Conclusions: MitraClip implantation results in an expected increase of transmural pressure gradient during exercise, however, with no evidence of clinically significant mitral stenosis.

TCT-793
Effects of Preoperative Tricuspid Regurgitation on Mitral Regurgitation Treatment with the MitraClip Device in High-Risk Patients

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Background: The purpose of the study is to characterize high-risk patients with mitral regurgitation (MR) treated with the MitraClip device (Abbott Vascular, Abbott Park, Illinois) and to assess the impact of preoperative TR≥3+ on the outcomes at mid-term follow-up after MitraClip treatment.

Methods: From November 2008 to March 2012, 106 consecutive patients with degenerative and functional moderate to severe or severe MR underwent MitraClip implantation at our institution. All the patients were assessed by a preoperative standard-ized protocol, which included TEE, angiography and evaluation of the surgical risk. The functional status was assessed by 6MWT, while quality of life was evaluated by MLHFQ and SF-36 questionnaires. Short and mid-term outcomes of patients with and without concomitant TR≥3+ (TR group and no-TR group, respectively) were compared.

Results: Preoperative TR≥3+ was present in 21/106 patients (19.8%). Patients of the 2 groups were similar for age, comorbidities and surgical risk. Functional etiology was present in 71.4% of the TR group and in 70.6% of the no-TR group (p=0.9). Preoperative echocardiography showed similar LVEDD (p=0.5) and LVEF (p=0.4). Patients of the TR group had worse quality of life (MLHQ 44.7 Vs 36.8; p=0.04; SF-36 physical domain 30.4 Vs 36.6; p=0.004). In-hospital mortality was 0% in TR group and 1.2% in no-TR group (p=0.9). 30-day mortality was 3.9% for TR group and 1.9% for no-TR group (p=0.9). NYHA functional class 2.5±0.6 (p=0.03), hematocrit 34.1±3.9 (p=0.04). Preoperative NYHA functional class in at least 1 grade occurred in 80% (p=0.03). NYHA functional class 2.5±0.6 (p=0.03), hematocrit 34.1±3.9 (p=0.04), and MPL regurgitation grade 3 (p=0.04).

Conclusions: Percutaneous repair of MPL is a feasible alternative with a high immediate technical success rate, and few complications. At follow up, recovery of both functional class, hematocrit and decrease of at least 1 degree regurgitation was observed. Patients can undergo reintervention for residual or new leak.

TCT-795
Procedural success is improved with a 2nd MitraClip placement without additional complications

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Background: Suboptimal result of the MitraClip procedure (Abbott Vascular, Santa Clara, California) might be related to inadequate number of clips. In some cases of the MitraClip procedure, 2nd clip is required to be placed for residual mitral regurgitation (MR) after 1st clip placement. However the reports of the 2nd clip placement outcome are sparse.

Methods: We retrospectively investigated 70 out of 148 MitraClip procedures (47.3%) that required 2nd clip placement (46 men, mean age 72.1±13.1 years, 40 functional MR cases). Procedural success was defined as MR severity ≥2+ after clip placement. The 1st clip time is defined as the time from 1st clip delivery system (CDS) insertion until 1st clip placement. And 2nd clip time is defined as the time from 2nd CDS insertion until 2nd clip placement.

Results: Procedural success was achieved in 67 of 70 cases (95.7%). In failed 3 cases, the procedure was aborted for the following reason: increased trans mitral gradient with 2nd clip, inadequate MR reduction and failure of leaflet separation (2nd clip wasn’t released in time). There were no complications related to 2nd clip placement (clip detachment, worsening MR, significant mitral stenosis and non-elective cardiac surgery for adverse events). The 2nd clip time was significantly shorter than 1st clip time [42.8±22.3 vs. 71.5±42.1 min, p<0.001]. And there was no significant difference in 2nd clip time between functional and degenerative etiologies [40.3±23.8 vs. 46.0±17.9 min, p=0.3, respectively].

Conclusions: 2nd clip placement further improves MR reduction, and placement time is shorter than 1st clip placement time, without increasing risk.

TCT-796
The MitraClip Procedure For Functional Mitral Regurgitation Results In A Significant Change In Procedural Hemodynamics

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Background: Mitral valve surgery is the gold standard for functional mitral regurgitation (MR) in patients in whom conservative medical therapy has failed or is not feasible. Percutaneous mitral valve repair (MitralClipTM) is an emerging alternative to valve surgery, used for patients with functional MR who are surgical candidates or who are deemed to be at high surgical risk. While the MitraClipTM procedure has been shown to be effective in reducing MR, the changes in hemodynamics that occur with the procedure have not been well characterized.

Methods: We retrospectively reviewed the procedural hemodynamics in 148 MitraClipTM procedures performed at Cedars-Sinai Medical Center. We assessed changes in the following metrics: peak and mean trans-mitral gradients, trans-septal gradient, trans-aortic gradient, peak and mean trans-take down gradient, peak and mean aortic pressure, and left ventricular pressure. We also assessed changes in blood pressure.

Results: We found a significant reduction in peak and mean trans-mitral gradients, trans-septal gradient, trans-aortic gradient, peak and mean trans-take down gradient, peak and mean aortic pressure, and left ventricular pressure. There was also a significant increase in blood pressure.

Conclusions: The MitraClipTM procedure results in a significant change in procedural hemodynamics, with reductions in peak and mean trans-mitral gradients, trans-septal gradient, trans-aortic gradient, peak and mean trans-take down gradient, peak and mean aortic pressure, and left ventricular pressure, and an increase in blood pressure. These changes may be important in determining the procedural success of the MitraClipTM procedure and the outcomes of patients undergoing this procedure.