

Meeting abstract

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2028 Localisation of regurgitant defects by cardiac magnetic resonance imaging in patients with mitral valve prolapse

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from 11th Annual SCMR Scientific Sessions
Los Angeles, CA, USA. 1–3 February 2008

Published: 22 October 2008

Journal of Cardiovascular Magnetic Resonance 2008, **10**(Suppl 1):A297 doi:10.1186/1532-429X-10-S1-A297

This abstract is available from: <http://jcmr-online.com/content/10/S1/A297>

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Introduction

In mitral valve prolapse, determining whether the valve is suitable for surgical repair depends on the location and mechanism of regurgitation.

Purpose

We assess if cardiac magnetic resonance (CMR) imaging can accurately map prolapsing or flail mitral valve leaflet segments and identify regurgitant jet direction.

Methods

CMR imaging of the mitral valve was compared with trans-thoracic echocardiography (TTE) in 27 patients with chronic moderate to severe mitral regurgitation due to mitral valve prolapse. Contiguous long-axis high temporal resolution CMR cine images perpendicular to the valve commissures were obtained across the mitral valve from the medial to lateral annulus. This technique allowed systematic valve inspection and mapping of leaflet prolapse using a 6 segment model. CMR mapping was compared with trans-esophageal echocardiography (TEE) or surgical inspection in 10 patients.

Results

CMR and TTE agreed on the presence/absence of leaflet abnormality in 53 of 54 (98%) leaflets. Prolapse or flail was seen in 36 of 54 mitral valve leaflets examined on TTE. CMR and TTE agreed on the discrimination of prolapse from flail in 33 of 36 (92%) leaflets and on the pre-

dominant regurgitant jet direction in 26 of the 27 (96%) patients. In the 10 patients with TEE or surgical operative findings available, CMR correctly classified 56 of 60 (93%) leaflet segments.

Conclusion

Systematic mitral valve mapping using a simple protocol is feasible and could easily be incorporated into CMR studies in patients with mitral regurgitation due to mitral valve prolapse. CMR valve mapping may be an alternative to preoperative TEE.