**NOVEL ECHOCARDIOGRAPHIC INDICES OF LEFT VENTRICULAR DIASTOLIC FUNCTION**

**S.F. Nagueh**

Methodist DeBakey Heart and Vascular Center, Houson, TX, USA

Echocardiography plays an essential role in the evaluation of patients presenting with heart failure. While conventional indices of left ventricular (LV) diastolic function can be applied in many cases, there are clinical situations where their application is limited. More recently, new indices of LV diastolic function have been described and validated. These include indices of regional function as segmental early diastolic strain rate (SR) by speckle tracking echocardiography (STE). For global LV diastolic function, diastolic strain rate by STE relates to invasive indices of LV relaxation and in combination with mitral E (peak early diastolic) velocity can be used for the estimation of LV filling pressures. Left atrial (LA) strain both by Tissue Doppler imaging and STE is another promising marker of left atrial pressure. Peak left atrial strain during systole relates inversely with mean wedge pressure and LV end diastolic pressure. Furthermore, when combined with the E/e’ ratio can be used to estimate LA stiffness. Of note, LA stiffness relates well with pulmonary artery systolic pressure and can help separate patients with diastolic heart failure from those with diastolic dysfunction but who are not in heart failure.