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Heart Failure and Cardiomyopathies

IMPACT OF LESS INVASIVE VENTRICULAR ENHANCEMENT TM (LIVE TM) COMPARED TO OPTIMAL MEDICAL THERAPY ON CARDIAC OUTPUT IN PATIENTS WITH HFREF - PRELIMINARY RESULTS OF A 12-MONTH MULTI-CENTER CMR TRIAL

Poster Contributions
Poster Hall, Hall F
Saturday, March 16, 2019, 3:45 p.m.-4:30 p.m.

Session Title: Heart Failure and Cardiomyopathies: Therapy 2
Abstract Category: 14. Heart Failure and Cardiomyopathies: Therapy
Presentation Number: 1187-512

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Background: The Less Invasive Ventricular Enhancement (LIVE™, Bioventrix Inc.) technique with the Revivent TC™ system provides a new hybrid, off-pump, catheter-based approach to improve symptoms in HFrEF patients with myocardial scarring (akinesia/dyskinesia) and dilated left ventricles. AIm of the study was to assess the impact of the LIVE™ technique vs. optimal medical therapy (OMT) on left ventricular (LV) cardiac output at 12 months post-procedure.

Methods: We analyzed data of 40 HFrEF-patients enrolled in a multicenter trial. The LV cardiac output was assessed with the Revivent TC™ in 20 patients, while 20 matched control group participants received OMT only. A standardized CMR protocol was performed at baseline and at 12-month follow up in both groups.

Results: LVEF improved significantly by 48% in Revivent patients (23.3 ± 9.8 % vs. 34.6 ± 10.3 %; p < 0.001), but had not changed in controls (33.0 ± 8.9 % vs 35.2 ± 7.8 %; p = 0.383) at 1-year follow up. Regarding LV cardiac output (median), a borderline significant increase by ~ 8% was seen in the surgical group (CO: 4.6 ± 2.0 l/min vs. 5.3 ± 1.9 l/min; p = 0.06 but rather a decrease by ~ 10 % in the control group (CO: 5.3 ± 2.1 l/min vs. 4.8 ± 1.5 l/min; p = 0.238) (Figure).

Conclusion: We demonstrate a significant improvement in LV function by 48% and an increase in cardiac output by around 8% 1 year after using the Bioventrix Revivent TC™. Our results suggest benefits for outcome in symptomatic HFrEF patients with myocardial scarring and large ventricles compared to OMT.