Late Left Ventricular Pseudoaneurysm after Acute Myocardial Infarction

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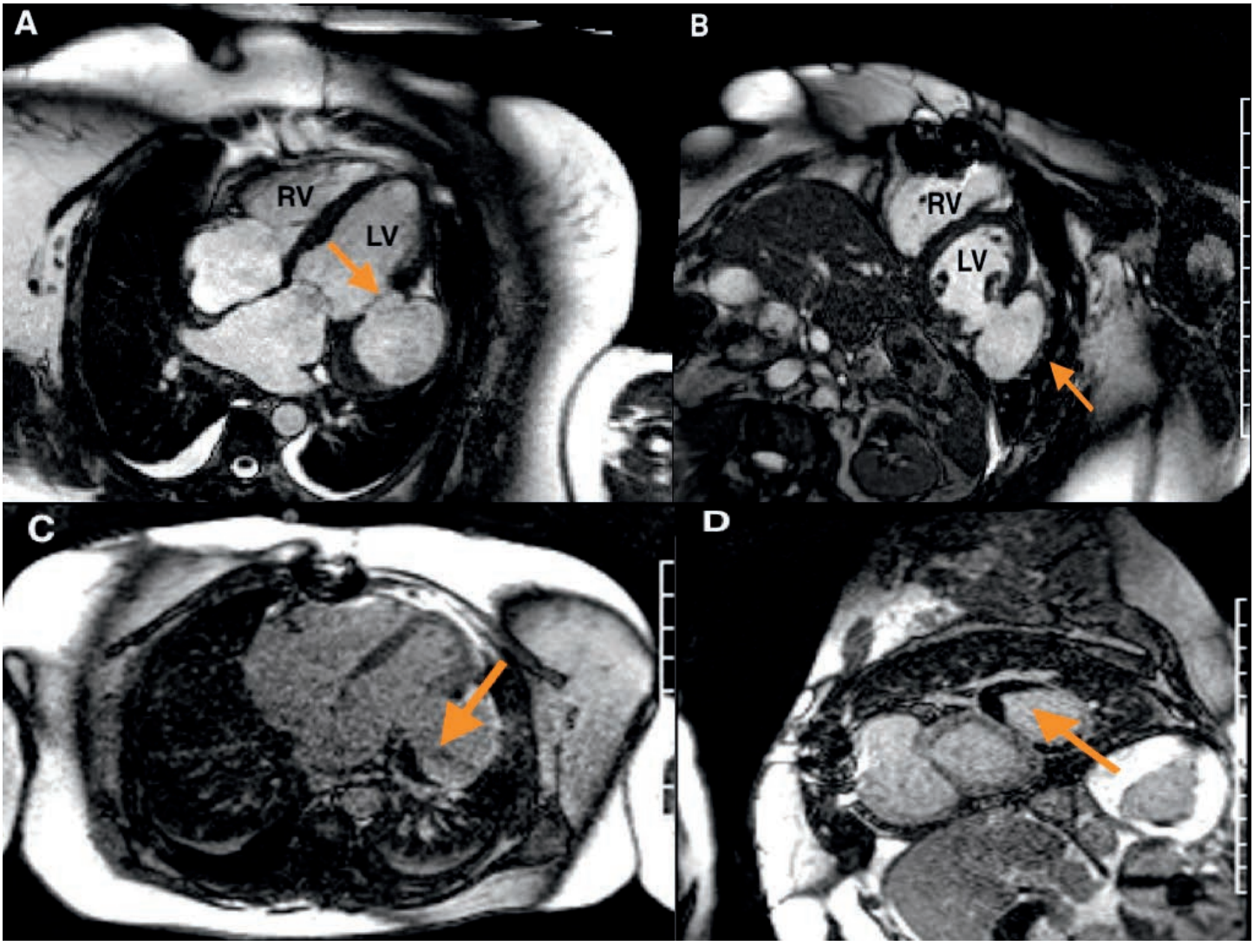
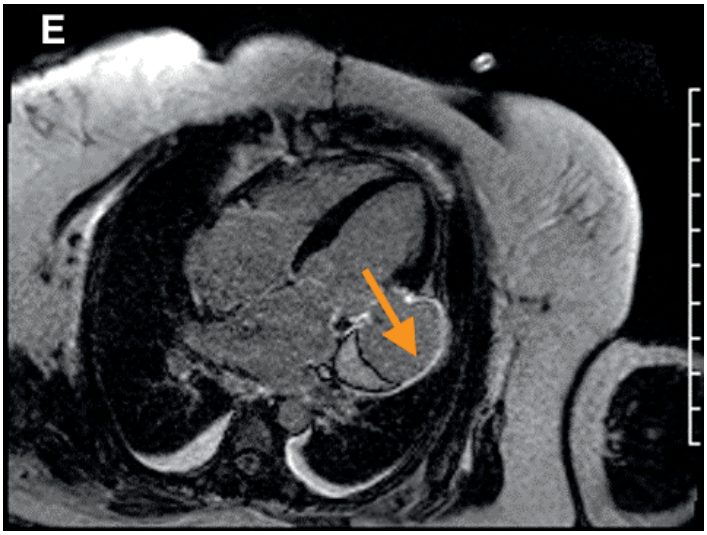
A 71-year-old female with diabetes and recent quadruple coronary artery bypass grafting for acute coronary syndrome 8 months prior presented with worsening shortness of breath on minimal exertion, orthopnea, and fatigue. She was found to have a large left ventricular (LV) mass on a computer tomography chest scan and was transferred to our hospital for further management.

The patient underwent cardiac magnetic resonance (CMR) imaging for further evaluation. CMR images demonstrated a free wall rupture of the basal inferolateral wall that resulted in a large LV pseudoaneurysm (Figures A, B). Long inversion time (TI) imaging after administration of gadolinium showed a large thrombus burden within the LV pseudoaneurysm (Figures C, D). There also was a marked delayed hyperenhancement of the adherent pericardium (Figure E).

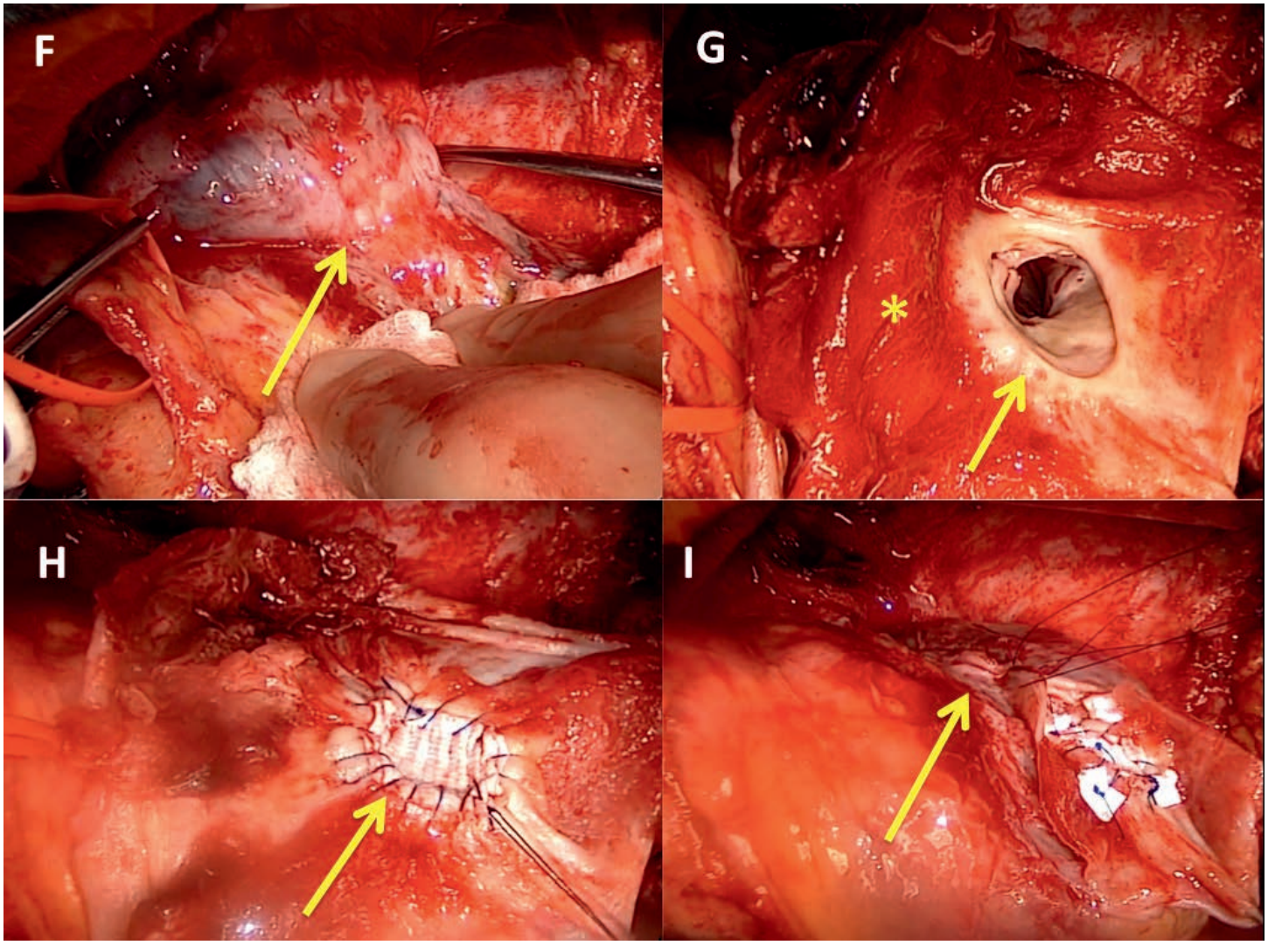
LV pseudoaneurysms form when a free wall rupture is contained by adherent pericardium (most frequently in the posterior wall,





followed by the lateral and apical walls).[1,2] A pseudoaneurysm is traditionally characterized by a small neck communication between the left ventricle and aneurysmal cavity in which the ratio of the diameter of entry and the maximal diameter of the pseudoaneurysm is < 0.5.[3] One of the distinguishing features of LV pseudoaneurysm compared with true aneurysm on CMR is marked delayed enhancement of the surrounding pericardium.[4] Left ventricular pseudoaneurysms have a 30% to 45% risk of rupture and a mortality rate of almost 50% when treated medically.[5,6] Thus, surgery is the preferred therapeutic option.

The patient promptly underwent cardiac surgery, which confirmed an inferolateral LV pseudoaneurysm (Figure F) with a small neck of LV pseudoaneurysm and a large lining thrombus (asterisk) shown in Figure G. She underwent uneventful LV pseudoaneurysm excision with patch repair (Figure H, I).



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