TCT-795
Tricuspid Annular Plane Systolic Excursion and Cardiac Output Predict Recovery of Right Ventricular Function After MitraClip Therapy for Significant Functional Mitral Regurgitation
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Background: Impaired right ventricular (RV) function markedly impacts the prognosis in patients (pts) with functional mitral regurgitation (FMR). In such pts, significant recovery of RV function after MitraClip (MC) therapy has been shown. We sought to identify echocardiographic and/or hemodynamic variables predicting recovery of RV function after MC therapy.

Methods: Of 194 pts with significant FMR receiving MC therapy at our institution, impaired RV function (defined as tricuspid annular plane systolic excursion to TAPSE < 18mm) was present at baseline in 78 (40%). Six-week echocardiographic follow-up was obtained from 36 pts (71 ± 11 years; 23 men [64%]).

Results: Recovery of RV function—defined as a change in TAPSE—ΔTAPSE >3mm— was observed in 6 pts at 836 pts (22%). These 8 pts (mean ΔTAPSE 5.6 ± 0.9mm) differed from the 28 pts with ΔTAPSE <3mm (mean ΔTAPSE 0.7 ± 2.4mm) in baseline TAPSE (9.4 ± 1.7mm vs. 12.2 ± 2.5mm, respectively; p=0.029) and baseline cardiac output (4.4 ± 1.3L/min vs. 3.6 ± 1.0L/min, respectively; p=0.01). Normal baseline cardiac output (>4.5L/min) was present in 50% of pts with ΔTAPSE >3mm, yet only in 14% of pts with ΔTAPSE <3mm (p=0.054).

No differences between the 2 groups were noted in terms of left ventricular (LV) end-diastolic diameter, LV ejection fraction, systolic pulmonary artery pressure, capillary wedge pressure, and MR severity at baseline. Univariate logistic regression analysis for the end point of ΔTAPSE >3mm at 6 weeks revealed odds ratios of 1.85 (95% confidence interval, 1.11 – 3.03; p=0.017) associated with a 1-mm decrease in baseline TAPSE and 2.66 (1.15 – 6.18; p=0.023) associated with a 1-L/min increase in baseline cardiac output.

Conclusions: MC therapy for significant FMR apparently leads to recovery of RV function particularly in pts with markedly reduced baseline TAPSE yet unimpaired cardiac output. Further study is warranted to verify these observations.

TCT-796
Comparison of Three Contemporary Surgical Scores For Predicting All-Cause Mortality Of Patients Undergoing Percutaneous Mitral Valve Repair With The MitraClip System: Insights From The Multicenter GRASP-TT Registry
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Background: There is a lack of knowledge on risk stratification for Mitraclip patients.

Methods: To explore the adaptability of three contemporary surgical scores (Logistic EuroSCORE [LES], EuroSCORE II [ESII]) and Society of Thoracic Surgeons Predicted Risk of Mortality [STS-PRM]) for prediction of mortality after percutaneous mitral valve repair with the MitraClip system.

Results: A statistically significant gradient in the distribution of mortality was observed at all time points with ESII at 2 years with LES and at 2 and 3 years with STS-PRM. ESII had the best discrimination at 30 days (c-statistic 0.80), which was observed at all time points with ESII, at 2 years with LES and at 2 and 3 years with STS-PRM.

Conclusions: In the absence of specific tools for risk stratification of patients undergoing MitraClip implantation, ESII holds favorable prognostic characteristics, which make it a valid surrogate.

TCT-797
Single Center Experience In Long Term Follow Up In Patients After MitraClip Procedure Due To Severe Symptomatic Functional Mitral Regurgitation
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Background: Percutaneous mitral valve repair using the MitraClip system has gained increasingly acceptance in patients with significant mitral regurgitation who are ineligible or with disproportionately high risk for surgical intervention. However, data about long-term follow up are rare, especially in those who are treated for functional mitral regurgitation (FMR).

Methods: Procedural data, safety results and clinical outcomes, including mortality rates, freedom from mitral valve (MV) surgery, reduction in MR, as well as improvements in NYHA Class, Six Minute Walk Test (6MWT), and Quality of Life (QoL) were collected on baseline demographics, echocardiographic parameters and clinical outcomes, including mortality, re-hospitalizations for congestive heart failure and post-procedural MR.

Results: A total of 63 patients with symptomatic functional MR underwent therapy with MitraClip between December 2010 and February 2014. The mean age was 72.2 years with 76.2% males (n=48) and 93.7% of patients in NYHA Class III-IV. Patients were high surgical risk (mean logistic Euroscore-2 15%) due to comorbidities: diabetes (44.4%), hypertension (61.9%), renal insufficiency (81%), and previous cardiac surgery (55.6%). The mean LVEF was 33.6±12.8%. Procedural success, defined as reduction of MR to 2+, was achieved in 82.5% (n=52 patients). At mean follow up of 288 days, the mortality was 19% (12 patients), with a re-hospitalization rate of 7.9% (5 patients).

Conclusions: Transcatheter edge-to-edge repair of the mitral valve in patients with symptomatic functional MR is feasible, safe and has shown favorable outcomes in real-world patients.