



## Addition of Risk Factors of Coronary Heart Disease in Diagnostic Value of Treadmill Score for Detecting Complexity of Coronary Arterial

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**Abstract : Background :** Coronary heart disease (CHD) is still the leading cause of death in the world. There are various risk factors for atherosclerosis leading to CHD. Duke Treadmill Score (DTS) is known to demonstrate prognostic stratification and has a diagnostic value in predicting the number of coronary arteries involved in patient populations with ischemic heart disease. However, DTS does not describe the role of risk factors for coronary heart disease to the complexity of coronary artery lesions. This study aims to add risk factors for coronary heart disease on DTS to detect the complexity of coronary artery lesions with stable angina pectoris.

**Methods :** This study was cross-sectional study in stable angina pectoris patient who come to Haji Adam Malik Hospital Medan since January 2017 until February 2018. Patients who have done treadmill test and coronary angiography, and fulfill inclusion and exclusion criteria are included in the study. ECG examination and recording of risk factors for coronary heart disease were done. DTS assessment was performed based on treadmill test and Syntax score based on coronary angiography results. Diagnostic tests were performed to assess the sensitivity and specificity of the addition of CHD risk factors to detect the complexity of coronary artery lesions.

**Results :** Of the 76 people with stable angina pectoris, 55 people were found with low SYNTAX and 21 people with high Syntax. DTS is divided into 3 groups: mild ( $> -10$ ), moderate ( $-10$  to  $-13.5$ ), and severe ( $\leq -13.6$ ) based on the cut off of the ROC curve. Risk factors for CHD are divided into 3 groups, mild ( $\leq 3$ ), moderate (4-6), and severe (7) based on the cut off of the ROC curve too, then assessed the relationship with SYNTAX which has been divided into 2 groups, low Syntax and high Syntax. Diagnostic test show the addition of risk factors of CHD to DTS to detect the complexity of coronary artery lesions have greater sensitivity and specificity than DTS without the addition of risk factors of CHD, 95% and 89%.

**Conclusion :** The addition of risk factors for coronary heart disease on DTS can detect the complexity of coronary artery lesions.

**Keywords :** Duke Treadmill Score, risk factors for Coronary Heart Disease, Complexity of Coronary Artery Lesions, Syntax.