Abstract: P3540
The predictive value of global longitudinal strain in patients with heart failure mid-range ejection fraction

Authors:
C. Wei-Ting¹, C.T. Liao¹, Z.C. Chen¹, ¹Chi-Mei Medical Center, Cardiology - Tainan - Taiwan

Topic(s):
Heart Failure with Mid-range Ejection Fraction

Citation:
European Heart Journal (2019) 40 (Supplement), 2149

Background: Heart failure with mid-range ejection fraction (HFmrEF) was defined as the typical symptoms of HF with a left ventricular ejection fraction (LVEF) of 41% to 49%. However, till now the progression of LV function and the subsequent prognosis remains largely unknown. Speckle tracking echocardiography (STE) is a novel method to detect the early myocardial dysfunction and has been used to differentiate the outcomes of different phenotypes of cardiovascular diseases.

Purpose: Herein, we aim to investigate the application of STE in HFmrEF and its predictive values.

Methods: Retrospectively, we collected the medical records and echocardiography imaging of 250 patients diagnosed as HFmrEF during 2014 to 2018. LV longitudinal strain at diagnosis was evaluated and compared with the changes of LV during the follow-up period. Also, mortality and major adverse cardiovascular events (MACE) including myocardial infarction, heart failure requiring admission were recorded.

Results: Our result indicated that a reduced LV longitudinal strain at baseline was significantly associated with a subsequent declined LVEF beneath 40%. Also, the lower strain a baseline implied the higher mortality and MACE. Using −12% as the cut-off value LV strain presented the most significant impact on the prognosis compared with the other echocardiographic parameters in the logistic regression Regarding the guideline directed medications, blockers of renin-angiotensin-aldosterone system most significantly improved the cardiac remodeling compared with the others.

Conclusion: STE can predict the subsequent changes of LVEF and the cardiovascular outcomes in patients with HFmrEF.