



Non Invasive Imaging (Echocardiography, Nuclear, PET, MR and CT)

AORTIC REGURGITATION NEGATIVELY AFFECTS LEFT VENTRICULAR MECHANICS AFTER TRANSCATHETER AORTIC VALVE REPLACEMENT

Poster Contributions
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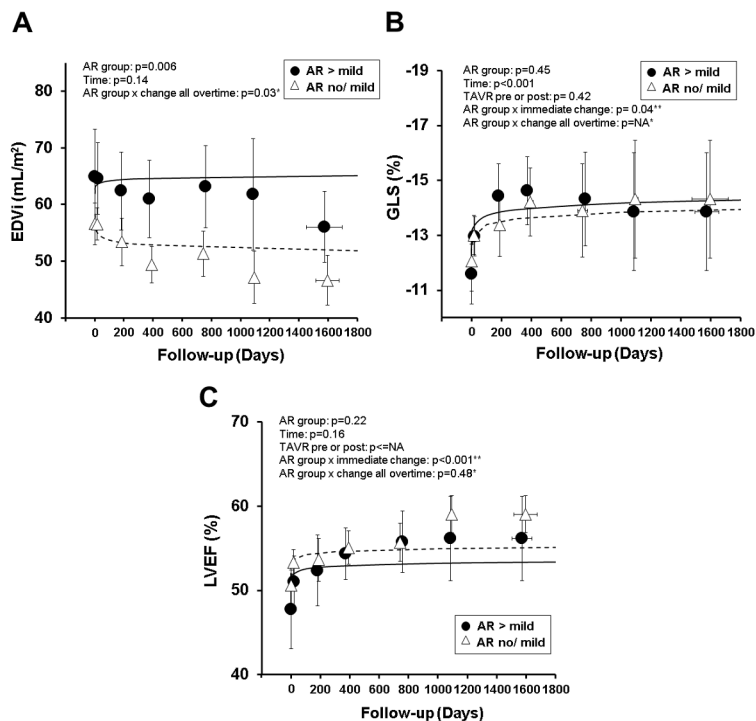
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Background: Aortic regurgitation (AR) after transcatheter aortic valve replacement (TAVR) is associated with worse outcomes, but the impact of AR on recovery of left ventricular (LV) mechanics is unclear.

Methods: We analyzed echocardiograms obtained in 191 consecutive patients who underwent TAVR using Edwards SAPIEN valve between May 2006 and December 2012. AR grading was performed within first 30 days post TAVR using the grades of none, mild, moderate, and severe.

Results: At 1 month after TAVR, 77% had no/mild AR. Indexed LV end-diastolic volume (LVEDVi) was higher at baseline ($p=0.006$), and subsequently was unchanged in patients with AR > mild, while it decreased in patients with no/mild AR after TAVR ($p=0.03$, Figure A). Global longitudinal strain (GLS) and LV ejection fraction (EF) improved regardless of AR severity (Figure B, C). In multivariable linear regression model, immediate GLS increase was associated with lower baseline GLS ($p=0.01$) and severe post-TAVR AR ($p=0.02$). LVEDVi decrease was associated only with larger baseline LVEDVi ($p<0.001$).

Conclusions: Patients with > mild AR after TAVR have initially higher LVEDVi that does not subsequently decrease which may provide a mechanistic link to observed worse survival. LV contractility improves regardless of AR severity, suggesting LV contractility is affected by preload increase and may not be the appropriate surrogate of follow-up for these patients.



* shows if there are significant difference in changes of LV function over time between AR groups.
** shows if there are significant difference in immediate change between AR groups.