ACC.14
TCT@ACC-i2 | innovation in intervention

A2009
JACC April 1, 2014
Volume 63, Issue 12

Valvular Heart Disease

IMPACT OF FLOW AND LEFT VENTRICULAR SYSTOLIC FUNCTION ON OUTCOME OF PATIENTS WITH PRESERVED LEFT VENTRICULAR EJECTION FRACTION AND LOW GRADIENT SEVERE AORTIC VALVE STENOSIS UNDERGOING AORTIC VALVE REPLACEMENT

Poster Contributions
Hall C
Sunday, March 30, 2014, 3:45 p.m.-4:30 p.m.

Session Title: Selected Topics in Valvular Therapy
Abstract Category: 29. Valvular Heart Disease: Therapy
Presentation Number: 1233-352

Authors: *Vasileios Kamperidis, Philippe J. van Rosendael, Arnold C.T. Ng, Spiros Katsanos, F. van der Kley, Philippe Debonnaire, Emer Joyce, Georgios Sianos, Nina Ajmone Marsan, Jeroen Bax, Victoria Delgado, Leiden University Medical Centre, Leiden, The Netherlands*

Background: The prognostic determinants of patients with severe aortic stenosis (AS) with low gradient preserved ejection fraction (LGprEF) remain unclear. We investigated the prognostic value of flow (measured as stroke volume index [SVi]) and left ventricular (LV) global longitudinal strain (GLS) of patients with severe AS and LGprEF undergoing aortic valve replacement (AVR).

Methods: A total of 134 (75.5±9.9 years, 50% men) patients with severe AS and LGprEF were evaluated. Hemodynamics of aortic valve and LV function were assessed with 2-dimensional, Doppler and speckle tracking echocardiography. Patients were dichotomized based on SVi (>35ml/m2 vs. ≤35ml/m2) and LV GLS (≤-15% vs. >-15%). The end-point was all-cause mortality.

Results: During 2±1.7 years follow up, survival was better for patients with SVi >35ml/m2 and GLS ≤-15% as compared to patients with SVi ≤35ml/m2 and GLS >-15% (log-rank p=0.01) (Figure). Atrial fibrillation (hazard ratio [HR] 4.26, p=0.006) and chronic kidney disease (HR 2.79, p=0.02) were the clinical variables independently associated with all-cause mortality. The addition of GLS (X2 18.00, p=0.02 and C-statistics 0.75) and SVi (X2 28.62, p<0.001 and C-statistics 0.80) to a baseline model including atrial fiblillation and chronic kidney disease (X2 12.51, C-statistics 0.69) improved the risk stratification of patients with severe AS and LGprEF undergoing AVR.

Conclusions: SVi and LV GLS are independently associated to survival after AVR in LGprEF severe AS patients.