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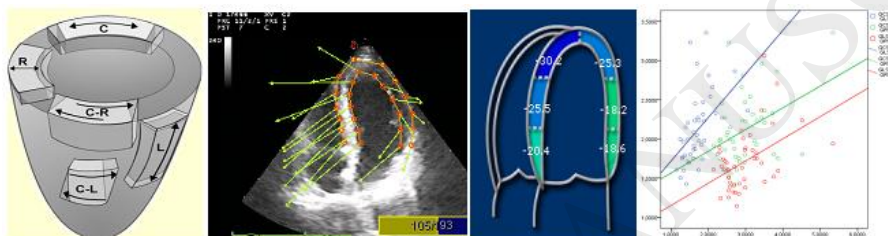
Use of the Speckle tracking method for determining global parameters of heart contractility in healthy individuals

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Graphical abstract



Abstract: The speckle tracking method allows one to quantify the temporal and spatial characteristics of myocardial contraction. Importantly, it does not depend on a scanning angle and allows one to record the movement of speckles in 2D mode in any direction, unlike tissue Doppler imaging. This examination is non-invasive, safe for patients, and economically more beneficial in comparison with other modern methods of assessing heart contractility: MRI and scintigraphy. Diagnostic thresholds are suggested for obtaining peak values of all types of global strains and strain rates by sampling a healthy group, which can reveal early signs of left ventricle contractility failure. Correlation relationships of deformation parameters between themselves and with left ventricular hemodynamic indices, as well as anthropometric parameters in healthy subjects highlight the features of heart contraction biomechanics. However, currently this method is scarcely studied because no generally accepted normal range of strain values exists.

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