CASE IMAGE

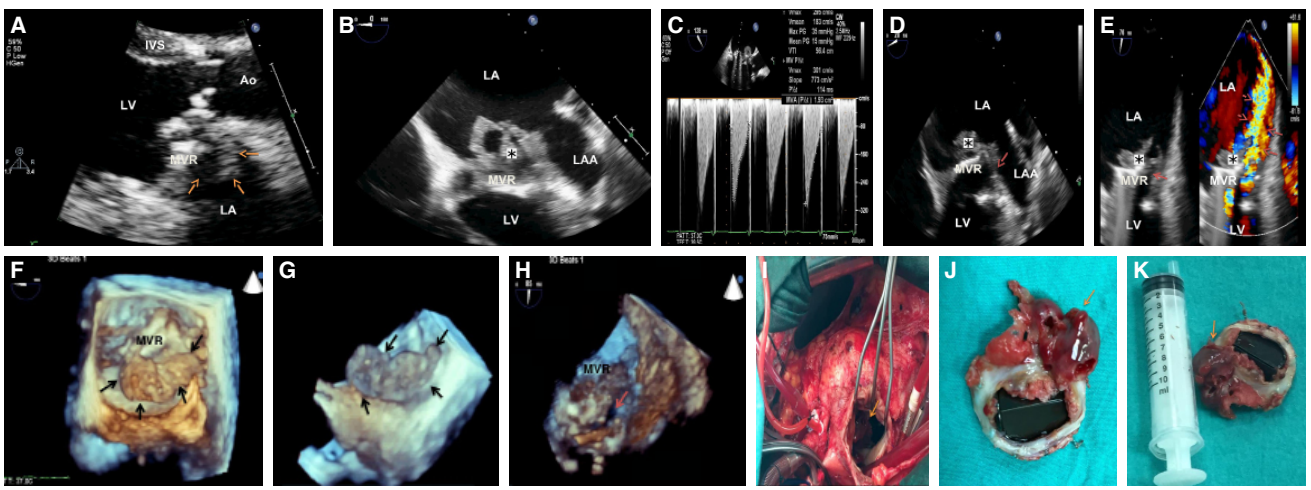
Giant vegetation in mitral prosthetic heart valve endocarditis

Mitral protez kalp kapak endokarditinin dev vejetasyonu

Ahmet Güner[1]
Mehmet Altug Tuncer[2]
Mehmet Aytürk[1]
Semih Kalkan[1]
Mehmet Özkan[1]

[1]Department of Cardiology, Kartal Koşuyolu High Speciality Training and Research Hospital, İstanbul, Turkey
[2]Department of Cardiovascular Surgery, Kartal Koşuyolu High Speciality Training and Research Hospital, İstanbul, Turkey

A 44-year-old female patient was admitted to the hospital due to shortness of breath, shivering, and fever (38.3°C). She had undergone mitral valve replacement for rheumatic heart disease with severe mitral stenosis 11 months earlier. She had repeatedly been hospitalized in the previous 2 months with a recurrent fever, exercise tolerance deterioration with a decrease in body weight of 6 kg, and increased inflammatory parameters. On admission, the international normalized ratio was 3.02. A bedside transthoracic echocardiography (TTE) indicated that there was a left atrial mass, 19x21 mm in size, with irregular contours and heterogeneous hyperechoic density (Fig. A). This large mass was found to be oscillating through the valve. Transesophageal echocardiography (TEE) was performed to provide additional detail. The 2-dimesional TEE examination revealed a left ventricle ejection fraction within normal limits, a mean diastolic mitral transvalvular gradient of 15 mm Hg, and a mitral valve area of 1.9 cm^2 with a large (41×35 mm), irregular, hyperechoic mass attached at the annulus of the valve (Fig. B–D). Color Doppler imaging showed that there was severe paravalvular regurgitation in systole (Fig. E). Real-time 3D TEE confirmed the presence of a giant, irregular mass and revealed dehiscence of 40% of the annulus of the prosthetic heart valve (Fig. F–H). A diagnosis of mitral prosthetic valve infective endocarditis was made on the basis of the modified Duke criteria for endocarditis. Targeted antibiotic therapy (vancomycin, gentamicin, rifampicin) was implemented and Streptococcus agalactiae was determined to be present in triple-positive blood culture growth. Hemodynamic stabilization was achieved, and on the sixth day of antibiotic treatment, the patient was operated on successfully. Intraoperative images confirmed dehiscence of the annulus and vegetation on the PHV (Fig. I–K). The patient remained in intensive care for 5 days with regular follow-up. Although TTE is the first imaging tool typically used for a noninvasive evaluation of an intracardiac mass, TEE is the gold standard. A giant growth of vegetation and prosthetic valve endocarditis is a very rare clinical entity; however, it may occur as a result of a causative infection agent, late diagnosis, or immunosuppression. The primary treatment is surgery.



Figures– (A) Transthoracic echocardiography image depicting a left atrial mass 19x21 mm in size with irregular contours and heterogeneous hyperechoic density; **(B, C and D)** Transesophageal echocardiography image indicating the mean diastolic mitral transvalvular gradient of 15 mm Hg and a mitral valve area of 1.9 cm^2 with a 41x35 mm, irregular, hyperechoic mass attached at the annulus of the valve; **(E)** Color Doppler shows that there is severe paravalvular regurgitation in systole. **(F, G)** Real-time 3-dimensional transesophageal echocardiography image confirming a giant, irregular mass (black arrows); **(H)** Real-time 3-dimensional transesophageal echocardiography image revealing a dehiscence of 40% of the annulus of the prosthetic heart valve (red arrow); **(I)** Intraoperative image depicts the vegetation on the mitral prosthetic valve (yellow arrow); **(J, K)** Macroscopic images confirm the giant vegetation on the prosthetic valve (yellow arrow). **Supplementary video files associated with this presentation can be found in the online version of the journal.*