

# Visualisation of an interesting vegetation on a mechanical prosthetic mitral valve in an intensive care unit patient with infective endocarditis

## Abstract

A 48-year old man was consulted to cardiology for 39°C fever and ongoing dyspnea for 2 days during his hospitalization in the intensive care unit. He had undergone mechanical mitral valve replacement 3 years earlier. His history included a dental procedure without antibiotic prophylaxis 15 days ago. The chest radiogram was unremarkable. Transthoracic echocardiography revealed a mass on the mechanical mitral prosthesis and increased transvalvular gradients with decreased valve area. Subsequently, transesophageal echocardiography (TEE) was performed which showed a large obstructive mass on the prosthetic valve, protruding into the left ventricular cavity during diastole. It was observed that, the cross sectional images of the mass was resembling various animal shapes in different multiplane TEE views.

Volume 11 Issue 6 - 2018

Ahmet Güner,<sup>1</sup> Macit Kalcık,<sup>2</sup> Emrah Bayam,<sup>3</sup> Mehmet Özkan<sup>1,4</sup>

<sup>1</sup>Department of Cardiology, Kosuyolu Kartal Training and Research Hospital, Turkey

<sup>2</sup>Department of Cardiology, Hitit University, Faculty of Medicine, Turkey

<sup>3</sup>Department of Cardiology, Ümraniye Training and Research Hospital, Turkey

<sup>4</sup>School of Health Sciences, Ardahan University, Turkey

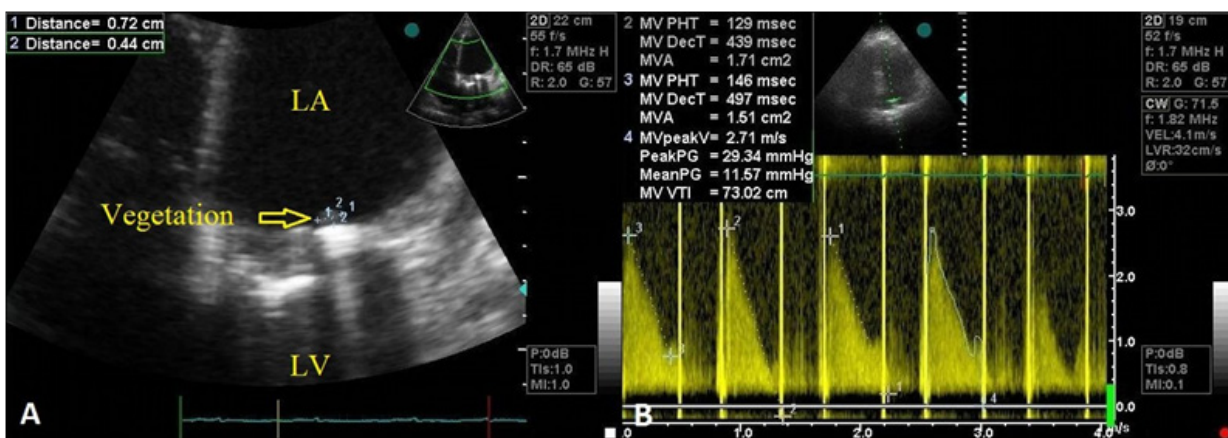
**Correspondence:** Macit Kalcık MD, Department of Cardiology, Hitit University, Faculty of Medicine, Turkey, Tel (90)536 4921788, Fax (90)3645117887, Email macetkalcik@yahoo.com

**Received:** October 22, 2018 | **Published:** November 15, 2018

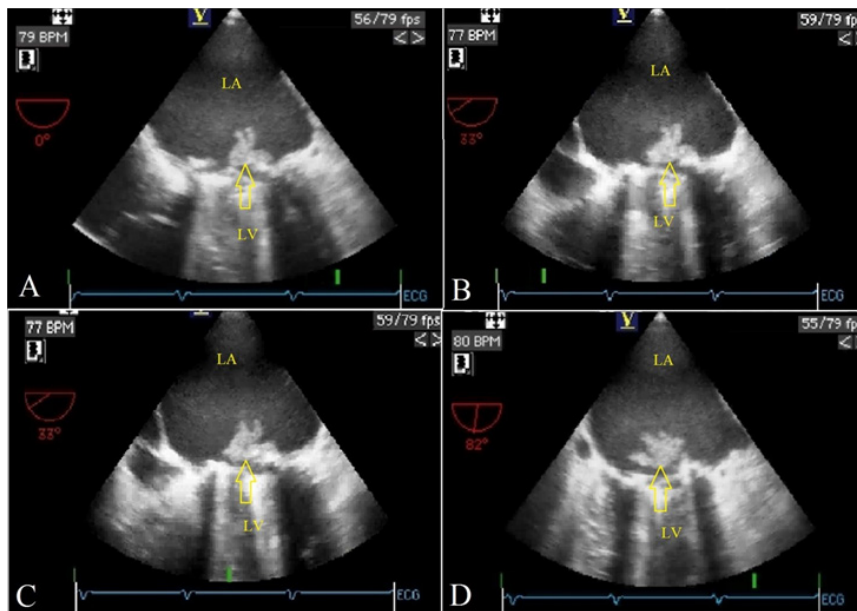
## Case presentation

A 48-year old man was consulted to cardiology for 39°C fever and ongoing dyspnea for 2 days during his hospitalization in the intensive care unit. He had undergone mechanical mitral valve replacement 3 years earlier. His history included a dental procedure without antibiotic prophylaxis 15 days ago. The chest radiogram was unremarkable. Transthoracic echocardiography revealed a mass on the mechanical mitral prosthesis and increased transvalvular gradients with decreased valve area (Figure 1) Subsequently, transesophageal echocardiography (TEE) was performed which showed a large obstructive mass on the prosthetic valve, protruding into the left ventricular cavity during diastole. It was observed that, the cross sectional images of the mass was resembling various animal shapes

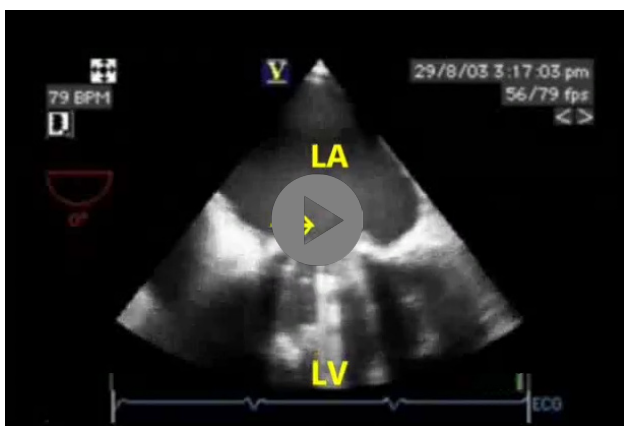
in different multiplane TEE views. A rabbit like image was obtained from midesophageal transverse plane (0 degrees) (Figure 2A) (Video 1). Whereas on 33 degrees, the same image resembled to a mouse head (Figure 2B) (Video 2). Interestingly, after clockwise rotation of the probe shaft at the same degree the mouse image turned into a cow's head with its horns (Figure 2C). Finally, with the transducer array at 82 degrees, the vegetation looked like a flapping pigeon (Figure 2D) (Video 3). Consequently the patient underwent redo valve surgery and was discharged after an uneventful postoperative period. Since two-dimensional TEE provides cross sectional analysis of cardiac structures, masses with irregular borders can be viewed as different shaped images in different TEE views.<sup>1</sup> We considered this case valuable as 4 different animal-like images were depicted in the same patient.



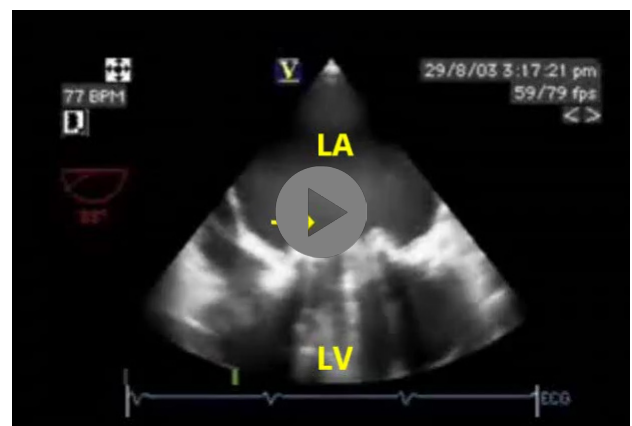
**Figure 1** Transthoracic echocardiography revealing a mass on the mechanical mitral prosthesis. (A) Increased transvalvular gradients with decreased valve area, obtained by continuous wave Doppler imaging. (B) (LA, Left atrium; LV, Left ventricle).



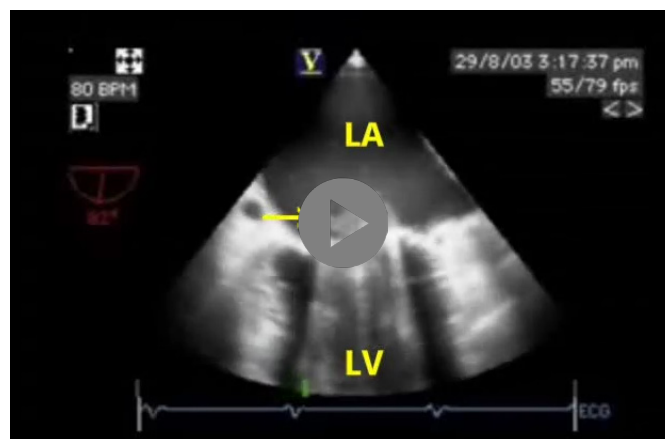
**Figure 2** Two-dimensional transesophageal echocardiography showing a rabbit like image , obtained from midesophageal transverse plane (0 degrees). (A) An image resembling to a mouse head with big ears, eyes and long nose at 33 degrees. (B) Clockwise rotation at 33 degrees resulted in a cow's head image with its horns. (C) With the transducer array at 82 degrees, a pigeon image was obtained with it's wings, tail and opened beak. (D) (LA, Left atrium; LV, Left ventricle).



**Video 1** Two-dimensional transesophageal echocardiography showing a rabbit like image, obtained from midesophageal transverse plane (0 degrees) (LA: Left atrium, LV: Left ventricle).



**Video 2** Two-dimensional transesophageal echocardiography showing an image resembling to a mouse head with it's big ears, eyes and long nose at 33 degrees and clockwise rotation at 33 degrees revealing a cow's head image with it's horns (LA: Left atrium, LV: Left ventricle)



**Video 3** Two-dimensional transesophageal echocardiography with the transducer array at 82 degrees, revealing a flapping pigeon like vegetation (LA: Left atrium, LV: Left ventricle)

## Data sharing

No additional data

## Contributorship

All of the authors contributed planning, conduct, and reporting of the work. All contributors are responsible for the overall content as guarantors.

## Funding

No funding.

## Disclosure

We have nothing to declare

## Acknowledgement

None.

## Conflict of interest

All of the authors have no conflict of interest.

## References

1. Schlüter M, Hinrichs A, Thier W, et al. Transesophageal two-dimensional echocardiography: comparison of ultrasonic and anatomic sections. *Am J Cardiol.* 1984;53(8):1173–1178.