

Poster presentation

## Use of cardiac MRI for low gradient aortic stenosis

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### Introduction

Low gradient aortic stenosis (AS) is a challenging problem. Low dose dobutamine (LDD) to separate low gradient AS with myopathic etiology from true severe aortic stenosis is the gold standard practice today.

### Purpose

This initial small cohort will try to compare LDD to cardiac MRI with delayed enhancement (CMR-DE) imaging for the evaluation of contractile reserve.

### Methods

7 patients (pts) with mean gradient < 30 mm Hg and LVEF < 30% underwent LDD and CMR-DE before aortic valve replacement (AVR). Increase in stroke volume > 20% by LDD up to 20 micrograms/kg/min was considered indication of the presence of myocardial reserve.

### Results

From the CMR-DE images: 3 pts had completely viable myocardium, 1 pt had intra-myocardial scar and 3 had subendocardial scar suggestive of concomitant coronary artery disease. Only 3 pts had evidence of contractile reserve by LDD. 2 pts with viable myocardium by CMR-DE did not show response to dobutamine. Pts with scar had mixed response.

### Conclusion

The absence of response to dobutamine may not be enough to preclude the presence of myocardial reserve in low flow/low gradient aortic stenosis. This small cohort raises the question that CMR-DE may be needed in pts

that do not respond to LDD since the presence of myocardial reserve may affect the management of these pts and has prognostic implications.