not associated with an increase in the frequency of MACE or admissions for HF in the long-term follow-up.

P6309
Impact of low-flow, low-gradient aortic stenosis in short- and long-term follow-up after TAVI: Insights from the Brazilian TAVI Registry

V. Emer Egypto Rosa[1], C.M. Campos[1], T. Jatene[2], L.A.F. Carvalho[3], D.A. Siqueira[4], P.A. Lemos[1], L.E.K. Sao Thiago[5], V. Esteves[6], F. Tarasoutchi[1], F.S. De Brito Jr[7]. *[1]Heart Institute of the University of Sao Paulo (InCor) and Hospital Israelita Albert Einstein, São Paulo, Brazil; [2]Anis Rassi Hospital, Goiania, Brazil; [3]Hospital Pro Cardiaco, Rio de Janeiro, Brazil; [4]Instituto Dante Pazzanese de Cardiologia, São Paulo, Brazil; [5]Hospital de Cardiologia de Santa Catarina, São José, Brazil; [6]Hospital Brasil – Rede D'Or, São Paulo, Brazil; [7]Heart Institute of the University of Sao Paulo (InCor) and Hospital Sírio-Libanês, São Paulo, Brazil*

Background: Data on outcomes in low-flow, low gradient aortic stenosis (LFLG-AS) after transcatheter aortic valve implantation (TAVI) is scant and controversial.
Purpose: We aim to compare baseline characteristics and outcomes between patients with LFLG-AS and high-gradient aortic stenosis (HG-AS) undergoing TAVI.
Methods: Patients included in the Brazilian TAVI Registry were divided in 2 groups according to mean transaortic gradient (MG): 1) HG-AS: indexed aortic valve area (iAVA) $\leq$0.60cm^2/m^2 and MG$\geq$40mmHg; and 2) LFLG-AS: iAVA $\leq$0.60cm^2/m^2 and MG$<$40mmHg. The endpoints evaluated were VARC-2 combined clinical efficacy at 1 year, VARC-2 combined early safety events at 30 days and device success.
Results: 657 patients were included, 522 (79%) classified as HG-AS and 135 (21%) as LFLG-AS. Mean follow-up was 520±490 days (range 0–2268 days). LFLG-AS had higher prevalence of male gender (60% vs. 44%; P$<$0.01), coronary artery disease (69% vs. 56%; P$<$0.01) and pulmonary hypertension (31% vs. 20%; P$<$0.01). Additionally, LFLG-AS had higher EuroSCORE II (25.2±16.6% vs. 19.3±13.7 vs p$<$0.01) and lower left ventricular ejection fraction (48±18% vs. 61±13; P$<$0.01). HG-AS had lower VARC-2 device success (67% vs 77%, p=0.022). There were no differences related to VARC-2 combined clinical efficacy at 1 year (12% HG-AS vs 17% LFLG-AS, p=0.081) (Figure 1) and VARC-2 combined early safety at 30 days (21% HG-AS vs 15% LFLG-AS, p=0.117). By multivariate analysis using Cox Regression, LFLG-AS was not a predictor of VARC-2 combined clinical efficacy outcomes at 1 year, independent if paradoxical LFLG-AS (HR=1.42; 95% CI=0.64–3.11) or LFLG-AS with low ejection fraction (HR=1.51; 95% CI=0.56–4.08). The only predictors found were diabetes (HR=1.82; 95% CI=1.02–3.26), syncope (HR=0.40; 95% CI=0.17–0.97) and post-procedure moderate/severe aortic regurgitation (HR=3.12; 95% CI=1.40–6.95).

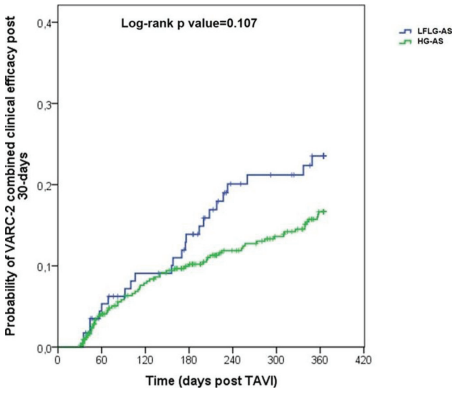

Figure 1. Kaplan-Meier curve for VARC-2 combined clinical efficacy at 1 years.

Conclusions: TAVI was a feasible procedure in LFLG-AS patients, with higher rates of device success than HG-AS. Despite the baseline differences, VARC-2 combined clinical efficacy and combined early safety events at 1 year were similar between LFLG-AS and HG-AS.
Funding Acknowledgements: SBHCI - Soc Bras de Hemodinamica e Cardiologia Intervencionista

P6310
Impact of device landing zone calcification on paravalvular regurgitation after transcatheter aortic valve replacement with different next generation devices

V. Mauri[1], T. Frohn[1], F.G. Deuschl[2], A. Reimann[1], M.I. Koerber[1], E. Kuhn[1], S. Baldus[1], T. Wahlers[1], V. Rudolph[1], N. Madershahian[1], U. Schaefer[2], T.K. Rudolph[1]. *[1]Cologne University Hospital - Heart Center, Cologne, Germany; [2]University Heart Center Hamburg, Department of General and Interventional Cardiology, Hamburg, Germany*

Background: Residual paravalvular regurgitation has been associated to impaired outcomes after TAVR.
Purpose: To evaluate the impact of device landing zone (DLZ) calcification on residual PVR after TAVR with different next-generation transcatheter heart valves (THV).
Methods: 560 patients underwent TAVR with a SAPIEN 3 (S3; n=292), ACURATE neo (NEO; n=166), Lotus (n=52) or Evolut R THV (ER; n=50). Calcification of the DLZ was assessed from preprocedural contrast-enhanced multidetector computed tomography data and correlated with echo data at discharge.
Results: The occurrence and degree of PVR differed significantly between the different THV. PVR was $\geq$moderate in 0.7% of S3 patients, 13.9% of NEO patients, 0% of Lotus patients and 22.0% of ER patients, respectively (p$<$0.001). Due to significant differences in calcium load between the different devices, patients were matched according to total device landing zone calcium volume in a 4:3:1:1 manner resulting in 351 matched patients (S3: n=156; NEO: n=117; Lotus: n=39; ER: n=39). After matching PVR $\geq$moderate occurred in 1.3% of S3 patients, 13.8% of NEO patients, 0% of Lotus patients and 17.9% of ER patients (p$<$0.001). Permanent pacemaker implantation rates were 12.2%, 11.2%, 46.2% and 23.1% in S3, NEO, Lotus and ER patients, respectively (P$<$0.001). The amount of DLZ calcium was significantly related to the degree of PVR in patients treated with the S3 (no PVR: 852±567 mm^3, trace PVR: 893±558 mm^3, mild PVR: 916±465 mm^3; moderate PVR: 2776±163 mm^3, P=0.045), NEO (no PVR: 533±354 mm^3, trace PVR: 660±476 mm^3, mild PVR: 713±457 mm^3; $\geq$moderate PVR: 1004±694 mm^3, P=0.004) and the ER (no PVR: 575±503 mm^3, trace PVR: 938±697 mm^3, mild PVR: 958±729 mm^3; $\geq$moderate PVR: 1800±881 mm^3, P=0.001), but not in Lotus patients (no PVR: 943±750 mm^3, trace PVR: 882±694 mm^3, mild PVR: 899±334 mm^3, P=0.698). Below a total DLZ calcium volume threshold of 1257.9 mm^3, PVR was $\geq$moderate in 0, 10.7, 0 and 6.3%, and above this threshold 2.9, 41.2, 0 and 50.0% in S3, NEO, Lotus and ER patients, respectively (S3/Lotus: n.s.; NEO: P=0.003; EVR: P$\leq$0.001). In multivariate regression analysis, the use of NEO or ER and DLZ calcium load $>$1257.9 mm^3 emerged as independent predictors of PVR $\geq$moderate.
Conclusions: DLZ calcification predicted the degree of PVR after TAVR with 3 out of 4 devices. The susceptibility to PVR depending on the amount of calcium differed significantly with higher susceptibility in the self-expanding NEO and ER compared to the S3 or the Lotus THV. However, also permanent pacemaker implantation rates differed significantly between the implanted devices with higher rates in Lotus and ER treated patients. Thus, DLZ calcification is an import factor to be considered in prosthesis selection for each individual patient, keeping in mind the trade-off between PVR reduction and the occurrence of new-onset conduction disturbances requiring permanent pacemaker implantation.

P6311
Prognostic impact of permanent pacemaker implantation in patients with low left ventricular ejection fraction following transcatheter aortic valve replacement

T. Nomura[1], Y. Maeno[1], Y. Abramowitz[1], S. Yoon[1], S. Kubo[1], H. Jilaihawi[2], H. Kawamori[1], Y. Kazuno[1], M. Miyasaka[1], N. Takahashi[1], M. Kashif[1], T. Chakravarty[1], M. Nakamura[1], R. Sharma[1], R. Makkar[1]. *[1]Cedars-Sinai Medical Center, Heart Institute, Los Angeles, United States of America; [2]New York University Langone Medical Center, New York, United States of America*

Aims: Data is limited regarding the clinical impact of permanent pacemaker implantation (PPI) in patients with low left ventricular ejection fraction (LVEF) after transcatheter aortic valve replacement (TAVR). The aim of this study was to determine the impact of new PPI in patients with baseline low LVEF at 2-year follow-up after TAVR.
Methods and results: A total of 659 patients undergoing TAVR between January 2013 and December 2015 were included in the study. Patients were divided into two groups according to the need of PPI following TAVR. These patients were further divided by their baseline LVEF: low LVEF ($\leq$50%) and preserved LVEF ($>$50%). One-hundred and four patients (15.8%) needed PPI following TAVR. After a median follow up of 19.1 months (interquartile range: 11.4 to 24.4), overall and cardiovascular survival showed no significant differences between new PPI and no PPI (overall, log-rank p=0.94; cardiovascular, log-rank p=0.51). Nonetheless, patients requiring PPI that had low EF had higher cardiovascular mortality compared to patients with low LVEF that didn't need PPI (log-rank p$<$0.001). Patients with new PPI and low LVEF had independently increased risk for 2-year cardiovascular mortality but not 2-year all-cause mortality (cardiovascular mortality; hazard ratio 5.76, 95% confidence interval 2.18 to 15.24, p$<$0.001). Other significant predictors of 2-year cardiovascular mortality included peripheral artery disease (hazard ratio 2.52, 95% confidence interval 1.29 to 4.91, p=0.007), logistic EuroSCORE (hazard ratio 1.02, 95% confidence interval 1.01 to 1.04, p=0.016), and moderate or more paravularleak (hazard ratio 4.89, 95% confidence interval 2.36 to 10.14, p$<$0.001)
Conclusions: New PPI following TAVR was not associated with overall survival or cardiovascular survival difference at 2 years. However, receiving a new PPI in the setting of low LVEF adversely impacts mid-term cardiovascular survival.