

Huge interventricular septal aneurysm diagnosed in vivo in an adult

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A 40-year-old patient with no known medical history presented with progressive exertional dyspnea. A 12-lead electrocardiogram showed a first-degree atrioventricular block and signs of left ventricular hypertrophy. Transthoracic echocardiography revealed dilation and global hypokinesis of the left ventricle (FIGURE 1A and 1B)

with a reduced left ventricular ejection fraction (40%), moderate mitral valve insufficiency, and moderate-to-severe tricuspid valve insufficiency. In the parasternal long-axis view (FIGURE 1C and 1D) and the apical 5-chamber view (FIGURE 1E–1G), an accessory structure was found in the region of the left ventricular outflow tract. Localization

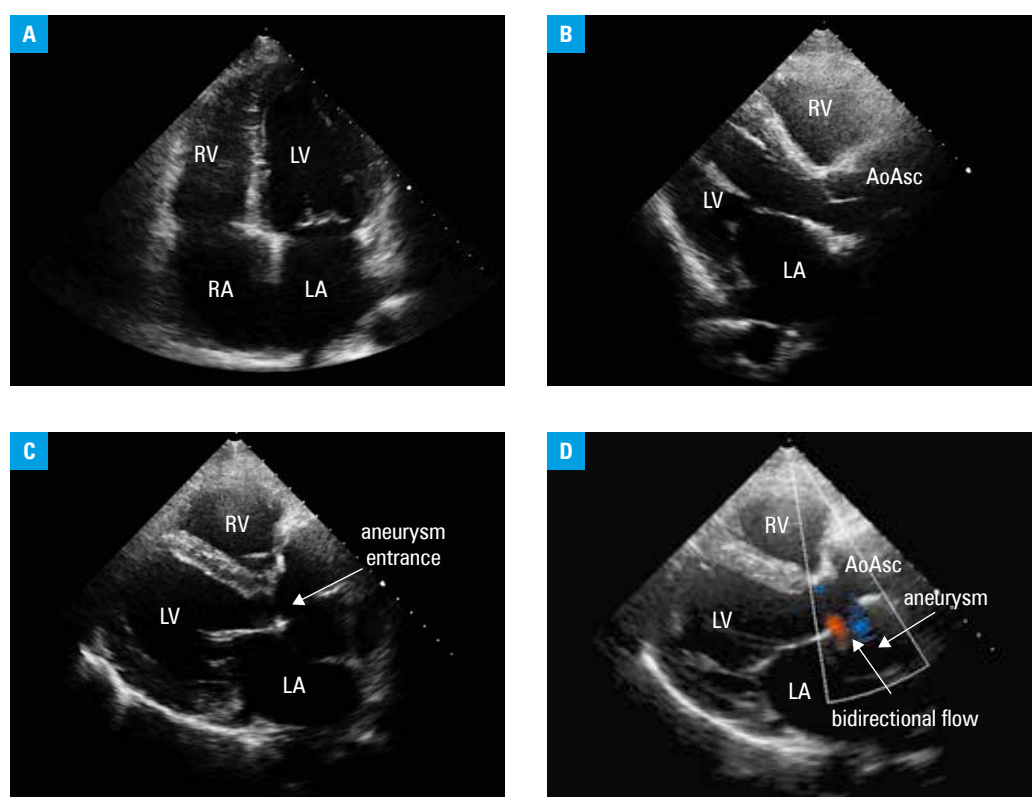
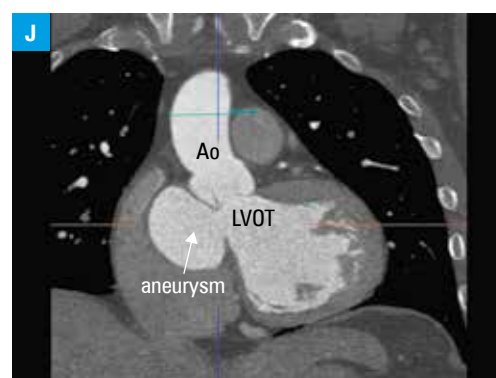
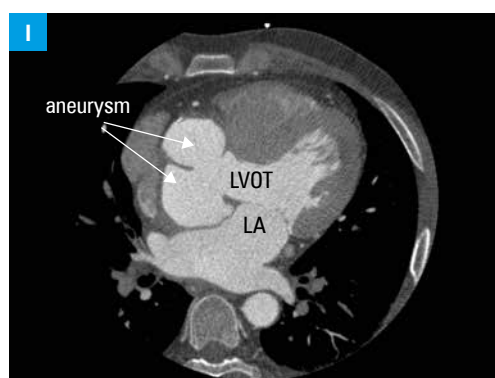
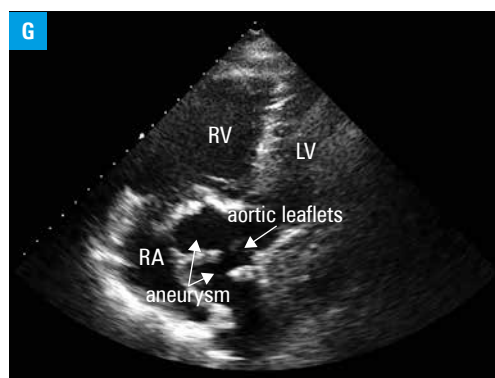
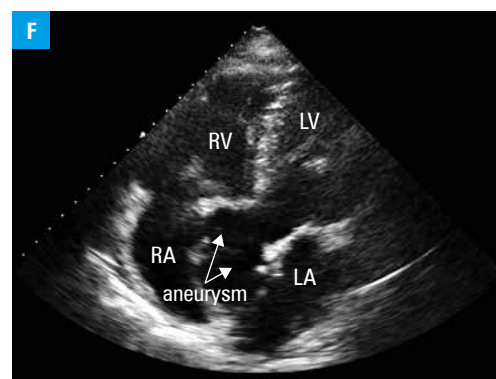
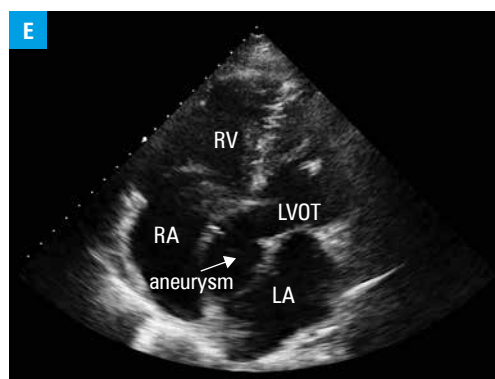


FIGURE 1 Transthoracic echocardiograms: **A** – apical 4-chamber view: no visible changes; **B** – parasternal long-axis view: no visible changes; **C** – parasternal long-axis view: the aneurysm entrance; **D** – parasternal long-axis view: bidirectional flow between the muscular part of the interventricular septum and aortic annulus; **E** – apical 5-chamber view: the shape of the aneurysm; **F** – apical 5-chamber view: the shape of the aneurysm; **G** – apical 5-chamber view: the shape of the aneurysm; computed tomography scans; **H** – the shape of the aneurysm; **I** – the shape of the aneurysm; **J** – the shape of the aneurysm
Abbreviations: Ao, aorta; AoAsc, ascending aorta; LA, left atrium; LV, left ventricle; LVOT, left ventricular outflow tract; RA, right atrium; RV, right ventricle

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of the anomaly suggested a diagnosis of a ventricular septum aneurysm; however, the diameter, shape, multicavitary structure, and wall calcification were unusual. Differentiation between a ventricular septum aneurysm and the dissection of the aortic bulb aneurysm was performed. A lack of continuity between the muscular part of the interventricular septum and aortic annulus with 2-directional blood flow was visualized (FIGURE 1D), and the entrance of the aneurysm was 20 mm.

CT angiography (FIGURE 1H–1J) confirmed the presence of a giant membranous ventricular septum aneurysm (75 × 40 × 50 mm) located under the valve with partial septum and wall calcifications. Coronary angiography did not reveal any pathology. The patient refused surgical intervention. He complained of palpitations but no arrhythmia was registered during the hospitalization. The patient could not receive antithrombotic treatment due to a history of alcohol abuse. Standard pharmacotherapy for heart failure was applied, including spironolactone, furosemid, metoprolol, and ramipril. Arterial hypertension

was also diagnosed but its duration remained unknown. As far as we know, the patient died within several weeks after hospital discharge.

We believe that this was a very rare case of what was most likely a congenital cardiac anomaly discovered at a relatively old age. To the best of our knowledge, this is the largest interventricular septal aneurysm diagnosed in vivo in an adult. The majority of the cases described in published literature have been reported at necropsy. One of them also presented atrioventricular blocks.¹

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