Cardiology in the Young

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Septic pulmonary embolism complicates postoperative tetralogy of fallot: unveiling pulmonary artery pseudoaneurysms

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Brief Report

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Abstract

A 12-year-old female with pulmonary artery stenosis developed pseudoaneurysms due to septic embolism, requiring close follow-up.

Introduction

A 12-year-old female patient with no complaint was referred to our hospital for examination due to pulmonary stenosis, but we found something else. She underwent surgical correction for tetralogy of Fallot at 1 years old, without undergoing pulmonary angioplasty. The patient developed clinical and analytic endocarditis accompanied by infectious pulmonary embolism and massive haemoptysis at age 8. Pulmonary artery dilation and mediastinal haematoma were subsequently found and treated with antibiotics and haemostatic drugs. At 12 years, we made the following evaluations and found significant dilation of the pulmonary artery. Chest X-ray showed an irregular mass with high density in the upper left lung (Fig 1). Contrast-enhanced CT revealed mild narrowing of the proximal lumen of the left and right pulmonary arteries, as well as two large cystic aneurysms (maximum section size, 66.1 mm × 38.8 mm) with multiple calcifications in the wall of the left upper pulmonary artery (Fig 2), diagnosed as pseudoaneurysms of the pulmonary artery. Right heart catheterisation was performed, which revealed significant regurgitation of the pulmonary valve on pulmonary artery angiography. Additionally, two large aneurysms were observed in the left upper pulmonary artery and occlusion of the distal pulmonary artery branch in the left upper lobe (Fig 3 and online supplemental data,

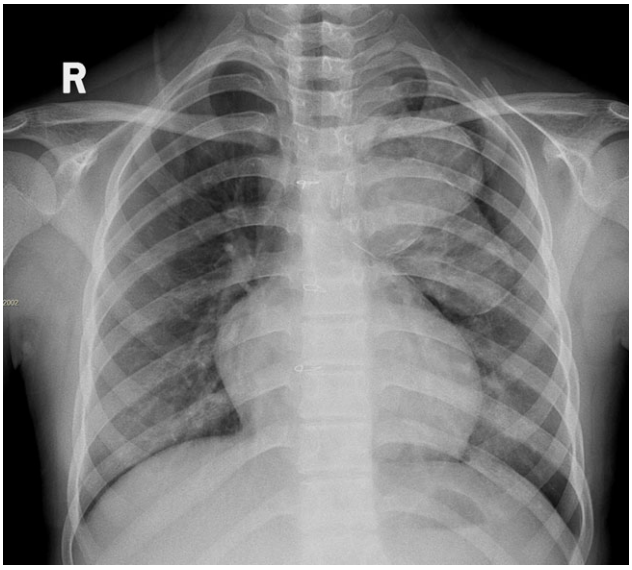

Figure 1. Chest X-ray in anterior–posterior view demonstrates the contours of two large pseudoaneurysms in the left lung.

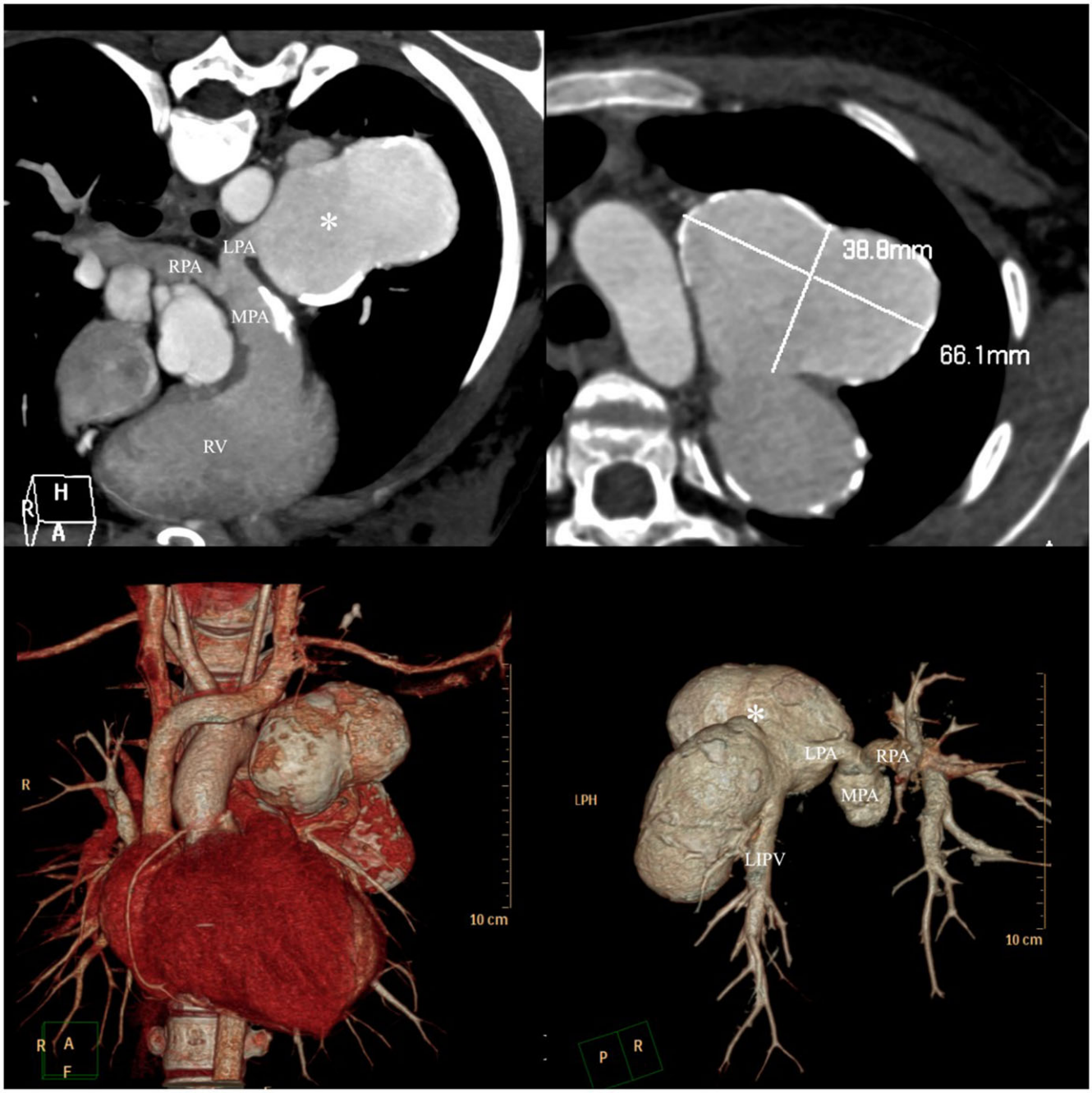

Figure 2. Contrast-enhanced CT scan reveals mild narrowing of the lumen in the proximal left and right pulmonary arteries. Additionally, there are two large cystic aneurysms with multiple calcifications detected in the wall of the left upper pulmonary artery.

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Figure 3. Pulmonary angiography showed significant regurgitation of the pulmonary valve.

Video). The pressures recorded in the right ventricle, main pulmonary artery, and left and right pulmonary arteries were 110/0, 100/0, 52/14, and 30/6, respectively (right ventricular systolic pressure/diastolic pressure). We speculate that septic pulmonary embolism led to the formation of the pseudoaneurysms of the pulmonary artery. Finally, considering the risks of intervention for arterial aneurysm closure, we plan to closely follow-up with CT imaging without closing the aneurysm. This case highlights the importance of monitoring for complications and regular follow-up in patients with CHD postoperatively.

Supplementary material. The supplementary material for this article, can be found at https://doi.org/10.1017/S1047951123004493

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