Mitral regurgitation secondary to mitral anterior leaflet rupture after mitral valvuloplasty

Mitral valvüloplasti sonrası mitral ön kapak rüptürüne sekonder olarak gelişen mitral yetmezlik

A 32-year-old female patient was admitted to our outpatient clinic for routine checkup. In her history, she underwent percutaneous mitral balloon valvuloplasty due to mitral stenosis three months ago. On physical examination, an apical 2/6 systolic murmur was heard. Electrocardiography showed normal sinus rhythm. Two-dimensional transthoracic echocardiography revealed eccentric mitral regurgitation, which was not present previously. To clarify this pathology, we performed two- and three -dimensional transesophageal echocardiography (2-D and 3-D TEE). 2-D TEE mid-esophageal view demonstrated a cleft on the mitral anterior leaflet (Fig. 1A arrow and Video 1A. See corresponding video/movie images at www.anakarder.com). Color Doppler echocardiography showed a mitral regurgitation resulting from this cleft (Fig.1B and Video 1B. See corresponding video/movie images at www.anakarder.com). 3-D color full volume TEE confirmed mitral regurgitation at the anterior mitral leaflet (Fig. 1C and Video 1C. See corresponding video/movie images at www.anakarder.com). 3D Live Zoom acquisition revealed the cleft at A2 scallop (Fig. 1D arrow and Video 1D. See corresponding video/movie images at www.anakarder.com).

In patients with mitral regurgitation, three-dimensional echocardiography may provide the etiology of the mitral regurgitation and the correct localization of the pathology and guarantee optimal surgical guidance.

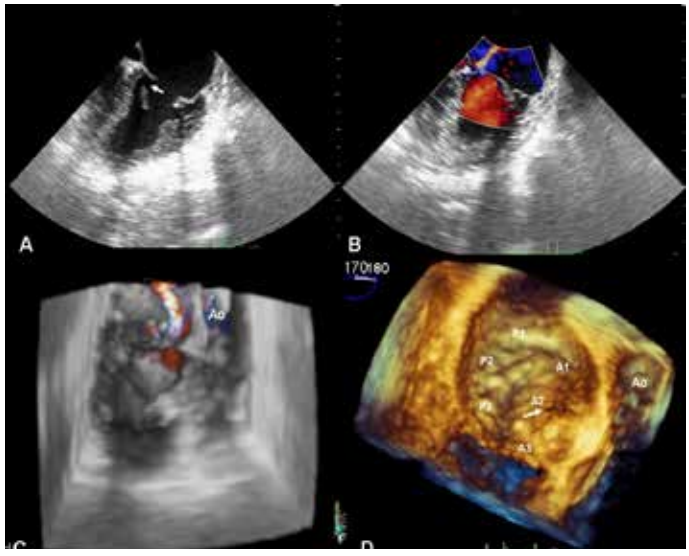

Figure 1. 2-D TEE views showing a perforation on the anterior mitral valve (A), color Doppler 2-D TEE views revealing a mitral regurgitation resulting from this perforation (B), 3-D color full volume TEE confirmed mitral regurgitation at the anterior mitral leaflet (C) and 3D Live Zoom acquisition revealed the cleft at A2 scallop

2-D - two-dimensional, 3-D - three- dimensional, TEE - transesophageal echocardiography

Video 1A. Two-dimensional transesophageal echocardiography (2-D TEE) showing a perforation on the anterior mitral valve

Video 1B. Color Doppler 2-D TEE revealing a mitral regurgitation resulting from this perforation

2-D TEE - two-dimensional transesophageal echocardiography

Video 1C. 3-D color full volume TEE confirmed mitral regurgitation at the anterior mitral leaflet

3-D - three- dimensional, TEE - transesophageal echocardiography

Video 1D. 3D Live Zoom acquisition revealed the cleft at A2 scallop

3-D - three- dimensional

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Incidental diagnosis of an aneurysm of the mitral valve posterior leaflet

Mitral kapak arka yaprak anevrizmasının rastlantısal tanısı

Mitral valve aneurysms are also most frequently associated with endocarditis, but in rare cases of mitral aneurysms are associated with connective tissue diseases or congenital malformation. Transesophageal echocardiography is a more sensitive tool than transthoracic echocardiography to identify aneurysm.

A 35-year-old male patient was admitted to our clinic with progressive shortness of breath lasting for one year. He had no history of heart disease, endocarditis and connective tissue disease. On his physical examination, blood pressure and heart rate were 115/60 mmHg and 80 bpm respectively. Heart and respiratory auscultation findings were normal except 4/6 systolic murmur, which was heard maximally at the apex. Electrocardiogram showed sinus rhythm. Laboratory findings did not suggest of infection, blood cultures were negative and he had not fever history. Transthoracic echocardiography showed severe mitral regurgitation and a localized bulge of the mitral posterior leaflet toward the left atrium with systolic expansion and diastolic collapse. Transesophageal echocardiography revealed a thin-walled, saccular 0.7x1.0 cm mitral valve aneurysm on the left atrial surface, expanding and decompressing during cardiac cycle (Fig. 1A, Video 1. See corresponding video/movie images at www.anakarder.com). Color Doppler imaging confirmed severe mitral regurgitation and communication of aneurysm with left ventricular cavity (Fig. 1B, Video 2. See corresponding video/movie images at www.anakarder.com). Mitral valve aneurysms were confirmed at operation and valve repair was performed. After operation, echocardiography showed no significantly mitral regurgitation. The patient was discharged uneventfully.