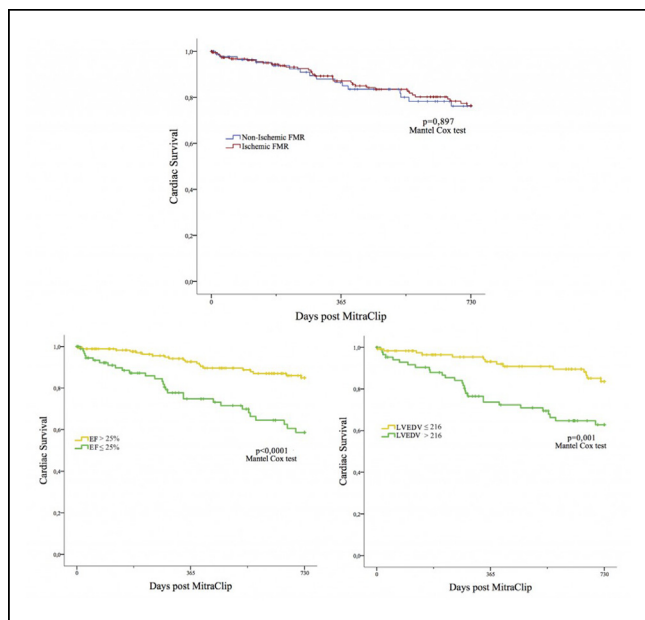


**METHODS** From 2008-2016, 314 patients received MitraClip for FMR at three institutions (Brescia, Zurich, Milan). Patients were stratified according to MR aetiology in non-ischemic FMR (n=99) and ischemic FMR (n=215). Preoperative risk factors, operative variables and outcomes up to 2-year were evaluated.

**RESULTS** As expected, patients with ischemic FMR had significantly more risk factors and comorbidities, were more male (86% vs. 67%) and with higher Logistic EuroSCORE (21±17 vs. 14±17). Overall procedural success rate was 90% and in-hospital mortality was 3% without significant differences between aetiology. Despite worse baseline characteristics in patients with ischemic aetiology, two-year cardiac mortality rates (18% vs. 17%, p=0.897) were comparable. No differences were detected in terms of re-hospitalization rates (31%), needed for LVAD implantation (4%) and mitral valve surgery (1%). Both groups had significant improvement in MR grade and 6-minute walking test; non-ischemic FMR patients demonstrated a greater reduction in NYHA class and left ventricle volumes. LVEF ≤25% and LVEDV >216 were the strongest independent predictors of 2-year cardiac mortality.



**CONCLUSION** The ischemic or non-ischemic aetiology of DCM did not significantly affect in-hospital and 2-year outcomes after MitraClip in patients with FMR.

**CATEGORIES STRUCTURAL:** Valvular Disease: Mitral

**TCT-542**

**Incidence and Predictors of Left Ventricular Negative Remodeling after MitraClip treatment in patients with Functional Mitral Regurgitation**



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**BACKGROUND** MitraClip implantation has evolved as a new tool for treatment of inoperable or high-risk patients with severe functional

mitral regurgitation (FMR) due to dilated cardiomyopathy (DCM). Limited data are available regarding incidence and predictors of Left Ventricular Negative Remodeling (LVNR) after MitraClip treatment.

**METHODS** From 2008-2016, 314 patients received MitraClip for FMR at three institutions. Preoperative risk factors, operative variables and outcomes were evaluated. LVNR was defined as an increase at least of 10% in Left Ventricular End Diastolic Volume (LVEDV).

**RESULTS** The study population included 314 patients with FMR. There were more male (74%), a mean Logistic EuroSCORE of 18±17, and a mean LV Ejection Fraction of 31%. Overall procedural success rate was 90% and in-hospital mortality was 3%. Up to 1-year follow-up, the incidence of LVNR was observed in 79 patients (26%). At baseline, those with LVNR were characterized by lower LVEDV (188 ml vs. 233 ml), lower LVEsystolicV (133 ml vs. 174 ml), higher LVEF (33% vs. 29.5%), previous myocardial infarction (MI, 40% vs. 22%), residual MR<2 (33% vs. 17%). At multivariate logistic regression analysis, history of MI was the strongest independent predictor of LVNR (Odds Ratio 3.5, Confidence Interval 1.4-8.4).

**CONCLUSION** Left ventricular negative remodeling was observed in 26% of patients after MitraClip treatment of FMR. The presence of previous myocardial infarction is the strongest independent predictor of LVNR.

**CATEGORIES STRUCTURAL:** Valvular Disease: Mitral

**TCT-543**

**Long-term outcome after successful MitraClip implantation in high-risk patients**



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**BACKGROUND** Despite being the most widely used device for transcatheter mitral valve repair, long-term data on the outcome of MitraClip (MC) therapy (Abbott Vascular, Redwood City, California) is lacking to date.

**METHODS** From September 2008 to May 2017, 700 patients ([pts], 75.3±8.8 years [yrs], 60.4% male, 66.6% functional mitral regurgitation [FMR]) were successfully treated (MR≤2+ at discharge; rate 89.6%) at our center. Follow-up (FU) visits were performed at 6 months and annually up to 5 yrs.

**RESULTS** Baseline (BL) conditions demonstrated increased surgical risk factors (e.g. hypertension 73.0%, cardiomyopathy 70.2%, atrial fibrillation 67.4% and renal failure 55.5%), severely reduced left ventricular ejection fraction (LVEF) in 27.8% and elevated levels of NT-proBNP (3957 [1903-7789] pg/mL), resulting in a calculated logEuroSCORE of 24.7±16.5%. During FU, we documented a significant reduction in MR (2yrs: 87.8% MR≤2+, p<0.001; 5yrs: 77.3% MR≤2+, p<0.001) and a decrease in LV end-systolic diameter (5yrs: p=0.038), LV end-diastolic volume (p<0.001) and LV end-diastolic diameter (p<0.001). Numerically, NT-proBNP levels (2yrs: 2423 [1196-5230] pg/mL; 5yrs: 2542 [1214-6431] pg/mL; p=NS for both), the Minnesota Living with Heart Failure Questionnaire (mean value at BL 40 points; at 2yrs 29 points, p<0.001; at 5yrs 33 points, p=NS) and the 6 minutes walking distance improved (mean value at BL 180 meters; at 2yrs 300 meters, p<0.001; at 5yrs 240 meters, p=NS), albeit gaining statistical significance. Nevertheless, New York Heart Association (NYHA) classification improved significantly (NYHA ≤II at BL: 5%; at 2yrs: 57.2%, p<0.001; at 5yrs: 58.0, p<0.001). The cumulative event rate for death of any cause at 5 yrs was 64.2% and for cardiac rehospitalization 45.7%, respectively. In multivariable analyses, age (1.21 [1.08-1.36]), LVEF≤30% (1.29 [1.01-1.64]), diabetes (1.38 [1.08-1.70]), log[NT-proBNP] (1.48 [1.30-1.69]) and renal failure (1.51 [1.20-1.91]) were independent predictors of death while LV end-diastolic diameter (1.16 [1.02-1.32]) and systolic pulmonary artery pressure (1.18 [1.06-1.32]) were predictive of cardiac rehospitalization. When stratified according to the MR etiology (functional vs degenerative), we observed similar FU findings and no differences in hard endpoints.

**CONCLUSION** Despite adverse baseline findings, MC therapy was performed with high and lasting success. Interestingly, outcome does not seem to be linked to the underlying etiology. Our data suggests beneficial long-term results for high-risk, real-life cohorts, possibly being linked to an improvement of LV geometry over time.

**CATEGORIES STRUCTURAL:** Valvular Disease: Mitral