impaired LVEF on prognosis in patients undergoing transfemoral versus transapical TAVI.

Methods: All consecutive patients undergoing transfemoral or transapical TAVI in our centre were prospectively enrolled from June 2007 to December 2013. LVEF was measured using the Simpson biplane method and classified as good (>50%), moderate (31-50%), and severely impaired (<30%) at transthoracic echocardiography not later than 3 months before TAVI.

Results: In total, 263 (mean age 81.6±7.5, male 41.8%, logistic EuroSCORE 23.2±15.0%) and 224 (mean age 80.0±2.65, male 46.0%, logistic EuroSCORE 27.4±16.6%) patients underwent transfemoral and transapical TAVI, respectively. In the transapical group, the TR was >30° in 170 (64.2%), 25.5% and 26 (9.9%) of patients, respectively. In the transfemoral group, LVEF was ≥50%, 31–50%, and <30% in 149 (66.5%), 52 (23.2%) and 23 (10.3%) of patients, respectively. Thirty-day all-cause mortality was not associated with LVEF. An impaired LVEF ≥50% had better survival and echocardiographic results after transfemoral (HR 1.86, 95% CI 0.93 to 3.36, p = 0.08) but not transapical TAVI (HR 0.82, 95% CI 0.39 to 1.69, p = 0.58) after multivariate adjustment.

Conclusions: An impaired LVEF before TAVI affects the prognosis differently per TAVI approach. The LVEF may be considered in deciding the most appropriate approach for TAVI.

TCT-733
VARC Endpoint Definition Compliance Rates in Contemporary TAVI Studies
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Background: The Aortic Valve Academic Research Consortium (VARC) endpoint definitions established to standardize the evaluation of clinical outcomes following transcatheter aortic valve implantation (TAVI). It remains unclear, however, to what extent and in which manner these definitions are used in publications.

Methods: We performed a systematic review of the literature to identify TAVI-related manuscripts published between Feb. 2011 and Feb. 2014. Two physicians independently reviewed these manuscripts and categorized them into 3 groups: a ‘compliant’ group in which all of the VARC-defined endpoints only were used, a ‘non-compliant’ group comprised of non-VARC-defined endpoints only, and a ‘mixed compliant’ group comprising VARC- and non-VARC-defined endpoints.

Results: The search yielded a total of 5023 manuscripts and 514 were included in the analysis. At least one VARC definition was used in 275 (54%) manuscripts while 223 (43%) did not use any VARC definitions. We excluded from the analysis 16 (3%) manuscripts which dealt with outcomes not defined in VARC. Of the manuscripts using VARC, 49 (10%) were classified as compliant and 226 (46%) as mixed compliant. The following endpoints were more often defined using VARC vs. non-VARC: MI (64% vs 36%), stroke (50% vs 44%), bleeding and (79% vs 21%), VARC: MI (64% vs 36%), stroke (50% vs. 44%), bleeding and (79% vs 21%). The following endpoints were less often defined using VARC vs. non-VARC: mortality (59% vs 41%), valve-disfunc-
tion (56% vs 44%), LVEF (50% vs 41%), NYHA (82% vs 75%), LVEF (50% vs 41%), NYHA (82% vs 75%), QOL (93% vs 89%). After publication of the first VARC manuscript, VARC usage in TAVI publications increased from 29% at 6 months to 59% at 30 months. After the publication of the revised VARC definitions VARC-2 usage increased from 3% at 6 months to 27% at 18 months, while VARC usage in general remained at 54%.

Conclusions: Although VARC definitions are well accepted within the “community”, usage in peer-reviewed manuscripts remains suboptimal. Further studies are warranted to better understand how to improve compliance and adapt these findings in future VARC iterations.

TCT-734
The Role of Right Sided Hemodynamic Parameters as Predictors of 30 Day Outcome After Transcatheter Aortic Valve Replacement: The Impact of Right Ventricular Stroke Work Index
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Background: Right ventricular function and pulmonary hypertension are often not taken into consideration in the prognostication of patients undergoing TAVR; accordingly their impact on patients undergoing TAVR remains relatively poorly defined. We sought to explore their effect on 30 day outcomes in patients undergoing TAVR.

Methods: We collected complete baseline demographic and hemodynamic data obtained by right heart catheterization on 120 consecutive patients undergoing TAVR at our institution over a 1 year period. 30 day rate of death or hospital readmission were then examined. Statistical calculations were performed using JMP software.

Results: There were 5 deaths and 5 readmissions within 30 days. Mean age was 82.8 ± 8.2 years, BSA 1.82 ± 0.26m2, STS score 8.14 ± 5.53, aortic valve area (AVA) 0.63 ± 0.16cm2, mean gradient 50.4 ± 13.7mmHg, creatinine 1.37 ± 0.82 mg/dL, MELD score 10.4 ± 4.3, and length of stay 5.5 ± 4.5 days. 61% were female, 84.2% hypertensive, 34.2% diabetic, and 74.2% had coronary artery disease. 63.3% procedures were transfemoral (TF), 33.3% transapical (TA), and 3.3% trans-aortic (Tao). Trends toward higher event rates were seen with higher STS scores, lower pre-operative AVA, mean gradients, left ventricular ejection fraction (LVEF), cardiac output (CO), cardiac index (CI) or that had TA access. Low post-operative CO and right ventricular stroke work index (RVSWI) were associated with statistically significant higher 30 day mortality and readmission rates. Poor post-operative right atrial pressure (RAP), pulmonary capillary wedge pressure (PCWP), trans-pulmonary gradient (TPG), pulmonary vascular resistance (PVR), creatinine, and MELD score had no effect (Table 1).

Table 1. Univariate Analysis of Hemodynamic Parameters as Predictors of 30 Day Outcomes

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Pre-TAVR</th>
<th>30 Day Death or Readmission (Post-CHF)</th>
<th>Post-TAVR Day 1</th>
<th>30 Day Death or Readmission (Post-CHF)</th>
<th>p-value for Change in Hemodynamics Post TAVI</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAP (mmHg)</td>
<td>20.5±7.2</td>
<td>0.7086</td>
<td>16.8±5.56</td>
<td>0.6529</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>PASP (mmHg)</td>
<td>40.4±12.3</td>
<td>0.8588</td>
<td>37.2±9.55</td>
<td>0.6468</td>
<td>0.0016</td>
</tr>
<tr>
<td>PAP (mmHg)</td>
<td>28.5±9.0</td>
<td>0.8343</td>
<td>23.1±6.41</td>
<td>0.9850</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>CO (l/min/m²)</td>
<td>3.83±1.23</td>
<td>0.4457</td>
<td>4.67±1.03</td>
<td>0.0482*</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>MPAP (mmHg)</td>
<td>2.32±0.71</td>
<td>0.8621</td>
<td>2.56±0.9</td>
<td>0.115</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>TRG (RII)</td>
<td>8.0±4.9</td>
<td>0.8969</td>
<td>8.0±4.9</td>
<td>0.8969</td>
<td>&lt;0.0003</td>
</tr>
<tr>
<td>RVSWI (mmHg x mL/m²)</td>
<td>5.46±4.81</td>
<td>0.2827</td>
<td>6.9±3.3</td>
<td>0.049*</td>
<td>&lt;0.0003</td>
</tr>
</tbody>
</table>

Conclusions: TAVR results in statistically significant improvements in most hemodynamic parameters. Poor post-TAVR CO and RVSWI were the strongest hemodynamic parameters of death or readmission after 30 days.

TCT-735
Postdilatation Of Ballon-expandable Transcatheter Aortic Valves Is Safe And Efficiently Reduces Procedural Aortic Regurgitation
Maximilian Niemann1, Patrick Banosch1, Sandra Freitag-Wolf1, Doreen Brehm1, Rainer Petzina1, Georg Lutter1, Norbert Frey1, Dirk Frank1, Irwin-Fisher Test). A signifi-
cant improvement was seen in most hemo-
dynamic parameters except for postdilatation. A and after 1 year TAVI Decision to postdilatation or not was made by the team of implanting physicians immediately after valve deployment. The severity of AR for these analyses was evaluated by investigators blinded to the outcome.

Results: At a median follow-up of 308d (IQR 92-670), a total of n=143 deaths occurred. 30d mortality was 7.9% (n=32), 54.2% were treated via transfemoral (30d mortality 41.4%), 33.3% transapical (30d mortality 14.6%) and 12.1% trans-aortic (30d mortality 6.1%). Mean age was 81.4y (±6.15), 56.7% were females, the mean log. EuroScore was 27.5% (±17.3). PD was carried out in n=137/406 pts (33.7%) and led to a significant reduction of paravalvular AR (Chi-square test p<0.001). Of note, PD was not associated with increased complications according to VARC-2 criteria (including new pacemaker, p=0.66, and periprocedural stroke p=0.55, Irwin-Fisher Test). A significant postprocedural AR (< grade 1+) was associated with a worse prognosis in the total n=406 cohort (HR 1.69, CI 1.1-2.5).

Conclusions: These findings indicate that PD of balloon-expandable TAVI valves is a safe and efficient method to reduce paravalvular AR. In addition, this study shows that pts undergoing PD do not have an inferior prognosis as expected according their initial AR (p=0.302). Further investigations will address the long-term follow-up including AR and durability of postdilated valves.