Multimodality imaging of isolated bicuspid pulmonary valve leading to pulmonary stenosis

Isolated bicuspid pulmonary valve is a rare arterial valve anomaly with very few reports in the literature. It is usually in association with other congenital cardiac lesions. However, the true incidence of bicuspid pulmonary valve could be underestimated because of the difficulty in imaging pulmonary valve morphology with conventional two-dimensional transthoracic echocardiography.

A 21-year-old man was admitted to our outpatient clinic for routine evaluation. Pansystolic murmur was heard on the left second intercostal space. The electrocardiogram showed normal sinus rhythm. The two-dimensional transthoracic echocardiography short-axis view revealed a peak pressure gradient over the right ventricular outflow tract of 30 mm Hg (Fig. 1A). The two-dimensional transesophageal echocardiography short-axis view demonstrated a bicuspid pulmonary valve (Fig. 1B and Video 1A, arrow). Three-dimensional transesophageal echocardiography short-axis view demonstrated a bicuspid pulmonary valve (Fig. 1B and Video 1A, arrow). Three-dimensional transesophageal echocardiography short-axis view also demonstrated a bicuspid pulmonary valve (Fig. 1C and Video 1B, arrow). To clarify this pathology, we performed computed tomography (CT). The transverse view of colored three-dimensional volume-rendered CT angiography images also demonstrated a bicuspid pulmonary valve (Fig. 1D, arrow). We report here a case of isolated bicuspid pulmonary valve leading to pulmonary stenosis. There is difficulty in imaging pulmonary valve morphology. For this reason, the full spectrum of non-invasive cardiac imaging modalities should be performed in the diagnosis of bicuspid pulmonary valve. Multimodality imaging can help to diagnose this condition better.

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Coronary-cameral fistula in an asymptomatic adult patient

The average frequency of coronary-cameral communication (CCC) is 0.09% in the population who undergoes coronary angiography. In addition, coronary-cameral fistula (CCF) constitutes 10% of all CCCs. CCF is probably very rare in adult patients, because the majority of them is detected and treated during childhood. Hereby, we present an asymptomatic adult patient with CCF who was diagnosed incidentally during a pre-operative cardiovascular examination for non-cardiac surgery. A 45-year-old female patient was referred to our outpatient clinic for a cardiovascular examination before an elective abdominal surgery. In her medical history, she had no cardiovascular symptoms. Physical examination revealed 1-2/6 apical systolic murmur.

Figure 1. Color flow Doppler jet of fistula at RV entrance