


Tricuspid valve resection without replacement: An asymptomatic severe right ventricle dysfunction 16 years after surgery

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Presented herein, is the case of a 33-year-old patient with a history of tricuspid valve (TV) endocarditis and subsequent complete resection of the anterior and posterior leaflet at the age of 17, without the TV replacement. Due to an asymptomatic post-op course, he had been lost to follow-up for 16 years. Subsequently, he was referred with mild heart failure symptoms (NYHA I, no peripheral edema). His NT-pro-B-type natriuretic peptide was mildly elevated (555 pg/mL) and did 625 m on a 6-minute-walk-test.

Echocardiography showed enlarged right ventricle (RV) (RVIT: 96 mm, RVOT: 58 mm), severe tricuspid regurgitation (TR), and D-shaped left ventricle with left ventricular ejection fraction 45%. A cardiac magnetic resonance (CMR) confirmed massively enlarged RV (RVEDV: 847 mL, RVESV: 516 mL, RVEF: ~40%) and severe TR (TRvol: > 200 mL) with complete destruction of the leaflets. Right heart catheterization revealed elevated

mean pulmonary artery pressure (30 mmHg), increased pulmonary capillary wedge pressure (20 mmHg), with preserved cardiac output (4.8 L/min). Due to severe RV dysfunction patient was not qualified for cardiac surgery and was referred to a heart transplant center. He remains asymptomatic on pharmacological management (Fig. 1A–D).

Although a complete TV resection without replacement is feasible, it leads to progressive right-sided heart failure and should not be a target strategy. In this case, severely enlarged right chambers, RV overload and ventricular interdependence led to moderate left ventricular dysfunction and pulmonary hypertension. Young age and lack of concomitant diseases explain the asymptomatic presentation, which is hard to believe looking at the images in CMR. This is, however, likely to worsen over time, leaving open the question of further management, including the right timing for a heart transplant.

Conflict of interest: None declared

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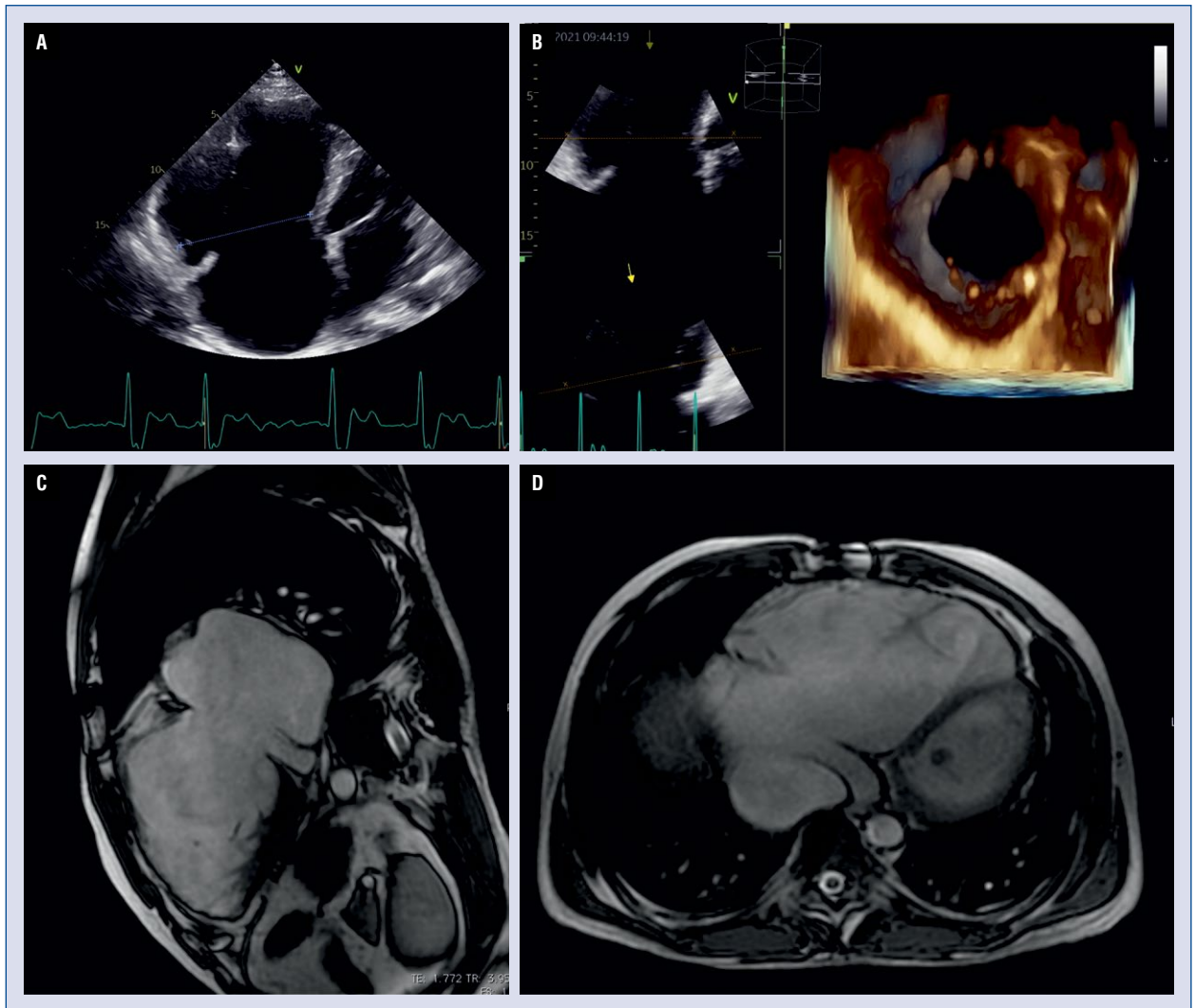


Figure 1. **A.** Transthoracic echocardiography. Apical four-chamber view. Enlarged right ventricle and right atrium. Right ventricle/left ventricle ratio > 1. Only small remains of the tricuspid valve leaflets are seen. Interatrial septum bows toward the left atrium; **B.** Three-dimensional echocardiographic imaging from a transthoracic approach. Fragments of the tricuspid valve seen from the right ventricle; **C, D.** Magnetic resonance imaging of the right heart (C: two-chamber view, D: four-chamber view).