

中文題目：早期二尖瓣流入速度與舒張壓應變率比例和全身左心室縱向收縮期應變與血液透析中總死亡率和心血管事件的相關性

英文題目：Ratio of Early Mitral Inflow Velocity to the Global Diastolic Strain Rate and Global Left Ventricular Longitudinal Systolic Strain with Overall Mortality and Cardiovascular Events in Hemodialysis

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**Background:** Little is known about the ratio of early mitral inflow velocity (E) to the global diastolic strain rate (E'sr) and global left ventricular longitudinal systolic strain (GLS) obtained from two-dimensional speckle-tracking echocardiography for cardiovascular (CV) outcomes in hemodialysis (HD) patients. This study examined the ability of E/E'sr ratio and GLS in predicting overall mortality and CV events in patients with HD.

**Materials and Methods:** Comprehensive echocardiography was performed on 190 patients with HD, and E'sr and GLS was assessed from three standard apical views using the index beat method. CV events were defined as CV death, non-fatal stroke, coronary artery disease, peripheral artery disease and heart failure.

**Results:** During the follow-up period of 2.7 years, 28 deaths and 28 CV events were recorded, respectively. Multivariate analysis showed that an increased E/E'sr ratio and GLS were associated with an increased overall mortality and CV events. In a direct comparison, the E/E'sr ratio and GLS outperformed the ratio of E to early diastolic mitral annular velocity (E') and left ventricular ejection fraction (LVEF) in predicting overall mortality and CV events. Moreover, adding the E/E'sr ratio and GLS to a clinical model and conventional echocardiographic parameters provided an additional benefit in the prediction of mortality ( $p = 0.002$ ) and CV events ( $p <$

0.001).

**Conclusions:** The E/E'sr ratio and GLS are useful parameters and stronger than the E/E' ratio and LVEF in predicting the outcomes, and may offer an additional prognostic benefit over conventional clinical and echocardiographic parameters in patients with HD.

**Key words:** E/E' strain rate, Global left ventricular longitudinal systolic strain, Overall mortality, Cardiovascular events, Hemodialysis