**Diagnostic value of strain echocardiography to identify patients with significant coronary artery disease in patients presenting with non-ST elevation myocardial infarction: A systematic review and meta-Analysis**

**Introduction:**

About 15% of the clinically suspected non–ST-segment elevation myocardial infarction (NSTEMI) has no significant coronary obstruction on coronary angiogram. Non-invasive testing by 2D echocardiography can identify drop in ejection fraction and wall motion abnormalities, but cannot rule out these population when echocardiography is normal. Measuring Global longitudinal strain (GLS) by speckle-tracking echocardiography (STE) emerged as a non-invasive method to identify left ventricular dysfunction, and therefore significant coronary artery disease (CAD). We performed a meta-analysis comparing GLS in NSTEMI patients with and without significant CAD.

**Methods:**

PubMed, Embase and Cochrane databases were searched for all studies comparing GLS in patients admitted with NSTEMI with normal LV ejection fraction (LVEF) and subsequently identified to have significant or non-significant CAD. Significant CAD was defined as > 50-70 % obstruction as identified on angiogram and outcome assessed was GLS. Mean difference (MD) with corresponding 95% confidence intervals (CIs) were calculated using the random-effects model.

**Results:**

A total of 11 studies met the inclusion criteria,with about 1022 patients (CAD group: 515, non-CAD group: 507). Mean age was 56 years and 64% were males. GLS was significantly lower in patients with significant CAD as compared to patients with non- significant CAD (MD -3.51 [-4.40, -2.62]; p<0.0001).

**Conclusion:**

In our meta-analysis, the lower GLS measured by STE is associated with significant coronary artery disease. Further randomized control trials are needed to validate the role of GLS in risk stratification of NSTEMI patients.

**Figure 1: Forest plots of outcomes**

1. **Left Ventricular Global Longitudinal Strain**

