

# Three-dimensional transoesophageal echocardiography for the diagnosis of prosthetic valve endocarditis

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Accepted 27 January 2014

## DESCRIPTION

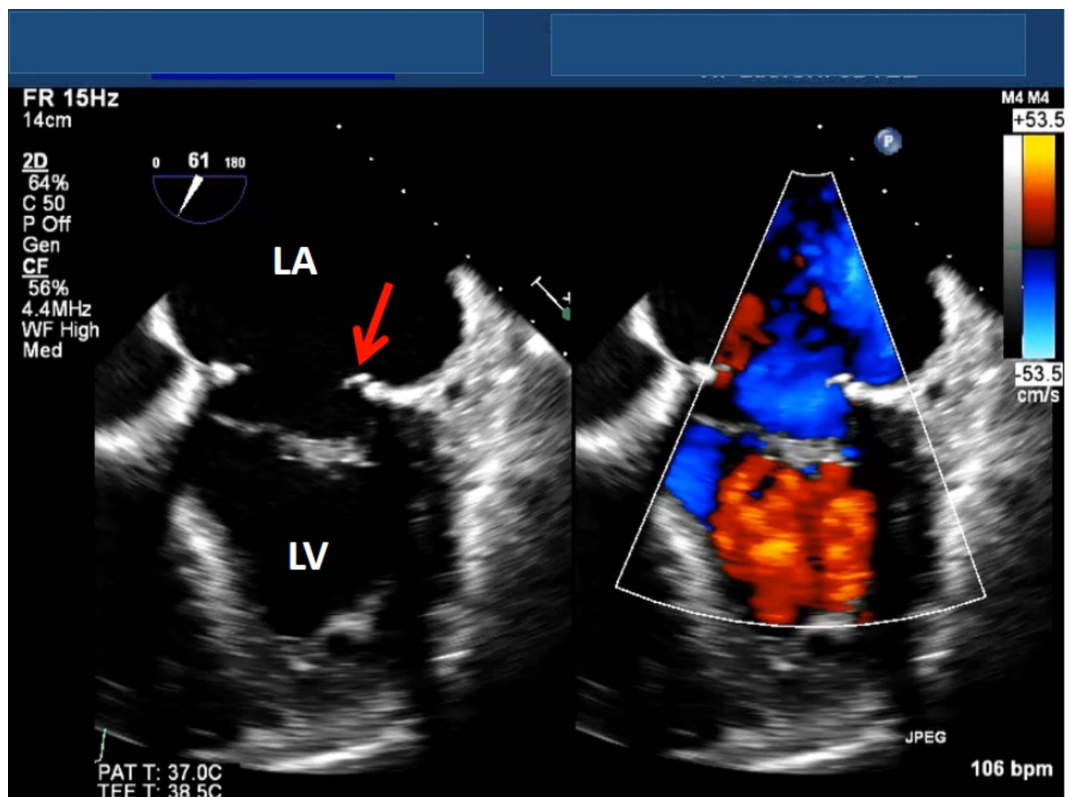
A 56-year-old man had undergone mitral valvuloplasty owing to a 3-year history of mitral insufficiency caused by chordae tendineae rupture. Prosthetic valve ring and artificial chordae tendineae are usually used in this case. The patient was referred to the hospital because of a continuous 2-month fever. At the time of admission, his blood pressure was 108/61 mm Hg, pulse was 98 bpm and regular, respiration rate was 18 breaths/min and body temperature was 38.8°C. On physical examination, Levine III/VI pansystolic murmur was found during auscultation of the ventricular apex. Exanthema and haemorrhagic lesions were absent. No abnormality was found on transthoracic echocardiography, but verrucous vegetations were identified in the posterior mitral leaflet of the left atrium on transoesophageal echocardiography (video 1). In addition, the abnormality was better observed using the surgeon's view of three-dimensional transoesophageal echocardiography (video 2).

A diagnosis of prosthetic valve endocarditis was established because *Streptococcus bovis* was detected in blood culture. The patient was treated with antimicrobial agents, and surgery was not performed.

Transoesophageal echocardiography is more useful than transthoracic echocardiography<sup>1</sup> for the diagnosis of infective endocarditis. In addition, three-dimensional transoesophageal echocardiography is visually more useful than two-dimensional transoesophageal echocardiography.

## Learning points

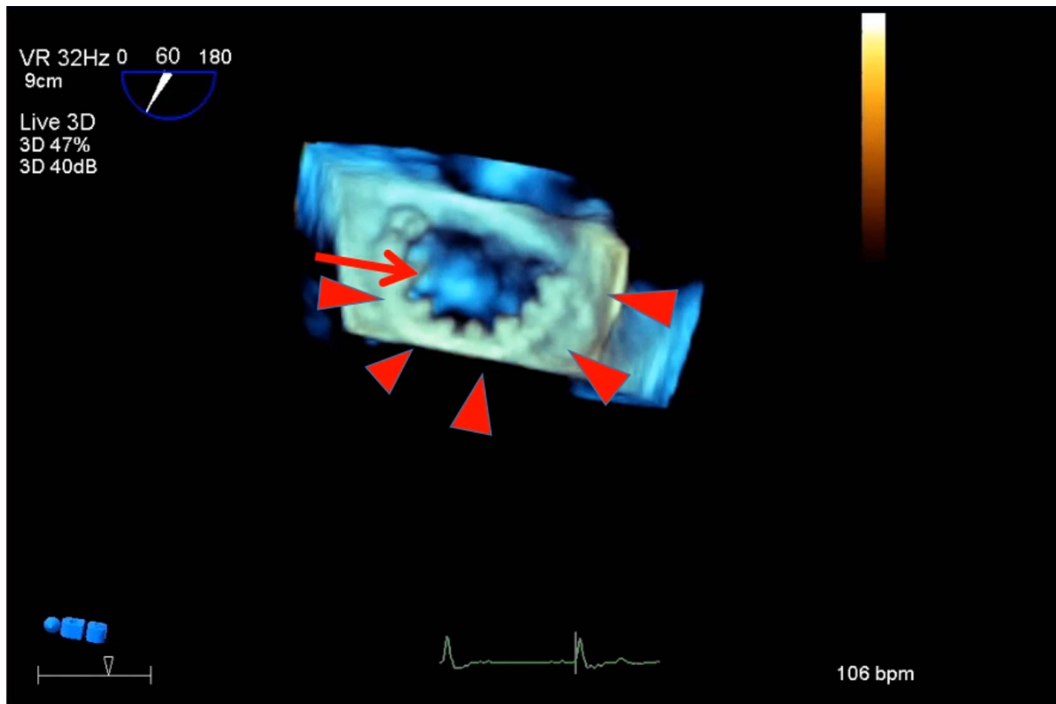
- ▶ Transoesophageal echocardiography is more useful than transthoracic echocardiography for the diagnosis of infective endocarditis.
- ▶ Three-dimensional transoesophageal echocardiography is visually more useful than two-dimensional transoesophageal echocardiography.



**Video 1** Two-dimensional transoesophageal echocardiography image. The diagnosis of a wart in the posterior leaflet of the mitral valve was established owing to the presence of a 7-mm isoechoic mass lesion with high mobility (red arrow).



**To cite:** Kenzaka T, Nishimura Y. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2014-203592



**Video 2** A surgeon's view of three-dimensional transesophageal echocardiography. The near side is the left atrium side, while the farther side is the left ventricle side. The shape of the prosthetic valve ring can be seen stereoscopically (red arrow head). Furthermore, the verrucous vegetations in the posterior leaflet of the mitral valve is clearly visualized (red arrow).

**Competing interests** None.

**Patient consent** Obtained.

**Provenance and peer review** Not commissioned; externally peer reviewed.

#### REFERENCE

- 1 Evangelista A, Gonzalez-Alujas MT. Echocardiography in infective endocarditis. *Heart* 2004;90:614–17.

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