

leaflet is involved due to aortic regurgitation. Mitral anterior leaflet endocarditis may cause aneurysmal formation and then it can lead to mitral perforation. The sensitivity of TTE ranges from 40 to 63% while that of TEE ranges from 90 to 100% for endocarditis. Furthermore, newer imaging modalities such as 3D TEE can provide a more detailed evaluation especially for complications of destructive endocarditis.

**Video 1.** A) Two-dimensional transesophageal echocardiography showing mitral valve perforation and aortic valve vegetation, B) Two-dimensional transesophageal echocardiography displaying severe aortic and mitral regurgitation because of destructive endocarditis, C) 3D zoom modality TEE displaying mitral valve perforation at A2 scallop

Ao - aorta, arrow-perforation of anterior mitral valve, asterisk-aortic vegetation, LV - left ventricle, TEE - transesophageal echocardiography

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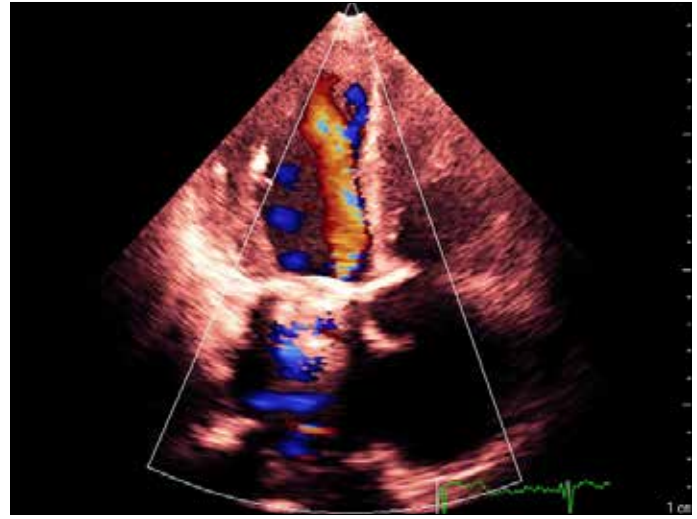
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## Prosthetic mitral valve obstruction: diagnosis with real-time three-dimensional transesophageal echocardiography

*Mitral protez kapak disfonksiyonu: Gerçek zamanlı 3 boyutlu transözefageal ekokardiyografik görüntüleme*

Prosthetic valve obstruction is a fatal complication of mechanical valve replacement surgery which develops due to thrombosis or pannus formation. A 62-year-old-man who underwent prosthetic mitral valve (PMV) replacement four months ago, was admitted to our hospital with acute heart failure. The INR was 10 on presentation. However, two months before his admission, the INR value was 1.5. On transthoracic echocardiography (TTE) mean diastolic transmitral gradient was 13 mmHg and effective regurgitant orifice area 1 cm<sup>2</sup>. Based on TTE image, we suspected restricted motion of the posterior leaflet of prosthetic mitral valve (Fig. 1). Two-dimensional (2-D) transesophageal echocar-



**Figure 1.** Transthoracic echocardiographic image of the stuck prosthetic mitral valve

diography (TEE) revealed dysfunction of posterior leaflet (Video 1. See corresponding video/movie images at [www.anakarder.com](http://www.anakarder.com)). Cine fluoroscopy confirmed malfunction of the mitral posterior leaflet (Video 2. See corresponding video/movie images at [www.anakarder.com](http://www.anakarder.com)). Real time three dimensional (3D) TEE (iE 33 ultrasound, Philips Medical Sytems) demonstrated restricted motion of posterior leaflet (Video 3. See corresponding video/movie images at [www.anakarder.com](http://www.anakarder.com)). There was no evidence of thrombus on the PMV, in 3D TEE examination. 3D images demonstrated a pannus like mass extending to both the atrial and ventricular sides of the prosthetic valve. Because of his critical condition, urgent operation was offered, however immediately after TEE examination his clinical status deteriorated and he died. In this case, real time 3-D TEE has been presented as a sufficient approach, providing accurate assessment of early prosthetic valve dysfunction.

**Video 1.** Transesophageal echocardiographic image of prosthetic mitral valve

**Video 2.** Cine fluoroscopy showing dysfunction of the posterior leaflet

**Video 3.** Real-time 3D transesophageal echocardiographic demonstration of stuck posterior leaflet

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