

**41** **CARDIOVASCULAR MAGNETIC RESONANCE LEFT VENTRICULAR STROKE VOLUME AND OUTCOME PREDICTION IN PATIENTS WITH AORTIC STENOSIS FOLLOWING INTERVENTION**

<sup>1</sup>Subothini Selvendran\*, <sup>1</sup>Nikhil Aggarwal, <sup>2</sup>Dominique Auger, <sup>2</sup>Eva Nyktari, <sup>2</sup>Claire Raphael, <sup>3</sup>Sanjay Prasad, <sup>3</sup>Vass Vassiliou. <sup>1</sup>Imperial College London; <sup>2</sup>RBH; <sup>3</sup>Royal Brompton Hospital; \*Presenting Author

10.1136/heartjnl-2016-309890.41

**Introduction** Percutaneous transcatheter aortic valve implantation (TAVI) is gaining significant popularity as an alternative to conventional aortic valve replacement surgery for patients with aortic stenosis (AS), especially in high operative risk patients. We investigated outcome prediction using a cohort of patients undergoing TAVI and utilising patient demographic and cardiovascular magnetic resonance (CMR) parameters. **Methods** Between 2010–2014, 100 consecutive patients with severe AS scheduled for TAVI underwent CMR. We retrospectively analysed data on a variety of patient demographics to identify any associations with overall mortality. Follow-up was completed using electronic hospital records and data obtained from the National Strategic Office. Kaplan-Meier curves were obtained and compared using the log-rank test. Univariate analysis was used on 20 variables and those significant included in a multivariate Cox regression model. **Results** 100 patients (median age 81 years; 55 male) were followed for a median 1349 days. During this period 20 patients died. 12 patients were lost to follow up and were censored for statistical purposes at their last known time being alive. On univariate analysis left ventricular stroke volume (LVSV) and known history of hypertension were associated with

survival (Table 1 and Figure 1). On multivariable analysis both remained significantly associated with survival [HR=2.997 (95% CI:1.393–6.448, p = 0.005) for history of hypertension and HR=0.983 (95% CI:0.968–0.998, p = 0.031) for 1mL LVSV increase].

**Conclusions** In this cohort of elderly AS patients who underwent CMR before TAVI, a lower LV Stroke volume and the presence of hypertension were associated with worse prognosis. LV Stroke Volume appears to be more useful than Left Ventricular Ejection Fraction and Right Ventricular Ejection Fraction. We recommend that it could be routinely assessed in addition to the other parameters already employed in clinical practice.

**42** **GENDER DIFFERENCES IN RESPONSE TO TRANSCATHETER AORTIC VALVE IMPLANTATION IN PATIENTS WITH SEVERE AORTIC STENOSIS ASSESSED BY FEATURE TRACKING**

<sup>1</sup>James RJ Foley\*, <sup>2</sup>Laura E Dobson, <sup>2</sup>Tarique A Musa, <sup>2</sup>Timothy A Fairbairn, <sup>2</sup>Akhlaque Uddin, <sup>2</sup>Peter P Swoboda, <sup>2</sup>Pankaj Garg, <sup>2</sup>Graham J Fent, <sup>2</sup>Philip Haaf, <sup>3</sup>Christopher J Malkin, <sup>3</sup>Daniel J Blackman, <sup>3</sup>Sven Plein, <sup>3</sup>John P Greenwood. <sup>1</sup>University of Leeds; <sup>2</sup>LICAMM & MCRC, University of Leeds; <sup>3</sup>Leeds Teaching Hospitals Trust; \*Presenting Author

10.1136/heartjnl-2016-309890.42

**Introduction** Aortic stenosis (AS) results in left ventricular hypertrophy, myocyte dysfunction and fibrosis as a physiological response to excessive afterload. Transcatheter Aortic Valve implantation (TAVI) is an effective treatment for severe AS, however controversy exists whether gender predisposes to

**Abstract 41 Table 1** Demonstrating the variables analysed and their results in univariate and bivariate models

Parameter	P value	Univariate		P value	Bivariable	
		Hazard ratio	95% CI		Hazard ratio	95% CI
Age	0.231					
Gender	0.219					
Weight	0.337					
Atrial Fibrillation	0.333					
Diabetes Mellitus	0.127					
History of Hypertension	0.019	2.415	1.155-5.050	0.005	2.997	1.393-6.448
Previous Myocardial Infarction	0.305					
Systolic Blood Pressure	0.560					
Diastolic Blood Pressure	0.330					
NYHA Class	0.439					
Creatinine	0.310					
Estimated PAP	0.971					
Peak AV gradient	0.590					
LV Mass	0.995					
LV EDV	0.208					
LV EF	0.771					
LV SV	0.010	0.978	1.393-6.448	0.031	0.983	0.968-0.998
RVEDV	0.128					
RV EF	0.250					
RV SV	0.182					