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

Tsuneaki Kenzaka, Yoshioki Nishimura

Division of General Internal Medicine, Department of Medicine, Jichi Medical University, Shimotsuke, Tochigi, Japan

Correspondence to
Dr Tsuneaki Kenzaka,
smile.kenzaka@jichi.ac.jp

Accepted 27 January 2014

DESCRIPTION

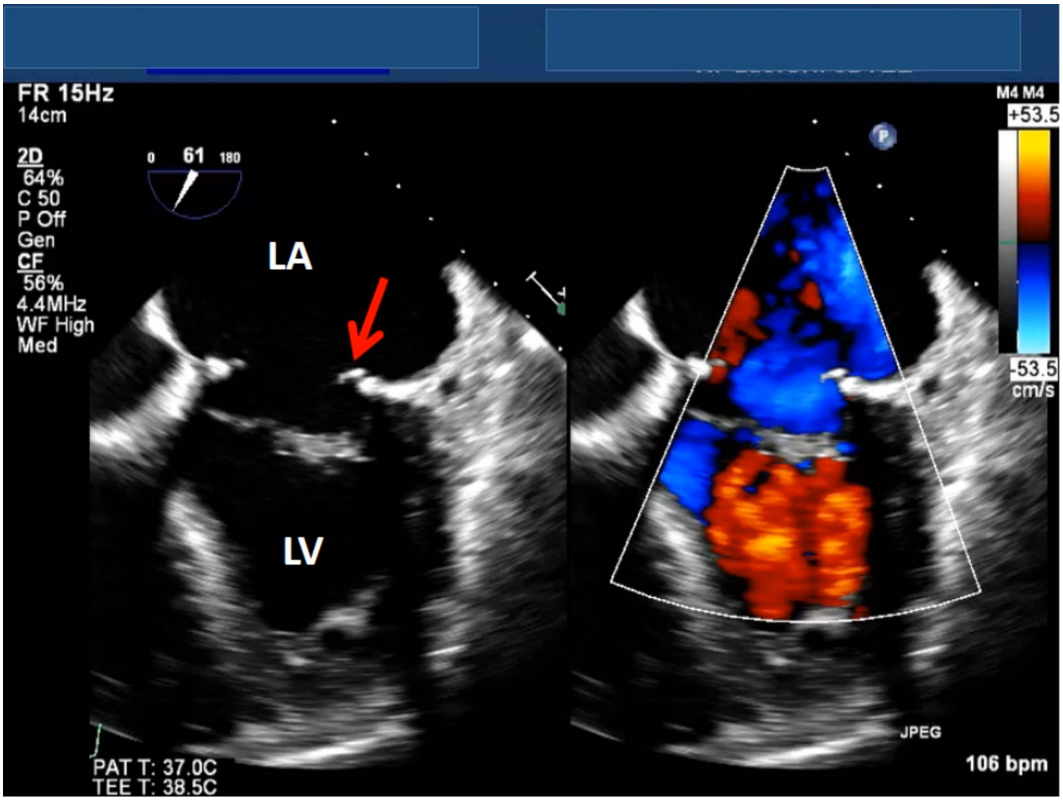
A 56-year-old man had undergone mitral valvuloplasty owing to a 3-year history of mitral insufficiency caused by chordae tendineae rupture. Prosthetic valve ring and artificial chordae tendineae are usually used in this case. The patient was referred to the hospital because of a continuous 2-month fever. 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 echocardiograph[1] for the diagnosis of infective endocarditis. In addition, three-dimensional transoesophageal echocardiography is visually more useful than two-dimensional transoesophageal echocardiography.

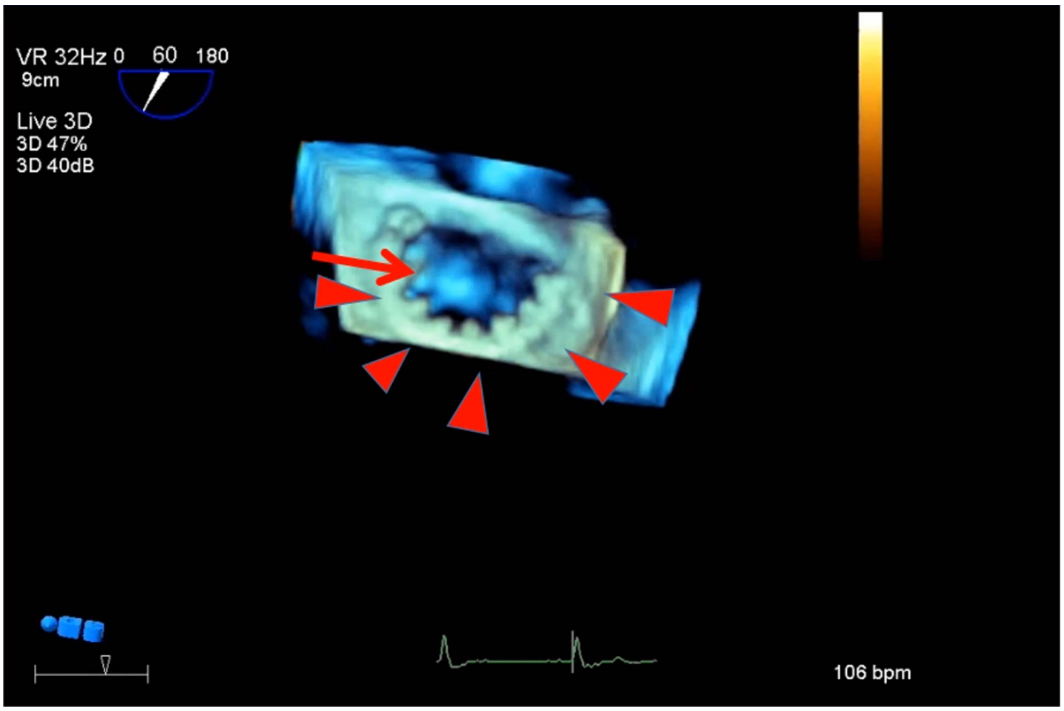
Learning points

- 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 transesophageal 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.