TCT-668

Transcatheter aortic valve implantation in degenerated aortic bioprosthesis: an analysis from the Brazilian TAVI Registry

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BACKGROUND Valve-in-valve TAVI (ViV-TAVI) has emerged as a promising modality for high-risk patients with degenerated aortic bioprostheses in order to avoid a new surgery, notwithstanding there is still scarce data in literature supporting its use.

METHODS The Brazilian registry is a national real-world study that enrolls patients treated with TAVI. ViV-TAVI patients from the registry were analyzed and compared with the cohort of native valve patients. One-year all-cause mortality, stroke, NYHA functional class were compared between groups.

RESULTS A total of 819 patients were included in the Brazilian TAVI Registry. Among them, 34 patients underwent ViV-TAVI (64,7% CoreValve, 35,3% Ballon expandable [BE] - Sapien XT/Inovare) for failed surgical bioprosthetic valve and 785 make up the cohort of native valve patients (73,2% CoreValve, 26,8% BE). ViV-TAVI patients were younger ($p<0.001$), more symptomatic ($p=0.05$), had more previous CABG ($p<0.001$) and stroke ($p=0.045$), and showed higher logistic EuroSCORE ($p=0.003$) than the native valve cohort. All-cause mortality at 1-year was not different between groups (23.3% vs 21.6%, $p=0.6$), neither was the incidence of stroke (6.2% vs 7.2%, $p=0.8$). After 1 year ViV-TAVI patients were more symptomatic (NYHA Class I-II: 80% vs 92.7%, $p=0.02$).

CONCLUSIONS In this real-world registry, although ViV-TAVI patients were of higher risk, the procedure was not associated with higher mortality or higher incidence of stroke at 1-year in comparison with native valve TAVI. Nonetheless, the ViV-TAVI group remained more symptomatic.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic

KEYWORDS Aortic valve, TAVI, Valve-in-valve

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Clinical and economic outcomes of TAVI vs. Balloon Aortic Valvuloplasty as a "bridge" therapy: a single-center experience

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BACKGROUND Although TAVI has proven to be safe and effective for the treatment of aortic stenosis in high-risk patients, Balloon Aortic Valvuloplasty (BAV) has not completely disappeared. On the contrary, it's sometimes indicated as a "bridge" to TAVI, that may eventually be performed after clinical recovery. We present here the clinical and economic outcomes of patients at prohibitive risk for surgery, treated at our center with TAVI and/or BAV with this "bridging" intent.

METHODS Data of consecutive patients with severe aortic stenosis treated at our center between 2010 and 2014 were collected and analyzed retrospectively. Patients were classified based on the therapeutic option (TAVI or BAV). Clinical events were collected by patients contact. For each patient costs were estimated for the initial procedure and all subsequent hospitalizations.

RESULTS One-hundred and seven patients (84.9%) underwent TAVI as a first choice, while 19 patients (15.1%) received BAV. Subsequently, 7 of these patients (36.8%) had sufficient clinical recovery and underwent TAVI. Mean follow-up was 12.8 months in TAVI patients and for 5.6 months in BAV patients. On average, TAVI patients were aged 81 years, 73% were in NYHA class III/IV, and had a mean logistic EuroSCORE of 27.9%. BAV treated patients were aged in mean 78 years, but had a higher proportion of NYHA class III/IV (95%) and were at higher operative risk (Logistic EuroScore 37.3%). In-hospital mortality was 2.8% for TAVI and 10.5% for BAV. Median length of hospital stay was similar for both interventions: 9 days on general ward for both, while 2 days and 1 day for TAVI and BAV patients, respectively, were spent in ICU. At follow-up there were an average of 0.44 rehospitalizations per TAVI patient with mean length of stay of 14.3 days, while BAV had 0.63 rehospitalizations per patient with an average length of stay of 22.3 days. The index procedure costs were much lower for BAV compared with TAVI (€9,222 vs €29,400). However, observed follow-up costs at 12 months were €1,861 for TAVI against €9,474 for BAV. Based on the projected survival curves at 1, 2 and 3 years, the incremental cost-effectiveness ratio, defined as the difference in cost divided by the difference in life expectancy, was calculated. At 1 year the incremental cost-effectiveness ratio for TAVI vs BAV was €61.500 per year of life gained, decreasing to €19.500 by the second year. From the third year, TAVI was anticipated to be more effective and less costly ("dominant" strategy) than BAV.

CONCLUSIONS Treatment of severe aortic stenosis with TAVI bears excellent clinical outcomes. However, BAV may be chosen as destination or "bridge" therapy in a limited group of patients at higher risk that may eventually recover and become TAVI candidates. TAVI seems overall a more effective clinical option, and when considering time periods beyond 1 year may be cost-effective and even cost saving compared to BAV. Larger and more homogeneous samples may be of help in further clarifying this topic.

CATEGORIES OTHER: Cost-Effectiveness and Reimbursement Issues

KEYWORDS Balloon aortic valvuloplasty, Cost effectiveness, TAVI

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Incidence, Treatment And Outcome Of Acute Aortic Valve Regurgitation Complicating Percutaneous Balloon Aortic Valvuloplasty

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BACKGROUND In the transcatheter aortic valve implantation (TAVI) era, there is a renewed impulse to perform percutaneous balloon aortic valvuloplasty (BAV). Aside its high percentage of procedural success and consequent potential symptoms relief, BAV is still associated with possible harm in frail patients such those with degenerative aortic valve stenosis (AS). We sought to evaluate the incidence of acute aortic regurgitation (ARR) complicating BAV and analyze the treatment options and in -hospital outcome.

METHODS From the prospective BAV registry of the University of Bologna, which has enrolled patients between the year 2000 and the present, we selected those suffering intraprocedural AAR with overt hemodynamic instability. Worsening of baseline aortic insufficiency without hemodynamic collapse, treatment of biological valve prosthesis and BAV occurring within a transcatheter aortic valve implantation (TAVI) procedure were reasons of exclusion.

RESULTS Over 15 years, of 1517 BAV we identified 26 cases of AAR and so an incidence of 1.7%. The complication happened in about 80% of cases after one or two balloon inflations. Mean trans-aortic gradient decreased from 50.6±19.3 mmHg to 26.0±14.4 mmHg ($p<0.01$), whereas the average systolic and diastolic pressure collected did not differed from baseline to post BAV. In 8(30.8%) patients AAR spontaneously resolved, but in 13(50.0%) the operator had to perform a rescue maneuver to reposition a valve leaflet got stuck in the opening position: a pig-tail catheter with a J or extra-stiff wire inside was pushed towards the leaflet and turned gently clockwise and counterclockwise. Emergency TAVI or surgery let to treat 3 cases. In-hospital mortality was 15.4% (n=4).

CONCLUSIONS AAR is still a fearsome complication of BAV both in term of incidence and grim prognosis. However the operators should be aware of the possibility to treat it in the cath lab with proper technical maneuvers in a high percentage of cases. TAVI or surgical valve replacement are alternative options.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic

KEYWORDS Aortic regurgitation, Aortic stenosis, degenerative, Valvuloplasty