Type and size of implant valve were not different in each group. CFA diameter was similar (8.0±1.0mm vs 7.8±1.0mm vs 7.8±0.8mm, p=0.15) as was the “sheath to femoral artery ratio” (0.80±0.12 vs 0.81±0.12 vs 0.83±0.11, p=0.52). However, the distance from the bifurcation to the puncture point was significantly different (28±4mm vs 17±8mm vs 12±7mm p=0.0001) in the three groups. In-hospital mortality was not different in each group (1.3% vs 3.3% vs 0%, p=0.21). However, there was a statistically significant difference in vascular complications between each group (Type 1%, 2.16% and 3.22% respectively, p<0.01). On univariate analysis, we found that a >20 mm distance between bifurcation and puncture point was a strong predictor of vascular complications (odds ratio: 2.7, 95% confidence interval 1.66 to 4.39, p<0.0001).

Conclusion: Despite TF-TAVI devices downsizing, a high CFA bifurcation remains a risk factor of vascular complication when the distance from the bifurcation to the puncture point is short.

P2656

Hemodynamic monitoring by pulse contour analysis during trans-catheter aortic valve implantation: a fast and easy method to optimize procedure results

F. Ristalli, S.M. Romano, M. Stolcova, F. Meucci, G. Squillantini, C. Di Mario.
Careggi University Hospital (AOUC), Florence, Italy

Background: Trans-catheter aortic valve implantation has become a routinely procedure. Little is known about hemodynamic modifications occurring during this intervention. Moreover, residual aortic regurgitation (AR) is a frequent finding after TAVI, and the real entity may not always be clear at angiographic and echocardiographic control.

Purpose: We explored the use of a pulse contour analysis based hemodynamic monitoring system (Pressure Recording Analytical Method, PRAM, in the setting of TAVI procedure with the purpose of assessing hemodynamic changes intervening during TAVI and identifying parameters that may help in residual AR quantification methods.

We performed hemodynamic monitoring with PRAM system in 43 patients under-going transcatheter TAVI. PRAM parameters investigated were systolic pressure (Psys, mmHg), diastolic pressure (Pdila, mmHg), mean pressure (MAP, mmHg), dicrotic pressure (Pdico, mmHg), cardiac output (CO, L/min), stroke volume (SV, mL), cardiac cycle efficiency (CCE, Units), dP/dt max_rad (mmHg/ms), MAP-Pdico (mmHg).

Results: Procedural success was achieved in 86% of the study population; vascular complications occurred in 3 (6.9%) patients, peri-procedural death in 2 (4.7%). Twenty (46.5%) patients had at least mild residual AR. At a t-test for paired data, we observed significant modifications in CO, SV, CCE and dP/dt max_rad (p<0.001) between baseline and end of procedure in the overall population with higher measured values in the subgroup without AR. dP/dt max_rad variations did not reach statistical significance in the subgroup with at least mild residual AR. MAP-Pdico variations were statistically significant only in the subgroup without residual AR (p=0.05).

Summary of main PRAM parameters modifications in patients presenting without or with residual aortic regurgitation after TAVI.

<table>
<thead>
<tr>
<th>No AR</th>
<th>Mild/Moderate AR</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO (L/min)</td>
<td>+&lt;br&gt;+&lt;br&gt;+</td>
</tr>
<tr>
<td>SV (mL)</td>
<td>+&lt;br&gt;+&lt;br&gt;+</td>
</tr>
<tr>
<td>CCE (units)</td>
<td>+&lt;br&gt;+&lt;br&gt;+</td>
</tr>
<tr>
<td>dP/dt max_rad (mmHg/ms)</td>
<td>+&lt;br&gt;+&lt;br&gt;+</td>
</tr>
<tr>
<td>MAP-Pdico (mmHg)</td>
<td>+&lt;br&gt;+&lt;br&gt;+</td>
</tr>
</tbody>
</table>

Conclusions: TAVI determined an improvement in CO, SV, CCE, dP/dt max_rad, which was more evident in the absence of residual AR. MAP-Pdico discriminated patients with even mild AR. Hemodynamic monitoring with PRAM system during TAVI proved to be useful in identifying significant residual AR and may help in intraprocedural decision-making in controversial cases.

P2657

Cost-effectiveness analysis of on-pump and off-pump coronary artery bypass grafting for patients with multivessel coronary artery disease: a Markov model based on data from the MASS III trial

T.L. Scudeler1, W. Hueb1, P.C. De Soareze2, A.G. Campolina1, A.C. Hueb3, P.C. Rezende1, E.G. Lima1, C.L. Garzillo1, F.F. Ribas1, M.E. Takutsi1, J.A.F. Ramirez1, R. Kalil Filho1, 1Heart Institute (InCor) - University of Sao Paulo Clinics Hospital, Sao Paulo, Brazil; 2University of Sao Paulo, Sao Paulo, Brazil; 3University of Sao Paulo, Cancer Institute, Sao Paulo, Brazil

Background: Long-term costs and quality of life for patients who underwent on-pump and off-pump coronary artery bypass graft surgery (CABG) is unknown.

Purpose: To evaluate prospectively the long-term cost-effectiveness of the two surgical techniques for the treatment of stable coronary artery disease.

Methods: Between 2001 and 2006, 308 patients with multivessel coronary artery disease were randomized to either on-pump (n=153) or off-pump CABG (n=155). Costs were estimated for all patients based on observed healthcare resource usage over 5-year follow-up. Health state utilities were evaluated with the SF-6D questionnaire. A Markov model based on Brazilian life-table and in-trial results was used to estimate lifetime cost-effectiveness.

Results: Quality of life improved significantly in both groups during follow-up compared with baseline. At 5 years, life-years and QALY gained were similar between on-pump and off-pump CABG. Mean cost in US dollars per patient during the trial did not differ significantly between the on-pump and off-pump groups ($5890.29 and $5674.75, respectively, P=0.49). Over a lifetime horizon, the incremental cost-effectiveness ratio of on-pump vs. off-pump CABG was $12,576 per QALY gained, which was robust in Monte Carlo replications and in sensitivity analyses. Using a cost-effectiveness threshold of $10,122 per QALY gained, off-pump has 65% probability of being cost-effective versus on-pump CABG.

Conclusion: This decision-analytic model suggests that off-pump CABG is more cost-effective than on-pump CABG among patients with stable coronary artery disease.