中文題目：左心形變量對中度收縮分率心衰竭患者長期預後之影響

英文題目：The predictive value of global longitudinal strain in patients with heart failure mid-range ejection fraction

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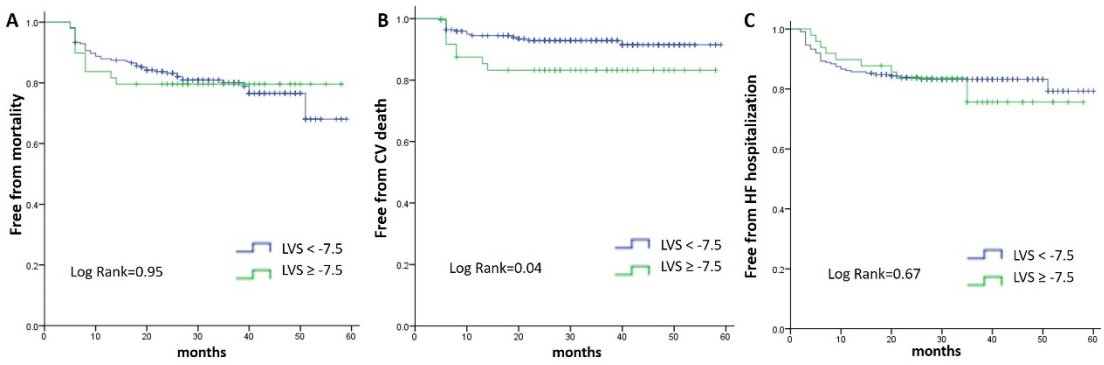
Aims: Heart failure with mid-range ejection fraction (HFmrEF) was defined as HF with left ventricular ejection fraction (LVEF) of 41-49%. However, the progression of LV function and the subsequent prognosis remains largely unknown. LV longitudinal strain (LVS) is a novel method in detecting the early myocardial dysfunction. Herein, we aim to investigate the application of STE in HFmrEF and its predictive values.

Methods and **Results:** According to the changes of EF derived from the follow-up echocardiography 273 patients diagnosed of HFmrEF were divided to three groups: HFwEF (HF with worse EF<40%), HFsEF (HF with similar EF40-49%) and HFrecEF (HF with recovered EF>50%). Also, LVS at diagnosis was evaluated. Among patients with HFwEF, HFsEF, HFrecEF, the more impaired (LVS patients had at baseline, the higher incidences of patients developed HFwEF. Compared with patients with HFwEF and HFsEF, those with HFrecEF had less chances of hospitalizations for heart failure. Using -7.5% as the cut-off value, LV strain differentiated the subsequent cardiovascular death in patients with HFmrEF. In the Cox regression, patients with LVS above -7.5% represented a higher risk of CV death. Also, patients with more preserved LVEF during the follow-up period or less decline of LVEF had a lower risk of hospitalization for heart failure. Regarding the guideline directed medications, patients who took less ACEi/ARB were prone to develop HFwEF subsequently.

Conclusions: In patients with HFmrEF, LVS is associated with the changes of LVEF and the subsequent cardiovascular death. Patients with HFrecEF had less chances of hospitalizations for heart failure.

Keywords: global longitudinal strain, HFmrEF, cardiovascular death, heart failure hospitalization


A
Free from mortality
Log Rank=0.95
LVS < -7.5
LVS ≥ -7.5
months
B
Free from CV death
Log Rank=0.04
LVS < -7.5
LVS ≥ -7.5
months
C
Free from HF hospitalization
Log Rank=0.67
LVS < -7.5
LVS ≥ -7.5
months