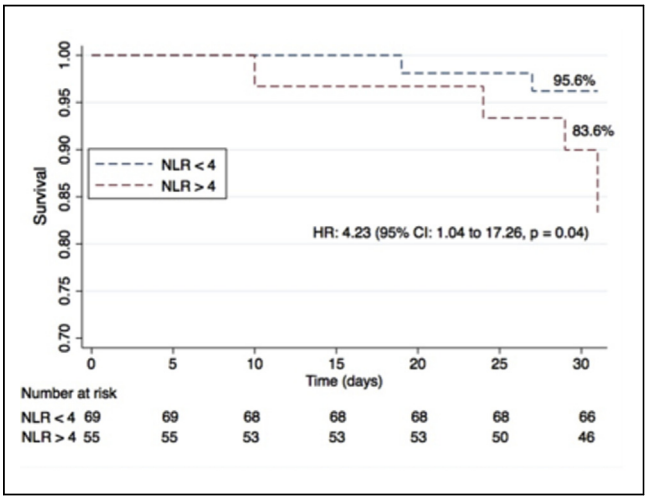

CONCLUSIONS In high risk patients with severe aortic stenosis undergoing transcatheter aortic valve replacement, elevated neutrophil to lymphocyte ratio was associated with increased mortality at 30 days. This effect was independent of previously established risk predictors in these patients. More large scale randomized studies are needed to further evaluate these results.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic

KEYWORDS Aortic valve stenosis, Neutrophil-Lymphocyte ratio, Transcatheter aortic valve replacement

TCT-677

Stentless vs. Stented Aortic Valve-in-Valve Implantation: Insights from the Valve-in-Valve International Data Registry (VIVID)

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BACKGROUND Transcatheter aortic valve-in-valve (ViV) implantation inside failed bioprostheses is an alternative approach to repeat open heart surgery for those with failed bioprosthetic valves. However, stentless surgical valves lack fluoroscopic markers and provide distinctive challenges. Our objective was to compare clinical outcomes following aortic ViV procedures in stentless vs. stented bioprostheses, using a large global registry.

METHODS A total of 1,104 aortic ViV procedures from the ViV International Data (VIVID) registry were investigated (903 stented bioprostheses, 201 stentless).

RESULTS Patients with stentless bioprostheses were younger and had similar STS risk of mortality scores when compared to their stented counterparts (74.7 ± 12.4 vs. 78.68 ± 8.3, p < 0.001; 9.8 ± 8.4 vs. 10.5 ± 9.3, p = 0.41, respectively). Stentless bioprostheses had a longer median time to failure and failed predominantly with regurgitation (12 vs. 9 years, p < 0.001; 57.6% vs. 25.6% regurgitation, p < 0.001, respectively). The effective orifice area was larger in stentless valves than in stented ones (valve area 1.2 ± 1.5 vs. 0.94 ± 0.6 cm2, p = 0.02, respectively), with smaller mean gradients as well (27.1 vs. 37.63 mmHg, p < 0.001, respectively). Stentless bioprostheses were more commonly treated with self-expandable devices (66.8% vs. 54.5% of stented, p < 0.001) and transesophageal echocardiography was more commonly utilized in these procedures (73.1% vs. 56.4%, p < 0.001). Device malposition was more common in stentless and Mosaic surgical valves than in stented non-Mosaic ones (12.3% vs. 12.4% vs. 5.1%, p < 0.001, respectively). There was a greater need for second transcatheter heart valve device in stentless valves as well (8.5% vs. 3.6%, p = 0.002). Coronary obstruction was more common in stentless valves (5.8% vs. 1%, p < 0.001). Final aortic valve area was greater in stentless prostheses (1.75 ± 0.4 vs. 1.41 ± 0.6 cm2, p < 0.001) and post-procedure mean gradients were also lower in this group (11.7 ± 7 vs. 17.2 ± 9.6 mmHg, p < 0.001). There was a trend towards higher 30-day mortality in stentless valves (8.4% vs. 5%, p = 0.07). However, 1-year mortality was similar between the groups (14% stentless vs. 16.6% stented, p = 0.59).

CONCLUSIONS Aortic ViV procedures inside stentless bioprostheses are challenging and associated with more device malposition, coronary obstruction and a trend towards increased short-term mortality. However, stentless ViV procedures offers improved hemodynamics with similar survival rates at one year.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic

KEYWORDS TAVR, Transcatheter aortic valve replacement, Valve-in-valve

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Abstract Withdrawn

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The third generation Edwards Novaflex/SAPIEN 3 TAVR device: Impact of sizing guidelines for transfemoral access suitability and shortterm results

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BACKGROUND The latest generation of the balloon-expandable Edwards SAPIEN device, the SAPIEN 3, has shown very positive results in recently published studies. Most notably, it demonstrated a low rate in paravalvular regurgitation, a low rate in vascular access site complications, a low stroke rate and a very low mortality rate. These clinical outcomes are mainly due to significant design improvements: downsizing of the delivery system (Edwards Commander delivery system) with sizes of 14F (23 mm and 26 mm device) and 16F (29mm device) and a paravalvular sealing cuff to reduce the amount of residual paravalvular regurgitation. According to these changes, new sizing recommendations were developed for the SAPIEN 3 device, which even allows slight undersizing.

METHODS To analyze the percentage of patients who could have received a SAPIEN 3 device in a transfemoral TAVR patient cohort. We retrospectively reviewed CT-scans of 201 TAVR patients implanted between February 2014 (when the SAPIEN 3 was introduced at our hospital) and April 2015 and compared the suitability for the SAPIEN 3 and SAPIEN XT respectively, based on access vessel and/or the 3D annulus diameter.

RESULTS With respect to the new sizing guidelines for the SAPIEN 3, 196 patients (98%) of the 201 patients analyzed would have been suitable for an implantation with the new SAPIEN 3 device. In contrary, the SAPIEN XT device could have been implanted in significantly less patients (80%). The SAPIEN 3 device was finally implanted in 102 patients (52%). The short-term outcome of this cohort showed excellent results. Paravalvular regurgitation was virtually absent with the vast majority having none or trace postinterventional aortic regurgitation on echocardiography (90.7%). None of the patients had more than mild paravalvular regurgitation. Major vascular access site complications or major bleeding according to the VARC II criteria were not observed in our cohort. Minor vascular complications and minor bleeding occurred in 6.8 % and 3.9 % respectively. If vascular complication occurred, they were related to closure device failure with subsequent stent graft implantation. Thirty-day outcome showed a very low major stroke rate (1.9%) and a low mortality rate (2.9%). However, we observed a 20.6% permanent pacemaker rate in our SAPIEN 3 cohort.