P5419

Cardiac reverse remodeling and recovery in dilated cardiomyopathy medication-naive patients requiring durable left ventricular assist device support

I. Taleb[1], M.Y. Yin[1], A.G. Koliopoulou[1], M. Taleb[1], E. Dranow[1], L. Kemeyou[1], S.H. McKellar[1], W. Caine[2], O. Wever-Pinzon[1], R. Alharethi[2], A.G. Kfoury[2], J.C. Fang[1], J. Stehlik[1], C.H. Selzman[1], S.G. Drakos[1]

[1]*University of Utah, Salt Lake City, United States of America;* [2]*Intermountain Medical Center, Salt Lake City, United States of America*

Background: Occasionally new onset cardiomyopathy patients (pts) present late and with such advanced disease stage that they cannot tolerate heart failure (HF) drug therapy. We sought to investigate the cardiac recovery (CR) potential following a combination of left ventricular assist device (LVAD) and guideline-directed HF drug therapy in this medication-naive population.

Methods: Chronic advanced HF requiring durable continuous-flow LVAD were prospectively evaluated. Patients with acute HF (myocarditis etc.) or post LVAD follow up <3 months were excluded. The "meds-treated" group (n=203) comprised patients treated adequately with at least one neurohormonal blocking agent during their HF history (b-blocker, ACEI/ARB, Aldosterone antagonist) and "meds-naive" group (n=8) comprised patients who were never before treated adequately with any HF medication. Baseline and follow up clinical, hemodynamic, imaging and laboratory data were analyzed. LVAD patients were phenotyped as CR responders or non responders, based on published predefined criteria.

Results: Univariate analysis showed that "med-naive" patients were younger, more likely to be on intravenous vasoactive agents, temporary mechanical support and with lower INTERMACS profile before LVAD implantation. Interestingly, no differences were seen in HF symptoms duration or other comorbidities. Baseline and follow up hemodynamics were similar in both groups, besides higher right atrial pressure pre-LVAD in the "meds-naive" group (16 vs 11 mmHg; p=0.04). Baseline echocardiographic (including LV dilation) and biochemical parameters revealed no differences between the groups, besides lower LVEF and higher BNP in the "meds-naive" group (14 vs 19%; p=0.03 and 2352 vs 1270; p=0.03, respectively). CR rates were significantly higher on "meds-naive" versus "meds-failed" group (50.0 vs 13.8%; p=0.005). Despite higher cardiac recovery rates in the "meds-naive" group the time course and magnitude of the favorable functional and structural response was similar among the CR responders of each of the 2 groups.

Conclusion: Young patients with new onset dilated cardiomyopathy sometimes present late, with advanced disease stage, unable to tolerate HF medications and requiring durable LVAD support. This patient population appears to have a potential for CR up to 50% and this could be factored in decisions surrounding their long-term therapeutic options.