**DOES AN UPRIGHT T WAVE IN LEAD V1 PREDICT SIGNIFICANT CORONARY ARTERY DISEASE?**

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*Objective*: To determine if upright T waves in lead V1 (UTW1) are associated with left anterior artery lesion (LAD).

*Background*: UTW1 have been observed as normal variant. However, tall and new UTW1 are especially concerning. Such patients are more likely to have significant coronary artery stenosis. Few studies examine the significance of UTW1 and its associations with critical stenosis in coronary arteries. Due to insufficient evidence, the use of UTW1 to predict critical stenosed vessels is limited and consequently its diagnostic utility is unclear. *Methods*: We conducted a retrospective chart review of patients who presented with symptoms of acute coronary syndrome or had positive stress test and underwent cardiac catheterization at NYU Lutheran Medical Center between 2011-2014. Pre- and post-catheterization 12-lead ECGs were reviewed. Arbitrarily, UTW1 was defined as significant if it had a positive deflection of 0.2 mV or greater. Patients with left ventricular hypertrophy, left or right bundle branch block were excluded because they are a known cause of UTW1.

*Results:* Out of 737 patients who met inclusion criteria, 122 patients had UTW1, of which 95 patients had UTW1>0.2mV. From the remaining 71 patients, 28 patients had post-catheterization resolution of UTW1, of which 20 patients with ST-elevation myocardial infarctions (STEMI) were further examined. Patients with stenosed coronary vessels had resolution of UTW1 following stent placement in the culprit artery (n=15; 75%). Of note, 8 patients with single vessel disease and anterior wall STEMI (AWMI) had resolution of UTW1 post stent placement in the LAD.

*Conclusion*: An UTW1 may signify lesions in the coronary arteries and in the appropriate clinical setting the presence of CAD should be suspected. Our study is limited by a small sample size. A large-scale study in patients undergoing cardiac catheterization might be more useful to elucidate the relationship between a UTW1 and significant CAD.