

3D transoesophageal echocardiography in evaluation of mitral valve annuloplasty ring dehiscence

Dmitry M. Yaranov* and Srinivasan Sattiraju

Division of Cardiology, Department of Internal Medicine, University of Florida, 655 W 8th St, 5th Floor, Ambulatory Care Center, Jacksonville, FL 32209, USA

Received 27 December 2017; accepted 7 February 2018; online publish-ahead-of-print 1 March 2018

Case summary

A 60-year-old man with severe mitral regurgitation secondary to P2 scallop prolapse, ejection fraction 50–55% and left ventricular enlargement underwent minimally invasive mitral valve repair with 28 mm Memo annuloplasty ring. The post-operative transoesophageal echocardiogram (TOE) showed minimal regurgitation. Subsequently, patient had significant resolution of symptoms. Three months after the surgery, the patient presented with worsening shortness of breath. Transoesophageal echocardiogram at that time showed large area of crescent shaped dehiscence (extending from 8 to 2 o'clock on the surgeon's view of mitral valve), rocking prosthetic

ring, and severe perimitral ring regurgitation. The regurgitant jet occupied the entire area of dehiscence (Figures 1 and 2). Patient was referred for reoperation.

Although 2D TOE clearly documented dehiscence, the 3D TOE is highly valuable in determination of exact site of dehiscence by ability to visualize the valve from left atrial prospective (surgeon's view) and to locate the site of regurgitation.¹ It is likely that the mitral ring implanted was undersized, which led to dehiscence and severe perivalvular leak.

Consent: The author/s confirm that written consent for submission and publication of this case report including image(s) and

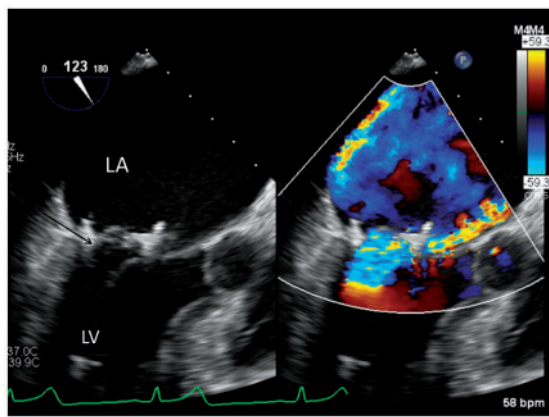


Figure 1 Shown is a colour compare (2D on the left, colour on the right): in mid-systole the mitral ring (arrow) bounces above the mitral annulus causing severe mitral regurgitation as shown in colour. LA, left atrium; LV, left ventricle.

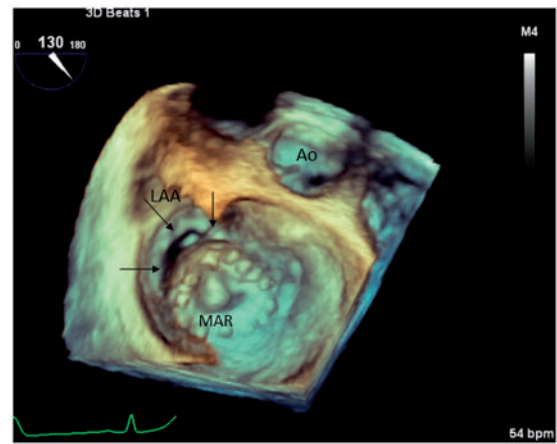


Figure 2 3D surgeons view of mitral valve, looking down from left atrial perspective, reveals large area of dehiscence (arrows). LAA, left atrial appendage; Ao, ascending aorta; just above aortic valve, MAR, mitral annuloplasty ring.

* Corresponding author. Tel: +1(904)244 9120, Fax: +1(904)244 0411, Email: ydmus@hotmail.com; dmitry.yaranov@jax.ufl.edu. This case report was reviewed by Hajnalka Vágó and Julia Grapsa.

© The Author(s) 2018. Published by Oxford University Press on behalf of the European Society of Cardiology.

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited. For commercial re-use, please contact journals.permissions@oup.com

associated text has been obtained from the patient in line with COPE guidance.

Conflict of interest: none declared.

Reference

1. Kronzon I, Sugeng L, Perk G, Hirsh D, Weinert L, Garcia Fernandez MA, Lang RM. Real-time 3-dimensional transesophageal echocardiography in the evaluation of post-operative mitral annuloplasty ring and prosthetic valve dehiscence. *J Am Coll Cardiol* 2009;**53**:1543–1547.