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Speckle Imaging in Acute Perimyocarditis

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Purpose: Echocardiographic changes in acute peri-myocarditis vary from regional/global LV dysfunction to apparently normal heart. We measured strain in 3 myocardial layers, torsion, pre-stretch and postsystolic index in patients with acute peri-myocarditis with modified 2D strain software.

Methods. 35 patients with acute pericarditis (mean EF 50%) and 14 normals (mean EF 60%) underwent echo examination. Short axis and apical views were analyzed with Modified 2D strain speckle tracking capable of measuring 3 myocardial layers.

Results. At each myocardial level longitudinal and circumferential strain in patients with peri-myocarditis were significantly lower than in control subjects. Postsystolic longitudinal and circumferential index in patients with peri-myocarditis was higher than in normals in basal and mid-ventricular segments. Radial postsystolic index was higher in the patients with peri-myocarditis than in normals in basal and apical segments.

Myocardial torsion in patients with peri-myocarditis was lower than in controls: 10.4° vs. 17.4° (p<0.0002).

Conclusions. Deformation parameters: 3-layers strain, torsion, postsystolic index are different in the patients with peri-myocarditis from normal subjects.