

Peak systolic midwall circumferential strain (Ecc) was analyzed in 441 consecutive patients, using the HARP[®] harmonic phase tool (Johns Hopkins University, Baltimore, MD), to determine global and regional left ventricular function. Peak Ecc was found to correlate with the extent of concentric remodeling. A gradual decline in peak global Ecc with increasing left ventricular mass to end-diastolic volume ratio (M:V) was seen in men. In women, this association held true only for those with a more-severe degree of concentric remodeling; remodeling resulted in a gradual increase in M:V for the first three quartiles, followed by evidence of dysfunction in the fourth quartile. There might, therefore, be a difference between the sexes in adaptation to increased cardiac afterload.

Increased concentric remodeling was associated with decreased myocardial function. The relationship between lower Ecc and increasing M:V ratio was most pronounced in the left anterior descending coronary artery region; the authors suggest that this might be an indication of local transition to myocardial dysfunction.

Carol Lovegrove

Original article Rosen BD *et al.* (2005) Left ventricular concentric remodeling is associated with decreased global and regional systolic function. *Circulation* 112: 984–991

variables, but were adjusted later to incorporate troponin levels.

Participants were followed up for primary (death and myocardial infarction) or secondary (unstable angina and revascularization) events at three time points—early (within 24 h), intermediate (up to 30 days), and late (more than 30 days).

Data analysis revealed that contrast echocardiography classified patients as at high or low risk of adverse events more accurately than modified TIMI scores. A model that incorporated assessment of regional function and myocardial perfusion, together with initial clinical variables, provided the best prognostic information and was not improved further with the addition of troponin data.

According to the authors, implementation of this approach in the emergency department could improve risk assessment of patients with cardiac chest pain, and reduce hospital costs.

Claire Braybrook

Original article Tong KL *et al.* (2005) Myocardial contrast echocardiography versus Thrombolysis in Myocardial Infarction score in patients presenting to the emergency department with chest pain and a nondiagnostic electrocardiogram. *JACC* 46: 920–927

Contrast echocardiography for risk stratification of patients with cardiac chest pain

When patients present to an emergency department with cardiac chest pain and a non-diagnostic electrocardiogram, it can be difficult to distinguish between those who can be discharged safely and those with a high risk of an adverse outcome. Although Thrombolysis in Myocardial Infarction (TIMI) scores are useful for risk stratification, troponin levels are not always known at presentation.

Tong *et al.* compared the diagnostic and prognostic accuracy of regional function and myocardial perfusion on contrast echocardiography with that of TIMI scores for 957 individuals with suspected cardiac chest pain and no ST-segment elevation on the electrocardiogram. All patients underwent myocardial contrast echocardiography within 12 h of symptom onset. Modified TIMI risk scores were initially calculated from six clinical

Late-enhancement signal in MRI as a tool for myocardial viability assessment

Early clinical studies have shown that the late-enhancement (LE) signal in contrast-enhanced MRI can help identify regions of nonviable myocardium with excellent short-term reproducibility in patients with coronary artery disease (CAD). Bülow *et al.* have evaluated contrast-enhanced MRI as a tool for myocardial viability assessment by investigating whether the LE signal has long-term stability and whether it can be quantified reliably.

In this study, 33 patients with CAD and left ventricular dysfunction underwent two contrast-enhanced MRI procedures within 3–15 months. MRI results were analyzed by two independent observers who delineated and quantified the LE signals in different sections of the myocardium and who also assessed the degree of regional wall motion.

Fifteen patients had no interventions between the two MRI investigations, whereas 18 patients underwent revascularization after the first MRI.