A 68-year-old man was admitted to the emergency department with dyspnea for one week. He had a history of mechanical aortic valve replacement (CarboMedics, 23 mm; CarboMedics, Inc., Austin, TX, USA) for severe aortic regurgitation 15 years earlier. A physical examination revealed a blood pressure of 140/90 mmHg with tachypnea (22/minute). A combined systolic and diastolic murmur was detected over the third intercostal space at the left sternal border. The patient had no signs of infective endocarditis. After initial medical stabilization, a transthoracic echocardiography was performed, and a pseudoaneurysm of the mitral-aortic intervalvular fibrosa (MAIVF) was detected in the apical 3-chamber view (Fig.-A, Video 1`). Transesophageal echocardiography (TEE) was performed for further evaluation, and to measure the size of the pseudoaneurysm (Fig. B, C, Video 2, 3`). The pseudoaneurysm of the MAIVF surrounded more than 50% of the aortic mechanical valve (Fig. D, Video 4`), and demonstrated systolic expansion and diastolic collapse, which is characteristic for a pseudoaneurysm (Fig. E, F, Video 5, 6`). The presence of the pseudoaneurysm was also confirmed using a multidetector computed tomography (Fig. G-I). The patient was transferred for cardiovascular surgery. The MAIVF connects the anterior mitral leaflet to the posterior portion of the aortic annulus. It is a fibrous and avascular region vulnerable to injury and infection, making the MAIVF prone to the development of a pseudoaneurysm. Pseudoaneurysm of the MAIVF is a rare, but potentially life-threatening sequela of endocarditis or valve surgery. It is best diagnosed with TEE, but cardiac computed tomography and magnetic resonance imaging may also be useful to determine the size and local complications of the pseudoaneurysm.