feasible, safe, and has favourable outcomes. TAVI is a reasonable alternative in this group of patients, unlike LFLG patients who present higher mortality rate.

Oversizing, undersizing or just the right sizing for TAVI patients?

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Oversizing strategies to avoid post-procedural aortic leak following TAVI are developing. The purpose of the study was to investigate if the oversizing strategy compared with normal sizing was deleterious on the immediate and late post-procedural outcomes.

From January 2010 to August 2013, 99 consecutive severe symptomatic aortic stenosis patients were referred for TAVI. They all underwent preprocedural Multi-slice-angiography CT scan (MSCT) and the procedures were achieved using Edwards Sapien® or CoreValve devices®. Early and late follow-up were completed. Retrospectively, according to pre-procedural MSCT and the valve size, patients were classified into three continuous groups: normal sizing, moderate, and severe oversizing; depending on the ratio between the prosthesis area and the annulus area indexed and calculated on MSCT. Main endpoint was the all-cause and cardiovascular mortality and secondary endpoints corresponded to the VARG2 endpoints.

228 patients had a MSCT and underwent TAVI procedure, with mainly Corevalve®. While all-cause and cardiovascular mortality rates were similar in all groups, post-procedural new pacemaker implantation rate was significantly higher in the severe oversizing group (p=0.03), while we observed more severe periprocedural complications in the normal sizing group (p=0.12). At 1 month there was significantly more MACCE in the normal sizing group (p=0.03). Oversizing based on this ratio is a safe and feasible strategy to reduce aortic leak with lower rates of immediate post-procedural complications and a similar long-term survival.

Immediate and long-term results of repeat percutaneous mitral valvuloplasty

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Introduction: it is unknown whether patients who developed symptomatic mitral restenosis after percutaneous mitral valvuloplasty (PMV) may benefit from repeat PMV (re-PMV). The purpose of this study is to assess the immediate and long-term results of the re-PMV in patients with mitral restenosis following to previous PMV.

Methods: Retrospective study from a series of 40 procedures of re-PMV with the Inoue balloon at 8±4 years after prior procedure, performed between 1996 and 2012. A clinical and ultrasound follow-up was achieved in 31 patients with a mean follow-up period of 43±26 months.

Results: The mean age of patients was 43±11 years (23; 63), 87.5% of the population being female (5 men and 35 women). The immediate procedural success was achieved in 31 patients (77.5%). A severe mitral regurgitation (MR) was observed in 3 patients (7.5%). A cerebrovascular stroke occurred in 1 patient (2.5%). No death or cardiac tamponade were noted. Class IV or NYHA, a pre-procedural MR, pulmonary hypertension and a Patil score >10 were identified as predictors of failure. More the score of Wilkins is high (>8), more it is predictive of failure. Only a left atrial area ≤25 cm² was linked to high risk of severe MR. At long-term, most patients (84%) had no functional impairment, the mean mitral valvular area was 1.5±0.33 cm² [0.9;2.2], mitral restenosis was observed in 13 patients (42%) at 53±30 months [9;128] after re-PMV. 9 patients had mitral valve replacement (32%), 4 patients underwent a re-PMV (13%), 2 patients presented thromboembolic events (6%) and no death. Only the male had been identified as a predictor of restenosis.

Conclusion: Re-PMV in patients with restenosis after a prior PMV is feasible, effective and achieves interesting immediate and long-term results.

Hemodynamic and regurgitation after TAVI. An in-vitro study

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Introduction: Observations of EDWARDS SAPIEN prosthesis (ED SA) once deployed in vivo, shows a frequent elliptic geometry, which can cause inadequate transvalvular hemodynamic and the occurrence of valvular regurgitation (intra and/or para).

Objectives: This study aims to quantify in vitro, hemodynamic and valvular regurgitation of ED SA in circular and elliptic deployment conditions.

Method: A pulsed simulator reproducing the human circulation was used. ED SA 23 and 26 were implanted in circular annulus with increasing diameter (18, 20, 22mm for the size 23 and 21, 23, 25mm for 26) and in 4 elliptic annulus for each size prosthesis (3 annulus with increasing Eccentricity Index (EI) at 0.17, 0.26, 0.33 starting to a small fixed diameter and 1 with the smallest and biggest diameters of circular annulus). The Effective Orifice Area (EOA) was calculated by the continuity equation and mean transvalvular gradient (TVG) were obtained by Doppler. The performance index (PI=100x(EOA/annulus area) was calculated. The ultrasound allowed the research of regurgitation, quantified by flow measurement.

Results: The highest TVG were observed for circular annulus 18 and 20mm, respectively 17.7 and 12.2mmHg, which was correlated with the lowest EOA (1.27 and 1.44 cm²). We observed a mismatch leaflets-stent for annulus 18 with plicature of leaflets. Hemodynamic parameters and mean PI (48.5 vs 43.2) were better with elliptic geometry than circular. No significant intraprothetic regurgitation was observed. Just 1 paraprosthetic regurgitation occurred for the ED SA 26 in the elliptic annulus with largest EI.

Conclusion: Hemodynamic parameters of ED SA obtained in vitro with elliptic geometry appear to be better than those with circular. A “leaflets-stent mismatch” can occur in the case of undersizing in annulus with smaller area.