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Correlation between lipid profile and coronary angiography findings in coronary artery disease

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Statement of the Problem: Lipid has been identified as one of the pathogenic factors of atherosclerotic lesion in the last decade, especially coronary artery. Recent lipid guideline recommends the achievement of optimal lipid profile in very high risk patients. The purpose of this study is to support the proposition that serum lipid levels correlate with the severity of coronary artery lesions observed by coronary angiography.

Methodology & Theoretical Orientation: 180 patients who had undergone coronary angiography were included in this study. Blood samples were taken to undergo lipid profile assessment, including total cholesterol (TC), high-density lipoprotein cholesterol (HDL), low-density lipoprotein cholesterol (LDL) and triglyceride (TG). New emerging lipid workups comprising atherogenic index (AI) and TG/HDL ratio were also calculated to predict the severity of coronary artery disease. Significant stenosis was defined as a reduction of at least 50% in the coronary artery. Angiographic findings were classified into multi-vessel disease, multi-lesion and extensive lesion. The correlation between lipid profiles and coronary angiography characterizations were analyzed by two ways ANOVA (SPSS 14.0).

Findings: There was significant correlation between lipid parameter level and angiographic findings respectively (multi-vessel disease, multi-lesion and extension lesion) (0.05, 0.001 and 0.001). Both atherogenic index and TG/HDL ratio have significant correlation to severity of coronary artery lesion.

Conclusions & Significance: Dyslipidemia is a significant risk factor in coronary artery disease. Nearly all routine parameters of lipid variables were associated with extent of coronary artery lesion. Atherogenic index and TG/HDL ratio are correlated to coronary angiography findings. As the sample size was small in our study, further large-scale population studies are required on this subject to draw solid conclusions.

Biography

Evan Hindoro is currently an Internship Doctor at Belitung Timur General Hospital. After he graduated as Medical Doctor in 2016, he embarked to enrich his skills and knowledge in Cardiology by working as Research Assistant at National Cardiovascular Centre Harapan Kita (NCCHK), Indonesia. Beside his responsibility as Medical Doctor, he filled up his days with basic research training and workshop. His credibility in medical research has been proved in several publications in local and international journals. In 2015, his paper "Fractional flow reserves: Nurturing a functional perspective in angioplasty" and "Routine thrombus aspiration in primary percutaneous coronary intervention: Is it still necessary?" have been published in European Heart Journal Supplement. He is currently working on coronary artery diseases registry in Department of Cardiology, Siloam Hospital Lippo Karawaci, Tangerang, Indonesia.

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