An unusual case of infective endocarditis: annulus vegetation

Zafer Isilak,[1] Onur Sinan Deveci,[1] Murat Yalçın,[1] Mehmet Incedayi[2]

[1]GATA Haydarpasa Teaching Hospital, Department of Cardiology, Istanbul, Turkey
[2]GATA Haydarpasa Teaching Hospital, Department of Radiology, Istanbul, Turkey

Correspondence to
Dr Mehmet Incedayi,
m_incedayi@yahoo.com

DESCRIPTION

A 24-year-old man without any known cardiac disease was admitted to our hospital because of fever and general fatigue. On physical examination, his temperature was 39° and cardiovascular examination revealed a 3/6 holosystolic murmur in the left fourth intercostal space radiating to the axilla.

Two-dimensional and three-dimensional transthoracic echocardiography (TTE) revealed a mean left ventricular ejection fraction of 65%, Left heart chambers were in normal size. TTE detected a floppy mass arising from the anterior leaflet of the mitral valve and moderate mitral regurgitation at apical four-chamber and parasternal long-axis windows (figures 1A,B,D and 2A,B). A subsequent real-time three-dimensional transesophageal echocardiography (3D-RT-TEE) was also conducted for precise anatomic definition. Surprisingly, 3D-RT-TEE revealed a 25×27 mm floppy vegetation on the posterior annulus of the mitral valve with moderate-to-severe mitral regurgitation (figures 1D, 2C,D). The patient was diagnosed as infective endocarditis. Treatment with intravenous amipisilin plus gentamisin was initially started. His serial blood culture results were persistently negative. On day 7, as the patient developed dyspnoea suggestive of heart failure, therefore, the patient was referred to cardiac surgery, after the medical therapy has been revised to intravenous vancomycin plus gentamisin. The vegetation was successfully removed with surgery, and after 6 weeks of antibiotic therapy, the patient was discharged with total cure (figure 3).

In this case, real-time 3D echocardiography helped the cardiologist understand the morphological characteristics and precise localisation and attachment point of the vegetation.

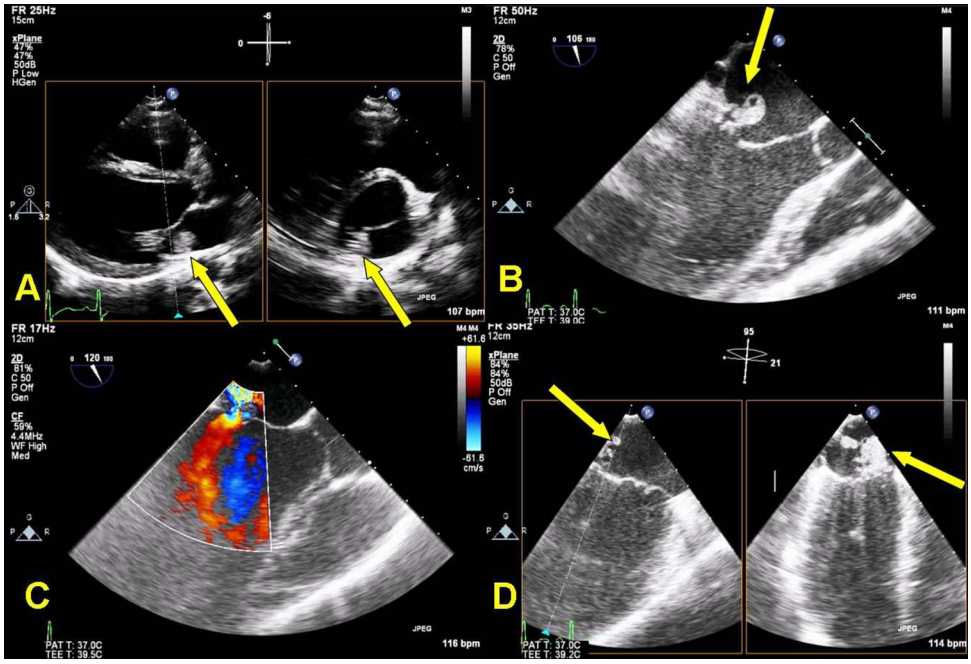

Figure 1 (A) parasternal long-axis window of two-dimensional and three-dimensional transthoracic echocardiography (TTE) demonstrates a floppy vegetation. (B) Three-dimensional transesophageal echocardiography (TEE) image from 100° midesophageal level revealed the vegetation. (C) TEE image from 120° midesophageal level showed vegetation and moderate-to-severe mitral regurgitation by colour Doppler echocardiography. (D) TEE image from X-plain 120° midesophageal level showed vegetation.

To cite: Isilak Z, Deveci OS, Yalçın M, *et al*. *BMJ Case Reports* Published Online First: [*Please include* Day Month Year] doi:10.1136/bcr-2012-008089

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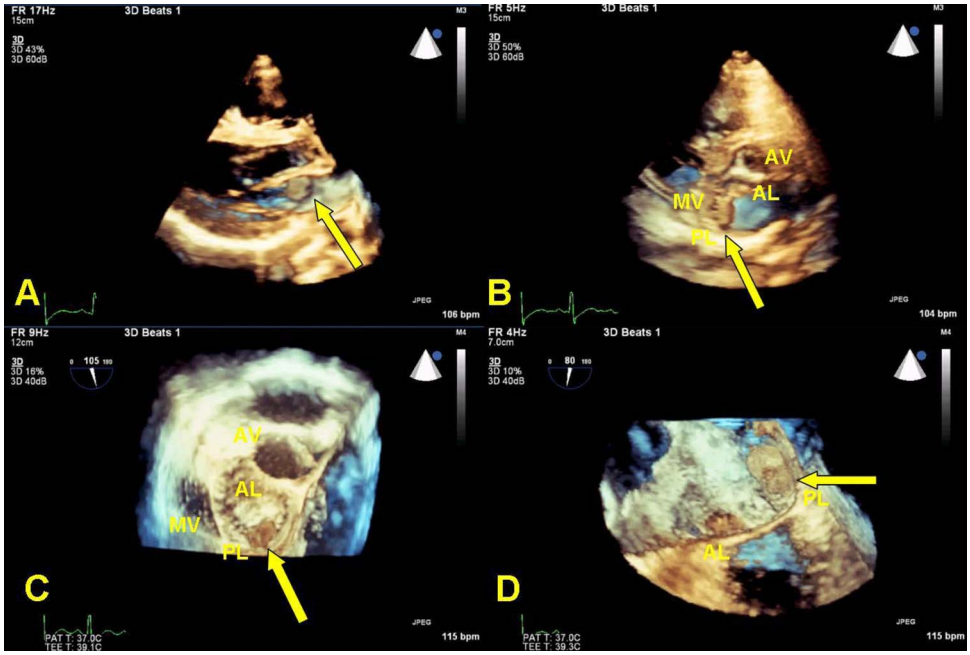

Figure 2 (A) Real-time three-dimensional transesophageal echocardiography (3D-RT-TEE) with mitral valve vegetation (arrow). (B) 3D-RT TTE from left atrial perspective with mitral valve vegetation (arrow) (C and D) 3D-RT-TEE from left atrial perspective with vegetation (2.5×2.7 cm) involving posterior annulus of the mitral valve (arrow).

Figure 3 Image of the vegetation after surgical excision.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

Learning points

- Vegetations due to infective endocarditis are usually seen in the leaflets of the heart valves; involvement of the annular regions is infrequent.
- In this case, real-time three-dimensional echocardiography helped the cardiologist understand the morphological characteristics and the precise localisation and attachment point of the vegetation.

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