Correlation between multislice CT coronary artery calcium score and clinical SYNTAX score in patients with acute coronary syndrome

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This is a prospective, cross-sectional, hospital- based descriptive study and carried out at No (2) Military Hospital, No (1) and No (2) Defence Services General Hospital at Yangon, Myanmar from March 2012 to March 2014.The objective of the study is to find out the value of coronary artery calcium predicting the presence of, extent, severity and complexity of the obstructive coronary artery disease as seen by coronary angiography. Sixty patients aged between 40-78 years with Acute Coronary Syndrome and positive Coronary Artery Calcium (CAC) score included in the study. Then CAC Agaston score and Syntax score were measured for severity and complexity of the obstructed coronary arteries. CAC scores were calculated using Receiver Operating Characteristic Curve (ROC) for the diagnosis of CAD. Area under curve was 0.866 (CI 95%, 0.727-1.0) (p = 0.002) and best cut off point was 15.5 with sensitivity of 96.3% and specificity of 83.3%.There was a positive linear correlation in between MSCT CAC score and Clinical SYNTAX score (R square =0.273). This suggests that with increase in CAC score in the patient with ACS, there is a proportionate increase in the number of coronary vessel involvements and the complexity of the diseased coronary. This study supported the hypothesis of Coronary Artery Calcium score can serve as a surrogate marker to predict the obstruction of coronary artery in ACS. Finding from this study highlighted the fact that Coronary Artery Calcium can be used as non invasive screening tool for the diagnosis of coronary artery disease.