

# Korelasi antara Nilai Rasio LDL-C/HDL-C dan Nilai Rasio Neutrofil/imfosit dengan Beratnya Stenosis pada Pasien IMA-EST = The Correlation between The LDL-C/HDL-C Ratio and The Neutrophil/Lymphocyte Ratio with The Severity of Stenosis in STEMI Patients

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## Abstrak

Indeks aterogenik Low Density Lipoprotein-Cholesterol/ High Density Lipoprotein-Cholesterol (LDL-C/HDL-C) dan indeks inflamasi Nilai Rasio Neutrofil/ imfosit (NLR) yang menggambarkan beban kolesterol dan beban inflamasi, merupakan pemain kunci pembentukan plak aterosklerosis. Pemahaman korelasi kedua indeks ini diharapkan dapat membantu tatakelola penyakit jantung koroner (PJK). Studi ini bertujuan mengetahui korelasi antara LDL-C/HDL-C dan NLR dengan beratnya stenosis, dan korelasi keduanya pada pasien PJK Infark Miokard Akut dengan Elevasi Segmen ST (IMA-EST) yang memiliki angka kematian yang tinggi. Penelitian ini dilakukan dengan desain potong lintang. Didapatkan 99 pasien yang memenuhi kriteria inklusi dan eksklusi dari data pasien IKP primer di RSUP Dr. Cipto Mangunkusumo dari tahun 2018-2023. Analisa korelasi menggunakan uji Spearman didapatkan tidak ada korelasi yang bermakna antara rasio LDL-C/HDL-C dan NLR dengan skor Gensini ( $r = -0.051$ ,  $p = 0.617$ ;  $r = -0.126$ ,  $p = 0.241$ ). Namun dijumpai korelasi negatif bermakna antara rasio LDL-C/HDL-C dengan NLR ( $r = -0.262$ ,  $p = 0.009$ ). Korelasi negatif kedua indeks ini tetap dijumpai pada tiap tertel meskipun yang bermakna secara statistik dijumpai pada tertel I yang memiliki indeks inflamasi yang paling tinggi (Tertel I:  $r = -0.445$ ,  $p = 0.009$ , Tertel II:  $r = -0.035$ ,  $p = 0.851$ , Tertel III:  $r = -0.290$ ,  $p = 0.097$ ).

.....The LDL-C/HDL-C atherogenic index and the Neutrophil to Lymphocyte Ratio (NLR) inflammation index, which represent cholesterol burden and inflammation burden respectively, are key players in the formation of atherosclerotic plaques. Understanding the correlation between these two indices is expected to aid in the management of patients with coronary heart disease (CHD). This study aims to determine the correlation between LDL-C/HDL-C and NLR with the severity of stenosis, and the correlation between these two indices in patients with Acute ST-Elevation Myocardial Infarction (STEMI) who have a high mortality rate. The research was conducted using a cross-sectional design. 99 patients who met the inclusion and exclusion criteria were obtained from the primary IKP patients data at Dr. Cipto Mangunkusumo Hospital from 2018-2023. Spearman correlation analysis showed no significant correlation between the LDL-C/HDL-C ratio and NLR with the Gensini score ( $r = -0.051$ ,  $p = 0.617$ ;  $r = -0.126$ ,  $p = 0.241$ ). However, a significant negative correlation was found between the LDL-C/HDL-C ratio and NLR ( $r = -0.262$ ,  $p = 0.009$ ). This negative correlation between the two indices was consistently observed in each tertile, although statistically significant in tertile I, which had the highest inflammation index (Tertile I:  $r = -0.445$ ,  $p = 0.009$ , Tertile II:  $r = -0.035$ ,  $p = 0.851$ , Tertile III:  $r = -0.290$ ,  $p = 0.097$ ).