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HEART FAILURE

TITAN TRIAL RESULTS PUBLISHED

Siminiak and colleagues have reported the results of the TITAN trial in the *European Journal of Heart Failure*. The investigators found that percutaneous annuloplasty to correct functional mitral regurgitation (FMR) is associated with left ventricular reverse remodeling and clinical improvements in patients with heart failure.

Although not life-threatening in itself, FMR contributes to deterioration in left ventricular function, worsens symptoms, and thus adversely affects quality of life. Treatment options for FMR do exist, but are not universally effective or suitable for every patient. Building on the promising results of a feasibility study with the first-generation Carillon Mitral Contour System® (Cardiac Dimensions Inc., Kirkland, WA, USA), Siminiak *et al*. conducted the prospective, nonrandomized TITAN trial to test a modified version of the device against a comparator control group.

Patients were recruited from seven treatment centers in Europe. All participants had dilated cardiomyopathy, moderate-to-severe FMR, and a left ventricular ejection fraction <40%, and were NYHA class II–IV. The intention-to-treat population comprised 53 patients, all of whom underwent device implantation. In 17 patients, the device was removed again for clinical reasons during the same procedure. These patients formed the control group, with the remaining 36 individuals in the intervention group.

At 12-month follow up, patients with a permanently implanted device displayed significant improvements in several measures of FMR—regurgitant volume, effective regurgitant orifice area, and vena contracta—when compared with control patients. Similarly, significant reductions in indices of left ventricular size (end-diastolic diameter and volume, and end-systolic diameter and volume) were reported at 12 months in the implantation group. By contrast, patients in the control group continued to experience progressive left ventricular enlargement. Additionally, patients who received a device had improved 6-min walk distance and quality of life at 6 months, 1 year, and 2 years. No device-related deaths occurred. The investigators suggest that now "a randomized trial comparing device implantation with a medically managed control group is warranted."

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Original article Siminiak, T. *et al*. Treatment of functional mitral regurgitation by percutaneous annuloplasty: results of the TITAN trial. *Eur. J. Heart Fail.* doi:10.1093/eurjhf/hfs076