pulmonary arteries should be carefully examined for evidence of thrombi, in particular when right ventricular pathology is evident.

Competing interests None.
Patient consent Obtained.

REFERENCES


Video 1 Horizontally long-axis cine image demonstrating a dilated right ventricle, biatrial dilatation, mild mitral stenosis, wedge-shaped pulmonary infarcts and a small right-sided pleural effusion.

Figure 1 (A) Transverse image, showing dilated right heart (*) and two wedge-shaped lesions in the right lung (arrows) representing pulmonary infarcts. (B) Dilated proximal pulmonary arteries and filling defect in right pulmonary artery (arrow) representing a pulmonary embolus.