

## Multimodality imaging of a large pseudoaneurysm of the mitral aortic intervalvular fibrosa

### Mitral-aortik intervalvüler fibroza yalancı anevrizmasının çoklu yöntemlerle gösterilmesi

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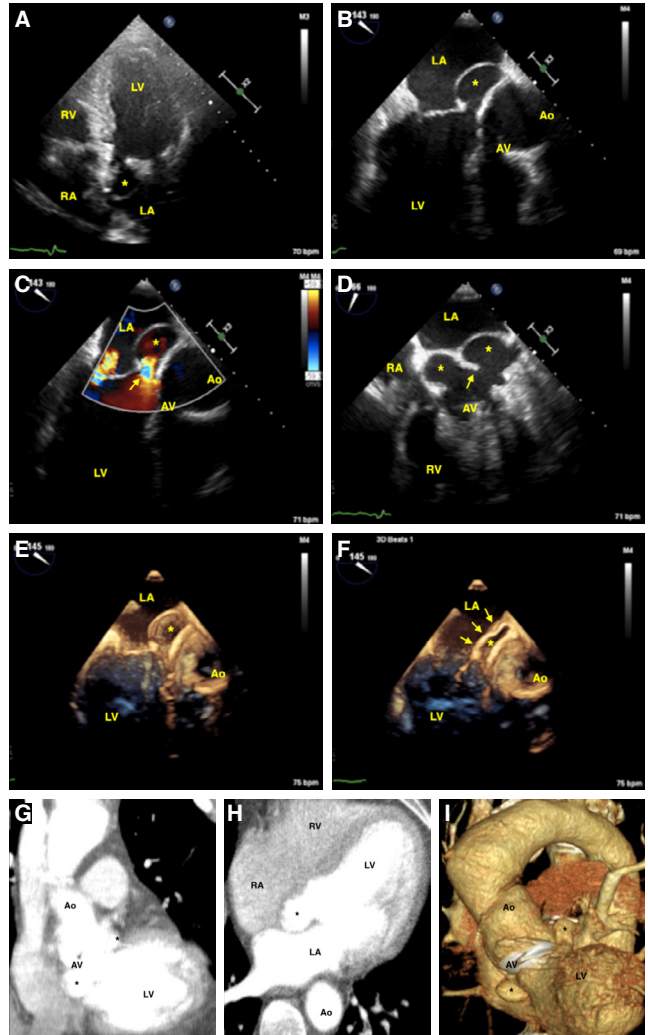
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A 68-year-old man was admitted to the emergency department with dyspnea for one week. He had a history of mechanical aortic valve replacement (CarboMedics, 23 mm; CarboMedics, Inc., Austin, TX, USA) for severe aortic regurgitation 15 years earlier. 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 cardiac 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.



**Figures–** (A) Transthoracic echocardiography apical 5-chamber view of the pseudoaneurysm of the MAIVF (asterisk). (B) TEE mid-esophageal long axis view of the pseudoaneurysm of the MAIVF (asterisk). (C) TEE mid-esophageal long axis view with color Doppler showing flow (arrow) to the pseudoaneurysm of the MAIVF (asterisk). (D) TEE mid-esophageal short axis view revealing septa (arrow) within the pseudoaneurysm of the MAIVF (asterisks). (E) 3D-TEE mid-esophageal long axis view illustrating a pseudoaneurysm of the MAIVF (asterisk) with systolic expansion (arrows). (F) 3D-TEE mid-esophageal long axis view revealing a pseudoaneurysm of the MAIVF (asterisk) with diastolic collapse (arrows). (G) Coronal CT image illustrating a pseudoaneurysm of the MAIVF (asterisks). (H) Transverse CT showing a pseudoaneurysm of the MAIVF (asterisks). (I) 3D-CT showing a pseudoaneurysm of the MAIVF (asterisks). CT: Computed tomography; MAIVF: Mitral-aortic intervalvular fibrosa; TEE: Transesophageal echocardiography. \*Supplementary video files associated with this presentation can be found in the online version of the journal.