TCT-792
Severe Left Ventricular Dysfunction Predicts Mortality In Patients With Symptomatic Functional Mitral Regurgitation Undergoing Percutaneous Edge-To-Edge Repair
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Background: Percutaneous edge-to-edge repair is currently being used for the treatment of symptomatic functional mitral regurgitation (FMR). There is little data on the efficacy of this therapy in patients with severe left ventricular dysfunction (SLVD). We sought to determine the impact of SLVD on mortality after MitraClip®.

Methods: Single center prospective registry of patients treated with the MitraClip under the Compassionate Use Program of Health Canada (Special Access). Patients were divided into 2 groups: SLVD (left ventricular ejection fraction, LVEF ≤20%) and LVEF >20%. The primary endpoint was all-cause mortality.

Results: Sixty-three patients with FMR were treated with MitraClip between Dec 2010 and Mar 2014 (23.8% female, age 72.2±10.6 years, LVEF 33.6±12.8%). Patients with and without SLVD were not significantly different in terms of baseline characteristics or medical treatment. Patients with SLVD had larger LV dimensions. Final MR result was similar (MR ≤2+; 78.6% vs. 87.2%, SLVD vs. LVEF >20%; p=0.42), as was in-hospital mortality (7.1% vs. 6.1%, p=0.89). However, at follow-up (288±277 days) patients with SLVD had higher mortality (42.9% vs. 14.3%, p=0.02). SLVD was a predictor of death (HR 3.17; 95% CI: 1.04 to 9.68; p=0.02). The origin of the MR was functional in 55% and degenerative in 39% of the cases. In 6% of the patients the cause of the MR was mixed. Acute procedural success (APS), defined as placement of 1 or more clips resulting in a discharge MR severity of ≤2+, was achieved in 91% of the cases. The complication rate was low and 30 days survival was as good as 97.32% (95% CI: 94.46-98.71%). At 6 months 80% of the (visited) patients were in NYHA class 1 or 2 and 75.2% of them had a MR grade of 1+ or 2+.

Conclusions: In Switzerland, all patients which undergo percutaneous MVR are included in a nationwide prospective registry. After 265 included patients, our data confirm a high perioperative success rate together with a low complication rate. 30 days and 6 months results are promising. Functional and echocardiographic results will be available at the time of the meeting.

TCT-794
Quantitative Pre- and Postinterventional Echocardiographic Predictors of Mortality After MitraClip Therapy for Significant Functional Mitral Regurgitation
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Background: Implantation of the MitraClip (MC; Abbott, Inc.) has become the most frequently used percutaneous modality to treat significant mitral regurgitation (MR) in patients (pts) not amenable for surgery. Vena contracta area (VCA), measured intraprocedurally via 3-dimensional transesophageal echocardiography, is a novel parameter reflecting the severity of MR that is directly affected by the intervention and can be used in the presence of multiple regurgitant jets. We sought to assess the impact of post-MC VCA – along with other variables known to affect prognosis – on mortality after MC therapy.

Methods: Included were 76 pts (median age 75 [IQR 68–80] years; LVEF 28 [23–33] %; logistic EuroSCORE 22 [10–39] %; 55 men [72%]) who underwent MC therapy for significant functional MR (≥ grade 3+ in 84%) and in whom VCA could be included in a nationwide prospective registry. After 265 included patients, our data confirm a high perioperative success rate together with a low complication rate. 30 days and 6 months results are promising. Functional and echocardiographic results will be available at the time of the meeting.

Conclusions: In patients with significant FMR, treatment with MitraClip is associated with a reduction in HR. However, this does not translate into a survival benefit in patients with a LVEF ≤20%.

TCT-793
A prospective observational analysis of patients treated with percutaneous mitral valve repair, using the MitraClip system in Switzerland - Insights from the MitraSwiss registry
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Background: Percutaneous mitral valve repair (MVR) may be a valid alternative for patients with severe mitral regurgitation (MR) and high operative risk. The use of the MitraClip®-system is therefore constantly growing worldwide despite a lack of evidence deriving from randomized trials. Data from high volume registries is therefore still of use and we therefore aim to report on the experience gained after inclusion of 265 patients in the prospective nationwide MitraSwiss registry.

Methods: Patients with severe MR (>3+) and high operative risk (as discussed within a Heart-team) or declined for surgical repair were considered and asked for their consent to participate to the registry. Percutaneous MitraClip®-implantation was performed in the cath-lab setting with trans-esophageal monitoring under general anesthesia.

Results: Since autumn 2011 a total 265 patients were included in the registry by 8 cardiovascular centers. The mean age was 77±10 years (64% male; logEuroScore 13±1.5%; mean±SD) with a left ventricular ejection fraction of 45±17% (mean±SD). The origin of the MR was functional in 55% and degenerative in 39% of the cases. In 6% of the patients the cause of the MR was mixed. Acute procedural success (APS), defined as placement of 1 or more clips resulting in a discharge MR severity of ≤2+, was achieved in 91% of the cases. The complication rate was low and 30 days survival was as good as 97.32% (95% CI: 94.46-98.71%). At 6 months 80% of the (visited) patients were in NYHA class 1 or 2 and 75.2% of them had a MR grade of 1+ or 2+.

Conclusions: In Switzerland, all patients which undergo percutaneous MVR are included in a nationwide prospective registry. After 265 included patients, our data confirm a high perioperative success rate together with a low complication rate. 30 days and 6 months results are promising. Functional and echocardiographic results will be available at the time of the meeting.

Univariate
<table>
<thead>
<tr>
<th>Variable</th>
<th>HR (95% CI)</th>
<th>p</th>
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<tbody>
<tr>
<td>Age</td>
<td>1.03</td>
<td>0.99-1.07</td>
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<tr>
<td>LVEF</td>
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<td>0.96-1.04</td>
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<tr>
<td>Log. EuroSCORE</td>
<td>1.02</td>
<td>1.00-1.04</td>
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<td>Impaired renal function</td>
<td>2.18</td>
<td>0.97-4.87</td>
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<tr>
<td>Discharge MR 3+/4+ (vs. 1+2+)</td>
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<td>1.41-12.5</td>
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<tr>
<td>pre-MC TAPSE (per 1mm decrease)</td>
<td>1.15</td>
<td>1.03-1.28</td>
</tr>
<tr>
<td>post-MC VCA (per 1mm² increase)</td>
<td>1.02</td>
<td>1.00-1.04</td>
</tr>
</tbody>
</table>

Conclusions: Mortality after MC is independently impacted by decreasing TAPSE and increasing post-MC VCA. MC therapy should aim for a VCA ≤18mm².