



TRANSCATHETER AORTIC VALVE IMPLANTATION IS NOT ASSOCIATED WITH A DETRIMENTAL EFFECT ON RIGHT VENTRICULAR FUNCTION AS OBSERVED AFTER SURGICAL AORTIC VALVE REPLACEMENT

ACC Poster Contributions

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Background: Transcatheter aortic valve implantation (TAVI) is nowadays an alternative to surgical aortic valve replacement (AVR) in selected high risk patients. While improvement in left ventricular function after TAVI has been described, little is known about the impact on right ventricular (RV) function. Since postoperative RV dysfunction is linked to adverse outcome we sought to investigate the effect of TAVI and AVR on RV function using speckle tracking echocardiography.

Methods: 101pts with severe symptomatic AS (age 81 ± 11 yrs) who underwent TAVI and 20 pts who underwent AVR were included. RV function was assessed using 2D longitudinal strain (RV-LS), fractional area change (FAC) and tricuspid annular plain systolic excursion (TAPSE) before and after AVR and TAVI (med. 91 days).

Results: RV function remained unchanged in the TAVI group, however, both, RV-LS (-24.9 ± 6.0 vs. $-20.0 \pm 7.3\%$; $P=0.03$), FAC (47.0 ± 7.0 vs. $39.8 \pm 10.7\%$, $P=0.019$) and TAPSE (23 ± 5 vs. 16 ± 4 mm, $P=0.0001$) deteriorated significantly in patients undergoing conventional AVR (Figure).

Conclusion: While TAVI did not affect RV function, it deteriorated significantly in patients undergoing AVR. We speculate that this may be related to the detrimental effects of cardiopulmonary bypass. While further studies are required to assess the clinical significance of this finding, these data suggest that patients with pre-existing RV dysfunction may benefit from TAVI and that RV function should be incorporated into future risk scores.

