Giant unruptured left ventricular pseudoaneurysm as a rare cause of heart failure after an unnoticed coronary ischaemic event

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A 47-year-old male with a history of hypertension and smoking habit, but no known ischaemic heart disease was referred for a study of dyspnoea and asthenia in the last year.

EKG (Panel A) showed ST elevation and Q waves in the inferior leads. Transthoracic echocardiography (TTE) revealed dilated left chambers (Panel B), a left ventricular (LV) ejection fraction of 27% and the presence of a giant LV apical pseudoaneurysm sealed by a thrombus (Panels C and D, arrows), with a small pericardial effusion (Supplementary data online, Videos 1 and 2). There was no appearance of contrast agent (Panel D, Supplementary data online, Video 3) within the pericardial space. Cardiac magnetic resonance (cMR) reported similar findings (Panel E). Coronariography demonstrated an occlusion of the mid-LAD (left anterior descending) artery.

Due to the technical impossibility of performing surgical correction of the pseudoaneurysm, the patient underwent heart transplantation (explanted heart in Panel F, pseudoaneurysm in circle).

LV pseudoaneurysms are rare mechanical complications of acute myocardial infarction that often present as heart failure. TTE should be the first test to be performed. Others, such as transoesophageal echocardiography, cMR, or ventriculography, may also be undertaken. Surgery is the treatment of choice but other options should also be considered: percutaneous closure, heart transplantation, etc.

Panel A: EKG—sinus rhythm. Incomplete right bundle-branch block. ST elevation in the inferior wall (II, III, aVF). Specular ST changes in I, aVL. Panel B: 2D echocardiography, parasternal long-axis—left ventricle telediastolic diameter: 61 mm. Panel C: 2D echocardiography, apical view—giant left ventricular pseudoaneurysm. Neck: 43 mm. Bottom: 45 mm. The arrow points to the thrombus sealing the ventricular defect (16 mm). Panel D: echocardiography after injection of an echocontrast agent (SonoVue®)—the arrow points to the thrombus sealing the ventricular defect. There was a small pericardial effusion. The LVEF (27%) was calculated with 2D and 3D echo by Simpson’s method, using the echocontrast agent mentioned before. Panel E: cardiac MRI—giant left ventricular pseudoaneurysm. Panel F: explanted heart—apical pseudoaneurysm (red circle).

Supplementary data are available at European Heart Journal—Cardiovascular Imaging online.