

P1320

Percutaneous mitral valve leaflet plication to reduce systolic anterior motion and mitral regurgitation using the transcatheter mitral clip system

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A 72-year-old female patient with a past medical history of severe mitral regurgitation, atrial fibrillation and embolic cerebrovascular events was admitted to our institution. The patient was under optimal medical therapy and complained for progressive worsening of activity-related dyspnea with limitation of physical activity (NYHA III).

Transthoracic echocardiography showed the presence of severe mitral regurgitation with a central jet. There was prolapse of both mitral valve leaflets and interestingly the anterior leaflet presented systolic anterior motion (SAM) at the same time. There was no significant left ventricular outflow tract obstruction (LVOT). Further evaluation of the regurgitant mitral valve with a transesophageal echocardiography (TOE) confirmed the above findings and the mechanism of MV regurgitation was attributed to prolapse in addition to SAM of an elongated anterior leaflet. Laboratory test showed elevated NT-pro-BNP levels. A coronary angiography was performed and excluded significant coronary artery disease.

The findings were assessed by our institution's HEART TEAM and, in the presence of high surgical risk (LogEuroscore 32,76%), a decision for transcatheter mitral valve repair with a Mitral Clip implantation was taken. The Mitral Clip was successfully implanted with immediate significant reduction of the regurgitant jet and no signs of stenotic behavior of the repaired valve. There was only mild mitral valve regurgitation. Notably, after the procedure there was elimination of the SAM and no LVOT obstruction (Figure). In accordance to the echocardiography findings, the patient demonstrated a significant clinical improvement and was discharged home 1 day after the procedure. Mitral clip implantation in this case showed improvement of the MR by reducing the SAM of the mitral valve.

Abstract P1320 Figure.

