

## [ Image focus ]

## Left ventricular aneurysm: true, false or both?

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A 53-year-old man with a brief episode of atypical thoracic pain 10 days earlier was referred to the outpatient clinic for diagnostic workup. Negative T waves were present on the surface ECG in the inferior limb leads. Transthoracic echocardiography (TTE) revealed the presence of a small localized aneurysm of the inferobasal left ventricular (LV) wall. Careful examination of the aneurysm showed the presence of an abnormally thinned myocardial wall and a second smaller adjacent cavity (panel A) together with a localized pericardial effusion.

Cardiac computed tomography (CT) (panel B) and cardiac magnetic resonance imaging (MRI) (panel C) confirmed the presence of the LV aneurysm and the false aneurysm caused by focal free wall rupture contained by adherent pericardial tissue secondary to an inferior LV wall myocardial infarction. Proximal right coronary artery occlusion was confirmed by coronary angiography. Additionally, an 85% stenosis of the mid left anterior descending artery was present. True and false aneurysms were also identified during ventriculography (panel D). Intra-operative inspection of the LV showed a dyskinetic out-pouching myocardial segment, the true LV aneurysm. Incision of the aneurysmal structure made it

possible to disclose the presence of a second adjacent cavity, the LV false or pseudoaneurysm (panel E). The patient underwent successful resection of the pseudoaneurysm and repair with a bovine patch, together with coronary artery bypass graft (left inferior mammal artery to left anterior descending artery).

LV pseudoaneurysm is a possible complication of acute myocardial infarction with higher prevalence in multiple severe coronary artery disease. TTE is the first-line imaging modality for diagnosis. Suspicion should be raised when the wall of the LV aneurysm is very thin and localized pericardial effusion is present at TTE. Currently, MRI is considered the gold standard for detection and characterization of ventricular pseudoaneurysms and should be used as a second imaging modality to confirm the echocardiographic finding. Multimodality imaging comprising TTE and MRI or CT scan or ventriculography may contribute to the diagnosis and comprehensive assessment of true and false aneurysms, and to improve management of these patients.

**CONFLICT OF INTEREST:** none to declare.

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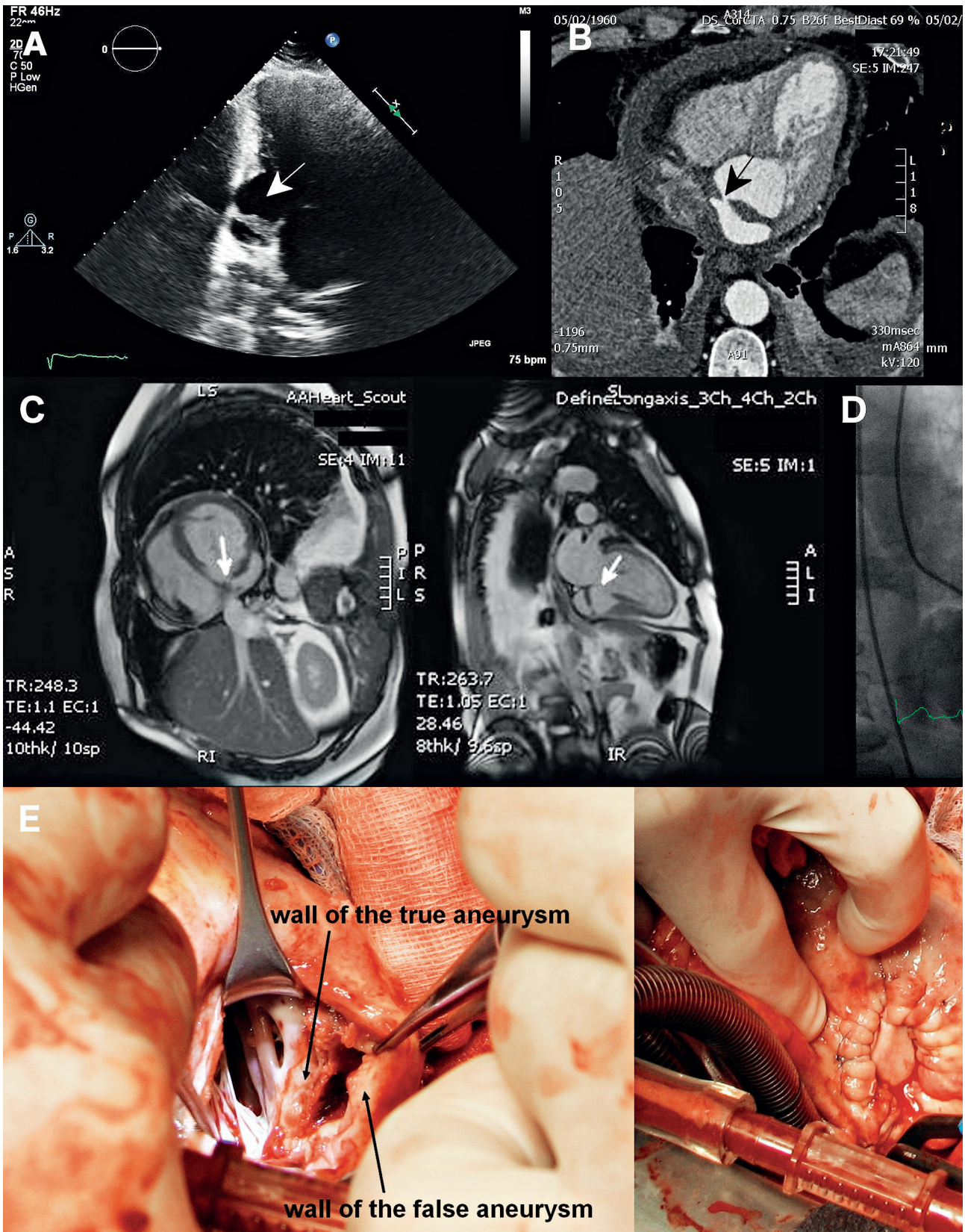


Fig.