

Results

1. In all the subjects, the rotation of the endocardium was obviously greater than that of epicardium;
2. As seen from the apex, LV endocardium and epicardium performed a wringing motion with a clockwise rotation at the base and counterclockwise rotation at the apex.
3. In the apical plane, endocardial rotation was significantly lower in both heart failure groups than in controls, and was depressed to a larger extent in SHF patients than in those with DHF (control: $6.69 \pm 2.97^\circ$, DHF: $5.63 \pm 2.20^\circ$, SHF: $3.01 \pm 1.34^\circ$, $p < 0.001$). Epicardial rotation was no significant difference between the DHF group and the control group, though it was significantly lower in patients with SHF.
4. At the base level, the rotation of endocardium and epicardium was no difference between DHF and control groups, but it was significantly reduced in patients with systolic heart failure.

Conclusions The LV endocardial rotation is reduced, but epicardial rotation is normal in DHF patients. However, both endocardial and epicardial rotation are reduced in patients with systolic heart failure. There exists the LV contraction properties damage in DHF patients.

GW23-e1324

**ASSESSMENT THE DIFFERENT ROTATION OF
ENDOCARDIUM AND EPICARDIUM IN DHF PATIENTS
USING TWO-DIMENSIONAL SPECKLE TRACKING
IMAGING**

doi:10.1136/heartjnl-2012-302920ad.7

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Objectives To observe the rotation of endocardium and epicardium by two-dimensional speckle tracking imaging (2D-STI), and to evaluate its performance in diastolic heart failure (DHF) patients with a normal left ventricular ejection fraction.

Methods Eighty-four consecutive clinically stable patients were enrolled in this study (32 healthy controls, 32 with diastolic heart failure, 20 with systolic heart failure). High frame rate dynamic two-dimensional images were recorded at the left ventricular short-axis views, including basal, papillary muscle and apical planes. Endocardial and epicardial global rotation were measured using Q-lab7.0 software offline