



## Non Invasive Imaging

### MIDWALL FIBROSIS AND LONG-TERM OUTCOME IN PATIENTS WITH AORTIC STENOSIS

Poster Contributions

Hall C

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**Background:** Predicting adverse clinical outcome in patients with aortic stenosis (AS) remains challenging. Myocardial tissue characterization with late gadolinium enhancement (LGE) is associated with worse outcome in a range of conditions. We sought to investigate the prognostic significance of midwall and infarct pattern myocardial fibrosis in the longer term survival of patients with AS.

**Methods:** Between Jan 2003 and Oct 2008 consecutive patients with moderate (1.0-1.5cm<sup>2</sup>) or severe (<1cm<sup>2</sup>) AS underwent CMR with LGE. Patients were characterized into 3 groups by blinded observers: absent, midwall and infarct pattern of LGE. Follow-up was completed using the National Strategic Tracing Scheme.

**Results:** 143 patients (68±14 years; 97 male) were followed a median 4.5±2.4 years. 81 patients had coronary disease, 80 patients underwent AVR and 45 died (31%). Patients with both midwall (n=54) and infarct (n=40) pattern fibrosis had a 3-fold increase in all cause mortality [HR=3.33 (95% CI:1.48-7.5, p= 0.004) for midwall, and HR=3.15 (95% CI:1.33-7.49, p=0.009 for infarct pattern)] compared to patients with no fibrosis (n=49). On multivariate analysis, only midwall fibrosis (HR=2.66, p=0.021, 95% CI:1.16-6.09) and LV EF <50% (HR=3.91, p=0.008, 95% CI:1.42-10.73) were independent predictors of mortality.

**Conclusions:** In patients with moderate and severe aortic stenosis, midwall fibrosis remains an independent predictor of long-term mortality providing additional predictive information to EF.

**Kaplan- Meier survival curves in patients with no LGE (black), midwall (red) and infarct pattern LGE.**

