

عنوان مقاله:

Echocardiographic Assessment of Left Ventricle Torsion by Tissue Doppler and Velocity Vector Imaging

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خلاصه مقاله:

Introduction Left ventricular (LV) twist is believed to store potential energy and plays an important role in generating diastolic suction. Recent advances in echocardiography techniques have allowed quantification of LV twist. The aim of the present study was to compare LV twist and torsion in healthy human subjects determined by velocity vector imaging (VVI) and tissue Doppler imaging (TDI) at rest. **Materials and Methods** All volunteers (۲۲ healthy subjects) underwent complete echocardiographic study and LV torsional parameters were assessed using VVI or TDI methods. LV rotation at apical and basal short-axis levels was calculated throughout cardiac cycle and LV twist was defined as net difference between rotation angles of the two levels. The LV torsion was calculated as the LV twist divided by the LV end-diastolic length. **Results** Twist degree was significantly lower in the VVI group than the TDI group ($11.4 \pm 2.4^\circ$ vs. $14.1 \pm 3.0^\circ$, $p < 0.001$), but when LV twist was normalized by LV end-diastolic length, there was no statistically significant difference between the two groups ($1.9 \pm 0.7^\circ/\text{cm}$ vs. $2.1 \pm 0.6^\circ/\text{cm}$, $p = 0.142$). **Conclusion** Normalized LV twist or LV

torsion values were comparable for both imaging techniques (TDI and VVI methods). Results suggest that these methods may be interchanged for serial assessment, but needs additional studies and preferably larger populations to confirm it.

کلمات کلیدی:

echocardiography, Left ventricle, Torsion

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