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Heart Failure and Cardiomyopathies

RACIAL DISPARITIES IN LEFT VENTRICULAR REMODELING AMONG PATIENTS WITH SYSTOLIC HEART FAILURE

Poster Contributions
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Background: The marked neurohormonal activation that occurs in chronic systolic heart failure perpetuates the deterioration of left ventricular ejection fraction (LVEF) and progressive left ventricular dilatation. This process of ventricular remodeling has been shown to be favorably altered by angiotensin-converting enzyme inhibitors, beta-blockers and aldosterone antagonists. However, there is individual and racial variation in response to therapy. We sought to identify racial differences on reverse left ventricular remodeling in patients with chronic systolic heart failure while on guideline-directed medical therapy (GDMT).

Methods: We retrospectively reviewed the medical records of 126 consecutive patients diagnosed with heart failure with reduced ejection fraction (LVEF ≤ 40%). Baseline demographic, clinical and echocardiographic variables were collected prior to initiation of GDMT. We then measured the change in left ventricular ejection fraction (LVEF), left ventricular end-diastolic dimension (LVEDD) and severity of mitral regurgitation (MR) at 12 and 24 months after starting GDMT. The primary end point was reverse LV remodeling, which was defined as a composite of improvement in LVEF, LVEDD or severity of MR.

Results: On Cox proportional hazard model non-AAs were twice as likely as AAs to have improvement in the primary endpoint at 12 months (HR 1.97, 95% CI: 1.21 to 3.84, p = 0.04) and 24 months (HR 1.72, 95% CI: 1.21 to 2.94, p = 0.04) after initiation of GDMT. AAs had significant improvement in LVEF after 12 months (p = 0.03) but not in LVEDD (p = 0.66) or severity of MR (p = 0.49) compared to baseline. In addition, presence of diabetes mellitus (HR = 0.45, 95% CI: 0.226 to 0.925 p=0.02) was an independent negative predictor of reverse LV remodeling.

Conclusion: Our study shows that there are racial disparities in improvement of LV remodeling with non-AAs appearing to have a greater benefit than AAs. These findings have to be evaluated further in large scale randomized trials.