

CASE IMAGE

Post-infarction aneurysm of left ventricle perforating the right ventricle

Sağ ventriküle açılan post-infarkt sol ventrikül anevrizması

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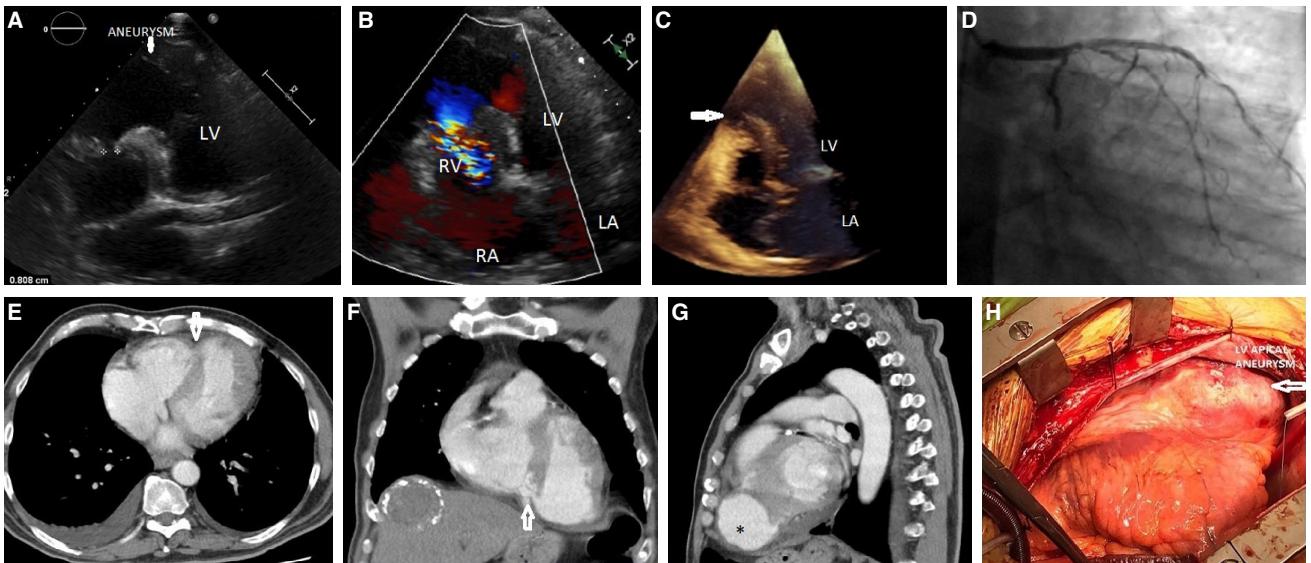
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A 63-year-old man was admitted to the emergency service with pulmonary edema and a non-ST elevation myocardial infarction. He had no prior history of coronary heart disease or trauma. Electrocardiography demonstrated Q waves in leads V1–V4, indicating a previous myocardial infarction. Two and 3-dimensional transthoracic echocardiography (TTE) revealed a left ventricle (LV) ejection fraction (EF) of 35% and an apical aneurysm with a 12 mm ventricular

septal rupture (VSR) communicating with the right ventricle (RV) (Figs. A-C.). Color flow Doppler echocardiography showed a left-to-right shunt between the LV apical aneurysm and the RV (Video 1*). Coronary angiography indicated that there was critical stenosis of the left anterior descending (LAD) artery and subtotal occlusion of the circumflex artery (Fig. D) (Video 2*). The right coronary artery showed non-critical plaques (Video 3*). Contrast-enhanced computed tomography showed a 50×35 mm aneurysm in the apical wall of the LV and its association with the RV via a VSR (Figs. E-G). Due to hemodynamic deterioration and potential rupture of the aneurysm, a surgical repair was planned. Myocardial revascularization was achieved by grafting the left mammary artery to the LAD artery and the saphenous vein to the obtuse marginal branch of the circumflex artery. The aneurysm was successfully excised and the ventricular septal defect was repaired with a Teflon felt (The Chemours Company, Wilmington, DE, USA) (Fig. H). The postoperative course was uneventful. TTE revealed no VSR or aneurysm. The LVEF increased to 42% and a reduction in LV diameters was also observed. The patient stayed in the intensive care unit for 3 days and was discharged on the seventh postoperative day. The recognition of an LV aneurysm with a VSR is challenging because it is usually fatal and early surgical intervention is clinically critical.



Figures– (A) Transthoracic echocardiography (TTE) apical 4-chamber view showing the left ventricle (LV) apical aneurysm and ventricular septal rupture; (B) Color Doppler echocardiography image of the ventricular septal defect (VSD) between the LV aneurysm and the right ventricle (RV), LA: Left atrium; RA: Right atrium; RV: Right ventricle; (C) Three-dimensional live TTE view of the aneurysm and VSD. Arrow indicates the VSD; (D) Coronary angiography view of critical stenosis of the left anterior descending artery and the subtotal occlusion of circumflex artery. Contrast-enhanced computed tomography (CT) image of the aneurysm (asterisk) and the ventricular septal defect (white arrow) (E) Axial view, (F) coronal view, (G) sagittal view; (H) Intraoperative view showing the left ventricular (LV) apical aneurysm opened from the outside of the LV. *Supplementary video files associated with this presentation can be found in the online version of the journal.