Pseudoaneurysm of the mitral-aortic intervalvular fibrosa in a patient with Takayasu's arteritis

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An asymptomatic 35-year-old woman with Takayasu's arteritis, moderate aortic regurgitation, left ventricular (LV) hypertrophy and hypertension was referred to the echocardiography laboratory at the Yuksek Ihtisas Hospital (Ankara, Turkey) for a routine clinical follow-up. Transthoracic echocardiography revealed a suspected aneurysm in the subaortic region adjacent to the left sinus of Valsalva (Figure 1A). Subsequent three-dimensional real-time transthoracic echocardiography clearly demonstrated a pseudoaneurysm in the mitral-aortic intervalvular fibrosa (MAIVF) (Figure 1B). Specific echocardiographic features identified the lesion as a pseudoaneurysm: expansion in systole and collapse in diastole (Figure 1C), and communication between the sac and the LV outflow tract (Figure 1B).

The MAIVF is the fibrous junction between the noncoronary and left coronary cusps of the aortic valve and the anterior mitral leaflet (1). Most pseudoaneurysms of the MAIVF form as complications of aortic valve endocarditis or aortic root surgery (2). The prognosis is grave because of the high risks of rupture, peripheral embolization and destruction of the aortic or mitral valves (1-3). Of note, the patient had not undergone cardiac surgery, and tests showed no evidence of

infective endocarditis. It is known that a pronounced shear effect on tissues near MAIVF can lead to pseudoaneurysm formation (3). In Takayasu's arteritis, the MAIVF is exposed to high LV intracavitary pressure due to elevated central aortic pressure. Pseudoaneurysm of the MAIVF is unusual in the setting of Takayasu's arteritis. Surgical correction is life-saving, so clinicians should keep in mind that such lesions can occur in this patient group. Three-dimensional real-time transthoracic echocardiography is an excellent, noninvasive way to accurately diagnose pseudoaneurysms of the MAIVF.

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Figure 1 **A** Transthoracic echocardiography showing suspected aneurysm in the subaortic region adjacent to the left sinus of Valsalva (arrowhead). **B** Three-dimensional, real-time transthoracic echocardiography showing a pseudoaneurysm in the mitral-aortic intervalvular fibrosa (arrow). **C** Echocardiography showing expansion in systole and collapse in diastole (arrows) – features characteristic of a pseudoaneurysm. AOV Aortic valve; LA Left atrium; LV Left ventricle

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