

**HUBUNGAN ANTARA KADAR ENDOTHELIN-1 PLASMA DENGAN INDEKS
ATHEROGENIK PLASMA PADA PASIEN INFARK MIOKARD AKUT**

**Leonardus Novan, Budi Yuli Setianto, Anggoro Budi
Hartopo**

Fakultas Kedokteran Universitas Gadjah Mada Yogyakarta

INTISARI

Latar belakang: Infark miokard akut secara umum disebabkan oleh plak atherosklerosis yang mengalami ruptur atau erosi sehingga menimbulkan kerusakan pada endotel. Risiko atherosklerosis dapat diperkirakan dengan menghitung nilai indeks atherogenik plasma yang dipengaruhi oleh kadar trigliserida dan HDL. Sel endotel yang rusak mengeluarkan berbagai senyawa, salah satunya adalah endothelin-1. Endothelin-1 merupakan vasokonstriktor poten yang dapat memperparah infark miokard. Endothelin-1 mempengaruhi biosintesis lipid yang dapat mengubah nilai indeks atherogenik plasma dan berpengaruh pada proses atherosklerosis.

Tujuan: menyelidiki hubungan antara tingginya kadar endothelin-1 plasma dengan nilai indeks atherogenik plasma pada pasien dengan infark miokard akut.

Metode: Desain penelitian adalah studi potong lintang. Data endothelin-1 dan profil lipid pada subjek diambil pada saat admisi di unit gawat darurat RSUP Dr. Sardjito. Kadar endothelin-1 diukur dengan metode *Enzyme-linked Immunosorbent Assay* (ELISA), sedangkan profil lipid diperiksa dengan metode turbidimetri. Nilai indeks atherogenik plasma dihitung dengan formula logaritma 10 dari rasio antara trigliserida dan HDL.

Hasil: Terdapat 115 subjek yang diikuti ke dalam analisis. Koefisien korelasi kadar endothelin-1 plasma dengan indeks atherogenik plasma pada pasien infark miokard akut adalah sebesar -0,166 ($r=-0,166$; $p=0,077$).

Kesimpulan: Tidak terdapat korelasi yang signifikan antara kadar endothelin-1 plasma dengan indeks atherogenik plasma pada pasien infark miokard akut.

Kata kunci: endothelin-1, indeks atherogenik plasma, infark miokard akut.

CORRELATION BETWEEN ENDOTHELIN-1 LEVEL AND ATHEROGENIC INDEX OF PLASMA ON ACUTE MYOCARDIAL INFARCTION PATIENT

Leonardus Novan, Budi Yuli Setianto, Anggoro Budi Hartopo

Faculty of Medicine Universitas Gadjah Mada Yogyakarta

ABSTRACT

Background: Acute myocardial infarction is generally caused by atherosclerotic plaque rupture or erosion, leading to endothelial damage. The risk for atherosclerosis can be predicted by calculating the atherogenic index of plasma, which is influenced by levels of triglycerides and HDL. Damaged endothelial cells release various compounds, one of which is endothelin-1. Endothelin-1 is a potent vasoconstrictor which can aggravate myocardial infarction. Endothelin-1 affects lipids biosynthesis that can change the value of atherogenic index of plasma and influence the process of atherosclerosis.

Aim: Understand the correlation between endothelin-1 level and atherogenic index of plasma on acute myocardial infarction.

Methods: The design of this study is cross-sectional. Data of endothelin-1 and lipid profiles were collected on admission in emergency department of RSUP Dr. Sardjito. Endothelin-1 level determination was conducted with ELISA method, while lipid profile data were obtained from turbidimetry method. Atherogenic index of plasma is calculated with formula 10 logarithm of ratio between triglycerides and HDL.

Result: 115 subjects were included into analysis. The correlation coefficient between endothelin-1 plasma level with atherogenic index of plasma in patients with acute myocardial infarction is $-0,166$ ($r=-0,166$; $p=0,077$).

Conclusion: There is no significant correlation between endothelin-1 and atherogenic index of plasma on acute myocardial infarction patient.

Keywords: endothelin-1, atherogenic index of plasma, acute myocardial infarction.