

**Two-dimensional speckle tracking for the assessment
of coronary artery disease during dobutamine stress
echo**

By

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MBBCH, MSc

Assistant lecturer of cardiovascular medicine

Thesis

Submitted in partial fulfillment of

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Abstract

Background: Coronary artery disease is the most frequent type of cardiac disorder. Initial evaluation for ischemia diagnosis using dobutamine stress echocardiography is based on a visual interpretation of the regional wall motion abnormality.**Aim:** to assess the feasibility of speckle tracking during DSE and evaluate the diagnostic accuracy of 2D global longitudinal strain along with its additive role over wall motion abnormalities interpretation for the diagnosis of coronary artery disease.**Methods:** one hundred patients were included, Full history taking and physical examination, EKG, Echocardiography, dobutamine stress echocardiography, Speckle tracking echocardiography during rest and dobutamine and Coronary angiography were done.**Results:** There was a statistically significant lower mean of (GLS, A2, A3, A4, LAD, LCX, and RCA) level with p-value <0.001 when assessing by strain and dobutamine, There was statistically significant higher sensitivity of (95.7%) and higher accuracy (89.7%) for LAD (strain & dobutamine) assessment and a higher specificity of (93.5%) for WMSI, There was statistically significant higher sensitivity of (92.9%) and higher accuracy (90.2%) for RCA dobutamine & strain assessment and a higher specificity of (93%) for WMSI. There was statistically significant higher sensitivity of (86.7%) and higher accuracy (89.7%) for LCX (strain & dobutamine) assessment and a higher specificity of (89.4%) for WMSI.**Conclusion:** Speckle tracking during DSE seems feasible in detecting the stenosis of the coronary arteries in patients with chronic CAD through the evaluation of GLS and WMSI. The combination of DSE and STE increased the accuracy, sensitivity, and specificity of the diagnosis of CAD.

Keywords: Coronary artery disease, dobutamine stress echocardiography, speckle tracking echocardiography- strain, wall motion score index.