

## Impact of intervention strategies after failed Mitraclip therapy on mid-term outcome

H. Alessandrini<sup>1</sup>, S. Geidel<sup>2</sup>, P. Wohlmuth<sup>3</sup>, F. Meincke<sup>1</sup>, S. Hakmi<sup>1</sup>, N. Gosau<sup>1</sup>, T. Ubben<sup>1</sup>, K.H. Kuck<sup>4</sup>, S. Willems<sup>1</sup>

<sup>1</sup>Asklepios Clinic St. Georg, Cardiology, Hamburg, Germany; <sup>2</sup>Asklepios Clinic St. Georg, Department of Cardiac Surgery, Hamburg, Germany;

<sup>3</sup>Asklepios Clinic St. Georg, Proresearch Institute, Hamburg, Germany; <sup>4</sup>LANS Medicum Hamburg, Cardiology, Hamburg, Germany

**Funding Acknowledgement:** Type of funding source: None

**Introduction:** Procedural failure after MitraClip (MC) therapy has a decisive prognostic influence and Re-treatment after acute procedure failure (APF) remains complex due to the generally high-risk patients. The aim of this work is to analyze the mid-term outcome between the surgical and the percutaneous interventional treatment routes according to APF from our High Volume Center.

**Methods:** Retrospective analysis of patients (pts.) consecutively treated with MC in the period from 9/2009 - 5/2019 with residual mitral regurgitation (rMR) that is still higher in the case of symptomatic APF (NYHA 3–4). Outcome analysis in primary (PMR) and secondary MR (SMR) with subsequent percutaneous (group Reclip) vs. surgical treatment (group surgery).

**Results:** Of a total of 824 pts., 63 (73±10 years, 20 women [31,7%]) showed APF (MR>2) peri / postinterventionally. Mitraclip reintervention was performed in 36 pts. (26 SMR, 10 PMR), while 27 (13 SMR, 14 PMR) underwent surgery. Mitral valve replacement (MVR) was surgically performed on 21 pts. (11 PMR, 10 SMR), while reconstruction (MVrec) was performed on n=6 (3 PMR, 3 SMR). The mechanism of the rMR in the surgery group, n=14 (51.9%) was a pure sail injury (LT) or a partial clip detachment (PCD) or a combination of both, n=9 (33.3%) a severe rML, n=3

(11.1%) device endocarditis and n=1 (3.7%) a technical device problem. In the reclip group n=15 (41.7%) showed an LT and / or a PCD and n=21 (58.3%) a severe rMR. Thirty-day mortality was 13.9% (n=5 deaths) in the ReClip-group (n=4 SMR, n=1 PMR) an 18.5% in the surgical group (n=5 deaths; all SMR patients). In the midterm FU over 18 months (Figure 1), the surgically treated patients with SMR showed a significantly higher mortality rate than in patients with PMR (p=0.002). In the Reclip intervention group, no significant difference between treated PMR and SMR patients can be objectified (p=0.995). The comparison between surgery / reclip in the PMR group shows no significance, whereas a trend (p=0.148) in favor of the reclip can be distinguished between surgery / reclip in SMR in the outcome.

**Conclusion:** Surgically treated patients after AFP with an SMR as index etiology show a very poor short and medium-term survival both in comparison to the PMR patients and to the two reclip groups. With the combination of AFP and SMR, the reclip treatment can be regarded as the primary treatment option despite the lack of statistical significance compared to surgery. In return, surgery combined with AFP and PMR offers a viable alternative and can be favored over the reclip procedure in younger patients.

