

What left ventricular foreshortening can hide

Lo que puede ocultar la perspectiva del ventrículo izquierdo

Oana Mirea[✉], MD, PhD; Oana Neagoe, MD, PhD Student; and Ionut Donoiu, MD, PhD[✉]

Cardiology Department, University of Medicine and Pharmacy. Craiova, Romania.

Este artículo también está disponible en español

Key words: Myocardial infarction, Left ventricular aneurysm, Echocardiography
Palabras Clave: Infarto de miocardio, Aneurisma ventricular izquierdo, Ecocardiografía

An 82-year-old woman was referred to our hospital complaining of dizziness, nausea and abdominal pain, following an episode of temporary loss of consciousness. Her medical history included hypertension and atrial fibrillation. Physical examination was within normal limits with a heart rate of 90 beats per minute (bpm) and blood pressure of 110/60 mmHg. Electrocardiogram revealed atrial fibrillation, 94 bpm, slow progression of R wave in V₂-V₄ leads, and diffuse non-specific repolarization changes. High-sensitivity Troponin I level was slightly above the normal reference range. Transthoracic echocardiography was initially performed at the Emergency Department and it revealed left ventricular (LV) apical hypokinesia with moderate reduction of LV ejection fraction, mild mitral regurgitation, mild dilatation of right heart chambers, moderate tricuspid regurgitation and pericardial fluid (15 mm,

anterior to the right ventricle) (**Figure - Panel A and video 1, supplementary material**). The presence of pericardial effusion demanded a more meticulous echocardiographic evaluation which was performed by a senior doctor. The correct geometric acquisition of left ventricle demonstrated the rupture of the LV apex, which was contained by pericardium, forming a large pseudoaneurysm (**Figure - Panel B and video 2, supplementary material**). Contrast-enhanced computed tomography confirmed the presence of a pseudoaneurysm, with 43 × 45 mm dimensions, at the apex of the left ventricle (**Figure - Panels C and D, arrows**). Based on the findings, the patient was admitted to the Cardiology Department for further investigations and treatment. The present case highlights that LV foreshortening continues to remain a common source of error in routine echocardiography. Left ventricular pseudoaneurysm is a complication of myocardial infarction in which a rupture of the free wall is contained by adherent pericardium. There is a high risk of repeated rupture, so diagnosis needs to be established early. Left ventricle angiography is the gold-standard for diagnosis and differentiation from true aneurysms. Echocardiography is the most useful imaging method in the initial examination of patients with suspected myocardial infarction complications. Surgery is considered to be the appropriate treatment for pseudoaneurysms.

✉ I Donoiu
Department of Cardiology, University of Medicine and Pharmacy. 2 Petru Rareș Street, 200349 Craiova, Romania.
E-mail address: ionut.donoiu@umfcv.ro

