**GLOBAL LONGITUDINAL STRAIN AS A PREDICTOR OF MAJOR ADVERSE EVENTS IN ESRD PATIENTS WITH PRESERVED EJECTION FRACTION**

**S. Furlan**, F. Abdelmalak, E. Donath, R. Chait

University of Miami, Palm Beach Regional Campus, Atlantis, FL, USA

*Background*: End-stage renal disease (ESRD) is associated with increased cardiovascular morbidity and mortality. 2-D speckle tracking echocardiography evaluating global longitudinal strain (GLS) is a novel way to identify left ventricular dysfunction by measuring myocardial deformation.

*Objectives*: Our goal was to determine if abnormal GLS predicts poor outcomes in stable ESRD patients on dialysis with a preserved EF.

*Methods*: We conducted a meta-analysis and searched MEDLINE, EMBASE, and Cochrane. Selected studies reported GLS and major adverse events (MAE) including cardiac deaths. The two primary outcomes were the pooled relative risk (RR) of incident MAE in normal versus abnormal GLS risk categories, as well as the pooled weighted mean difference (WMD) of GLS between those with and without MAE.

*Results*: Our search strategy identified three studies that met the inclusion criteria and included 242 ESRD patients on dialysis. The mean age of patients was 58.8 years old and the mean EF was 63.4%. Of the 242 patients, 62 had MAE. Our analysis revealed that those with normal GLS had a 51.9% reduction in risk of MAE compared to those with abnormal GLS (RR = 0.481; 95% CI: (0.26, 0.87); p<0.01). Additionally, those with MAE had a pooled GLS WMD of -2.35% (95% CI: (-3.36, -1.34); p<0.01) compared to those without MAE.

*Conclusion*: Patients with a more positive GLS value were more likely to have MAE, including cardiac death despite having a preserved EF. Thus, MAE in ESRD patients may be better detected by utilizing GLS rather than only measuring EF.