


**CLINICAL VIGNETTE**

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**Giant left ventricular pseudoaneurysm: a rare complication following left ventricular rupture caused by myocardial infarction**

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Six months after a myocardial infarction, a 62-year-old man was admitted with exertional dyspnoea (NYHA Class III).

Transthoracic echocardiography revealed a large pseudoaneurysm of the left ventricular (LV) free wall and a severe mitral regurgitation due to leaflet tethering caused by the altered ventricular geometry (Panel A).

Magnetic resonance imaging (MRI) demonstrated a thin aneurysmal wall (2–3 mm) and a maximum internal end-systolic pseudoaneurysmal dimension of $87 \times 56 \times 84$ mm (Panel B). Moreover, a thrombus formation and an almost completely scarred wall of the pseudoaneurysm were documented by late enhancement (Panel C).

Coronary angiography revealed subtotal stenoses of the left circumflex and right coronary arteries; ventricular angiography was not performed because of the potential risk of pseudoaneurysmal rupture.

During subsequent heart surgery (Panel D), the pseudoaneurysm was incised, its fibrous wall was resected, and the ruptured LV myocardium was sutured with a patch plasty. Moreover, the mitral valve needed to be replaced with a mechanical prosthesis, and a myocardial revascularization of the right coronary artery was performed. The patient made an uneventful recovery.

Although acute free intrapericardial rupture usually causes cardiac tamponade and death, LV pseudoaneurysm formation may be a very uncommon finding in chronic myocardial infarction.

Panel A. Four-chamber view demonstrating the giant pseudoaneurysm (asterisk); LV: left ventricle, LA: left atrium.

Panel B. Magnetic resonance imaging (1.5 T balanced Turbo-Field-Echo, b-TFE): four-chamber view showing end-systolic pseudoaneurysmal diameters of $87 \times 56 \times 84$ mm (asterisk), and the jet of the severe mitral regurgitation.

Panel C. Magnetic resonance imaging (1.5 T; balanced TFE): short-axis view demonstrating the myocardial scar of the entire wall of the pseudoaneurysm by late enhancement, and the mural thrombus (see arrow).

Panel D. Intraoperative finding: pseudoaneurysmal sack shortly before incision during operative resection. (Courtesy of K. Minami, Department of Cardiovascular Surgery, Nihon University School of Medicine, Japan).

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