中文題目：在血液透析病患，左心室收縮期縱向變形能力可預測全原因死亡與心血管事件

英文題目：Global Left Ventricular Longitudinal Systolic Strain predicts All-cause Mortality and Cardiovascular Events in Patients on Hemodialysis

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Background:

The associations between global left ventricular longitudinal systolic strain (GLS) with mortality and cardiovascular (CV) outcomes are uncertain in hemodialysis (HD) patients.

Materials and Methods:

This study included 190 maintenance HD patients from a regional hospital in Taiwan. GLS was assessed via speckle-tracking echocardiography (STE). All patients were followed until death or December 31, 2018. The study end-points were all-cause mortality and CV events. CV events was defined as hospitalization for unstable angina, nonfatal myocardial infarction, sustained ventricular arrhythmia, hospitalization for congestive heart failure, transient ischemia attack or stroke, and hospitalization for peripheral artery occlusive disease, and CV death. Patients were classified into two groups according to a preserved GLS (≤-16%) or impaired GLS (>-16%). The associations between GLS and outcomes were evaluated using multivariate Cox regression analysis. The incremental values of GLS in outcome prediction were assessed by χ^2 changes in Cox models.

Results:

In total, there were 35 all-cause deaths and 45 CV events during a median follow-up period of 3.7 years. Worsening GLS was associated with all-cause mortality (HR, 1.276; 95% CI, 1.101−1.480; P=0.001) and CV events (HR, 1.214; 95% CI, 1.103−1.337; P<0.001) in multivariate Cox analysis. Addition of left ventricular ejection fraction (LVEF) to the Cox models did not significantly improve the outcome prediction. GLS had better predictive ability than LVEF in all-cause mortality (P=0.001) and CV events (P<0.001).

Conclusion:

GLS obtained from STE was significantly associated with all-cause mortality and CV events. GLS offered incremental value of prognostic significance over LVEF in maintenance HD patients.