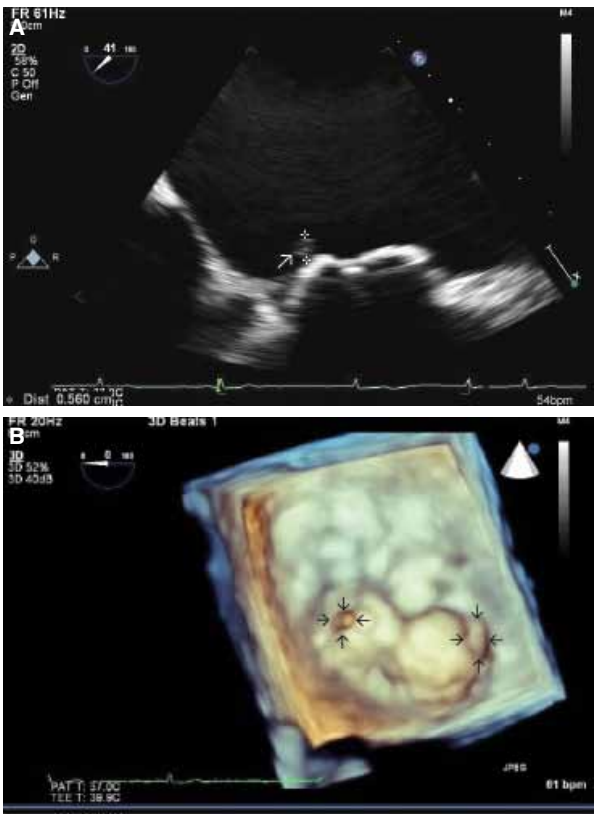
Degenerated bioprosthetic mitral valve thrombosis as a rare cause of cardiac source of thromboembolism

Kalp kaynaklı tromboembolinin nadir bir nedeni olarak dejenere olmuş mitral biyoprotez kapak trombozu

Macit Kalçık
Ozan Mustafa Gürsoy
Cengiz Köksal
Mehmet Özkan

Department of Cardiology, Kosuyolu Kartal Heart Training and Research Hospital, Istanbul

A 54-year-old woman who had undergone mitral valve surgery (29 No BiocorTM porcine prostheses) 21 years earlier was admitted to the emergency department complaining of transient loss of vision in the left eye for five minutes. The bioprosthetic valve had been preferred as the patient had desired pregnancy. On admission, her neurological and retinal fundus examinations were normal as well as cranial computed tomography. She had been complaining of progressive dyspnea for the past five years. Transthoracic echocardiography showed normal left ventricular systolic functions. Subsequently, two-dimensional (2D) transesophageal echocardiography (TEE) revealed increased transvalvular gradients (25/12 mmHg) with decreased valve area (1.1 cm^2). Two mobile thrombi (5 mm and 3 mm) were detected on the left atrial side of the leaflets (Fig. A, Video 1*). Real-time (RT) three-dimensional (3D) TEE confirmed the presence of mobile thrombi on the left atrial side of the bioprosthetic valve (Fig. B, Video 2*). Doppler ultrasound revealed normal blood flow in carotid and vertebral arteries, which led us to consider that the thrombi on the bioprosthetic valve was likely to be the source of thromboembolism and transient ischemic attack. The patient underwent redo valve surgery, and the degenerated bioprosthetic valve was replaced with a mechanical valve (29 mm Carbomedics). The thrombi were observed on the atrial side of the valve during surgery (Fig. C), and pathological examination confirmed the diagnosis of thrombosis. Unlike mechanical prosthetic valves, bioprosthetic valves are associated with a very low rate of thrombosis. Thromboembolic complications may be associated with bioprosthetic valve thrombosis. RT-3D TEE permits detailed structural assessment of prosthetic valves and therefore has advantages over 2D TEE in terms of depiction of prosthetic valve thrombosis.



Figures– Two-dimensional transesophageal echocardiography (TEE) showed 5 mm mobile thrombus attached on the atrial side of the degenerated bioprosthetic mitral valve **(A)** and real-time three-dimensional (3D) TEE confirmed the mobile thrombi on the left atrial side of the bioprosthetic valve **(B)**. **(C)** Macroscopic appearance of the two mobile thrombi (arrows) located on the left atrial side of the degenerated mitral bioprosthetic valve during surgery. **Supplementary video files associated with this presentation can be found in the online version of the journal.*