

## Images in Congenital Cardiac Disease

# Contrast enhanced computed tomography showing an isolated ventricular septal diverticulum

Farid Aliyev,<sup>1</sup> Hakan Erkan,<sup>2</sup> Cengizhan Türkoğlu<sup>1</sup>

Istanbul University, <sup>1</sup>Department of Cardiology, Division of Pacemaker and Electrophysiology, Institute of Cardiology, Haseki-Fatih, Istanbul and <sup>2</sup>Department of Cardiology, Cerrahpaşa Medical School, Cerrahpaşa-Fatih, Istanbul, Turkey

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A 22-YEAR-OLD MALE PATIENT, ADMITTED WITH atypical chest pain of sudden onset, had a holosystolic murmur at the apex, graded at 2 out of 6. His electrocardiogram was normal. Transthoracic echocardiography (Fig. 1), when analysed in apical four-chamber (a) and long axis (b) views, revealed an isolated diverticulum of the muscular ventricular septum (arrow). There was no obstruction of the right ventricular outflow, no shunting through the diverticulum, and only mild

regurgitation across the mitral valve. More detailed evaluation by contrast enhanced computed tomography (Fig. 2 and video 1 – see [www.journals.cambridge.org/CTY](http://www.journals.cambridge.org/CTY)), when analysed in sagittal two-chamber (a), short-axial (b and d), and coronal four-chamber (c) views, confirmed the presence of a large muscular out-pouching (asterisk) of the ventricular septum close to the region of the membranous part of the septum. Careful interrogation of the images showed that the out-pouching

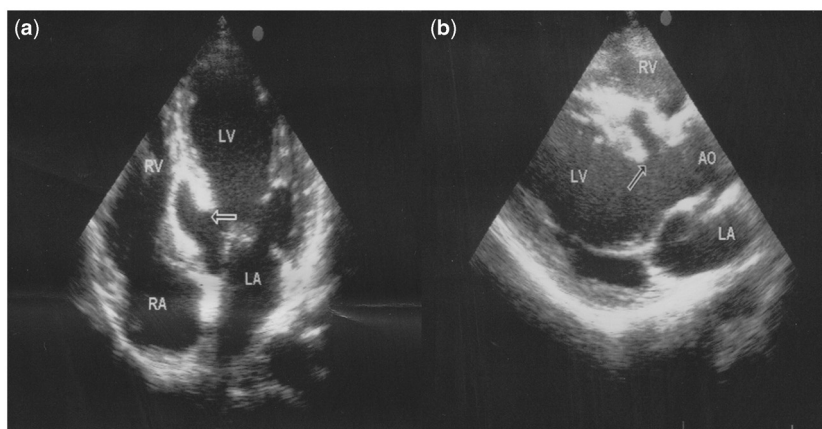


Figure 1.

Correspondence to: Farid Aliyev, MD, Istanbul University, Institute of Cardiology, Department of Cardiology, Division of Pacemaker and Electrophysiology, 34098 Haseki-Fatih, Istanbul, Turkey. Tel: ++90 505 389 63 91; Fax: ++90 212 571 41 01; E-mail: drfaridaliev@yahoo.com.tr

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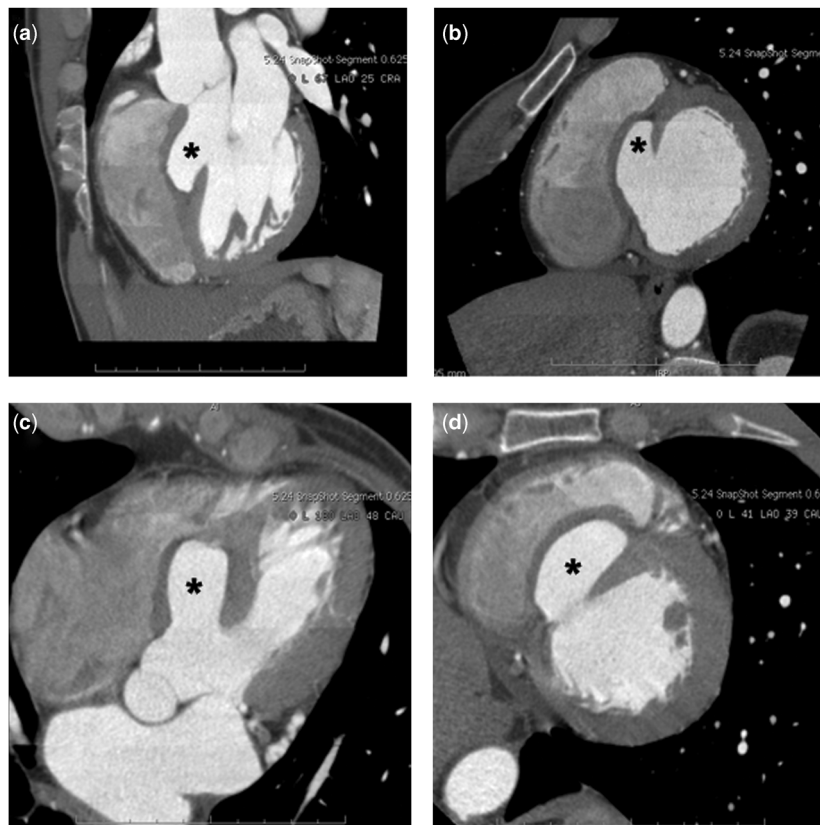


Figure 2.

had muscular walls, and hence was a diverticulum of the muscular ventricular septum, rather than an aneurysm of the membranous septum.

While refined noninvasive imaging has increased the specificity of diagnosis of left ventricular diverticula,<sup>1</sup> their classification, aetiology, and significance remain controversial. Myocardial noncompaction was excluded in our patient, since there was only a single ventricular recess. Intracardiac shunting might have favoured a diagnosis of septal aneurysm, but was not present in our patient. It is not possible to know whether this malformation represents the residua of a tunnel-like ventricular septal defect, which closed

spontaneously. In the absence of obstruction of the right ventricular outflow tract, or a ventricular septal defect, surgical intervention was not recommended. The patient remains under careful observation.

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#### Reference

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