



EARLY RESULTS AFTER ENDOVASCULAR MITRACLIP™ REPAIR OF SEVERE MITRAL VALVE REGURGITATION IN PATIENTS WITH END-STAGE HEART FAILURE

ACC Poster Contributions

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Background: Reduction of mitral valve regurgitation using the transcatheter MitraClip™ system has been shown to be safe, feasible and effective compared to surgical mitral valve repair. Heart failure patients with reduced ejection fraction often suffer from severe mitral valve regurgitation which contributes to repeated cardiac decompensation and dyspnea. However, surgical mitral valve repair is considered to be a high-risk procedure in these patients. Thus, the aim of our study was to evaluate MitraClip™-mediated mitral valve repair in end-stage heart failure patients with severe mitral regurgitation.

Methods: Since 2009, 51 patients were treated with the MitraClip™-system. 25 of these patients had end-stage heart failure (68±8.7 years; 80% male) and severe symptomatic functional (n=15; 60%) or degenerative (n=10; 40%) mitral regurgitation (MR ≥ grade 3+). Mean Society of Thoracic Surgeons (STS) risk score of perioperative mortality was 19.1±11%. Cardiac function was severely reduced in these patients (mean left ventricular ejection fraction: 22±6%; mean cardiac index: 1.9±0.4 l/min/m²; mean systolic pulmonary artery pressure: 56±9 mmHg; mean brain natriuretic peptide: 5325±4636 ng/l).

Results: MitraClip™ implantation was successful in 23 patients (92%). Most patients were treated with a single clip (n=14; 56%), 9 patients (36%) received two clips. The average reduction of mitral regurgitation was from grade 3.2±0.4 before mitral valve repair to grade 1.7±0.7 one month after MitraClip™ implantation (P<0.05). Mitral valve repair translated in reduced New York Heart Association (NYHA) functional class by one grade (mean NYHA functional class before MitraClip™ implantation: 3.4±0.4 vs. 2.4±0.7 one month after discharge; P<0.05). There was no procedure-related in-hospital mortality.

Conclusions: Mitral valve repair using the MitraClip™ system in end-stage heart failure patients is feasible, safe and results in significant clinical benefit. Transcatheter mitral valve repair should be considered as first-line therapeutic option in heart failure patients with severe mitral regurgitation, high operative risk, and suitable anatomy of mitral valve leaflets.