IMAGE FOCUS

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A case of pulmonary artery aneurysm with isolated unicuspid pulmonary valve

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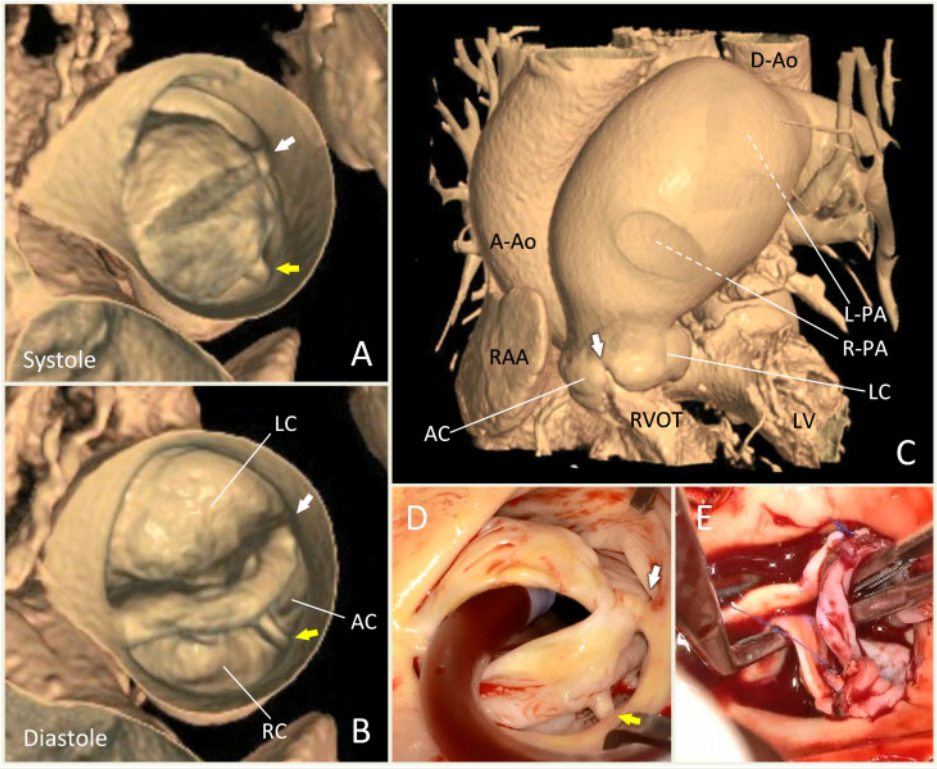
A 78-year-old man with a bicuspid pulmonary valve and pulmonary artery aneurysm was referred to our department for surgery. Izumida *et al.* had previously reported this case as a rare clinical entity (*Intern Med* 59:1867–1871, 2020) and had monitored him for 5 years in their medical department. During the latest 1 year, the diameter of the aneurysm increased from 50 mm to 60 mm. The peak velocity at the pulmonary valve was 3.8 m/s. Accordingly, pulmonary artery and valve replacement were planned.



Pre-operative volume rendering image of cardiac computed tomography visualized the pulmonary valve with narrowed orifice and doming in systole (*Panel A*, Supplementary data online, *Video S1*). Cusp closure was sufficient (*Panel B*). There was a raphe between the anterior cusp and right cusp (yellow arrow, *Panels A, B*, and *D*), and the commissure between the left cusp and anterior cusp was rudimentary (white arrow, *Panels A–D*, Supplementary data online, *Video S2*), which suggested that the valve was a unicuspid valve rather than a bicuspid valve.

Intra-operative inspection confirmed the valve to be unicuspid (*Panel D*), and the valve was repaired by tricuspidizing with autologous pericardium (*Panel E*). Transthoracic echocardiography at 1 year after surgery demonstrated a reduced peak velocity of 1.3 m/s at the pulmonary valve and less than mild pulmonary regurgitation.

A-Ao, ascending aorta; AC, anterior cusp; D-Ao, descending aorta; LC, left cusp; L-PA, left pulmonary artery; LV, left ventricle; RAA, right atrial appendage; RC, right cusp; R-PA, right pulmonary artery; RVOT, right ventricular outflow tract.

Supplementary data

Supplementary data are available at *European Heart Journal - Cardiovascular Imaging* online.