

The value of three dimensional echocardiography in the detection of prosthetic mitral valve dehiscence

Yapay mitral kapak ayrılmasının saptanmasında üçboyutlu ekokardiyografinin önemi

Sait Demirkol
Şevket Balta
Murat Ünlü#
Zekeriya Arslan*

Department of Cardiology,
GATA Medical Faculty, Ankara;

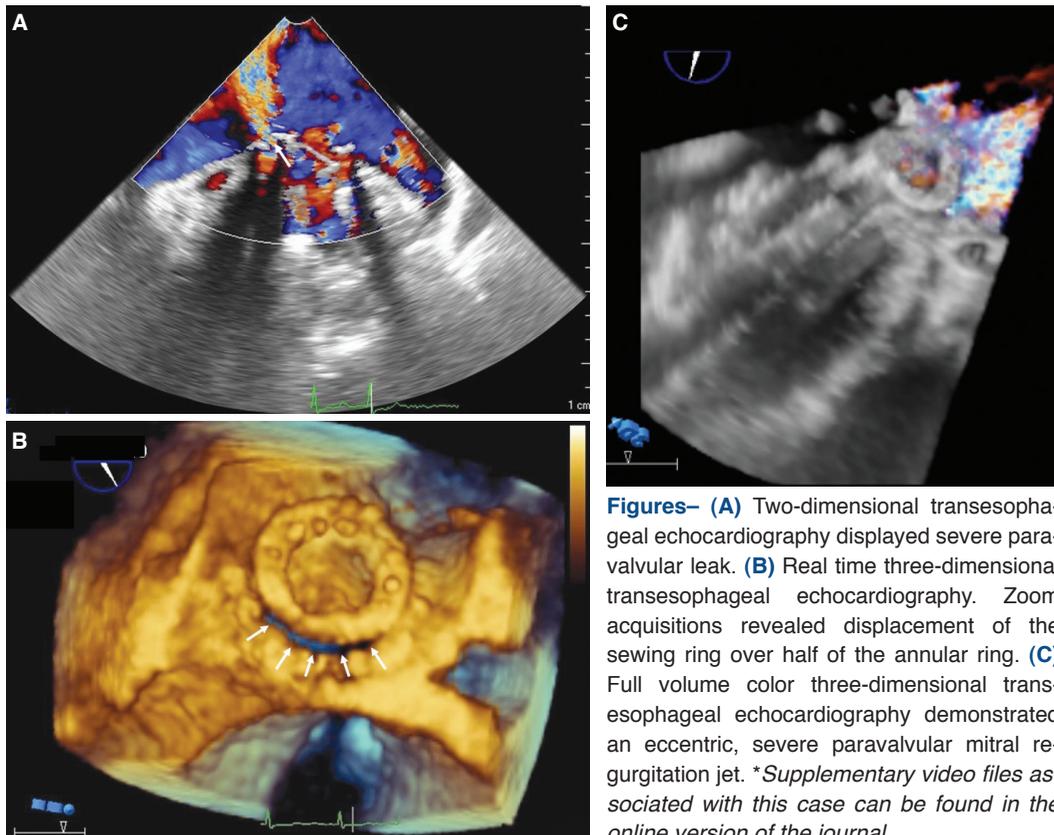
#Department of Cardiology,
Beytepe Military Hospital, Ankara;

Department of Cardiology,
*Gelibolu Military Hospital,
Çanakkale, Turkey

A 45-year-old female patient came to our clinic with decompensated heart failure. She had undergone mitral valve replacement (MVR) five years ago. After surgery, paravalvular mitral leak repair had been performed two times. Physical examination revealed bilateral inspiratory rales, jugular venous distension, S3 gallop, and peripheral edema. The 12-lead electrocardiogram showed sinus tachycardia. Two dimensional transthoracic echocardiography (2D TTE) revealed severe mitral regurgitation, while two dimensional

transesophageal echocardiography (2D TEE) displayed severe paravalvular leak (Fig. A, Video 1). For further evaluation of this pathology, we applied three-dimensional transesophageal echocardiography (3D TEE). Real time 3D TEE Zoom acquisitions revealed displacement of the sewing ring over half of the annular ring (Fig. B, arrows and Video 2). Full volume color 3D TEE demonstrated an eccentric, severe paravalvular mitral regurgitation jet (Fig. C, Video 3). This case emphasizes the role of 3D TEE in patients with paravalvular mitral regurgitation, which enables us to determine an excellent anatomic identification of the width of dehiscence. It also allows us to visualize the number of such defects and may facilitate decision-making, such as whether the patient should undergo surgical intervention or percutaneous transcatheter device closure procedures. The patient in this study underwent successful mitral valve replacement because the dehiscence was large and inappropriate for percutaneous closure.

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Figures– (A) Two-dimensional transesophageal echocardiography displayed severe paravalvular leak. **(B)** Real time three-dimensional transesophageal echocardiography. Zoom acquisitions revealed displacement of the sewing ring over half of the annular ring. **(C)** Full volume color three-dimensional transesophageal echocardiography demonstrated an eccentric, severe paravalvular mitral regurgitation jet. *Supplementary video files associated with this case can be found in the online version of the journal.