Korelasi Antara Kadar Histamin Plasma dengan Derajat Aterosklerosis Berdasarkan Pengukuran *Carotid Intima Media Thickness (CIMT)* Pada Pasien *Stable Coronary Artery Disease*

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ABSTRAK

Latar Belakang: Aterosklerosis merupakan penyakit sistemik dimana arteri karotis dan juga arteri koroner merupakan tempat tersering terjadinya aterosklerosis. Histamin adalah suatu senyawa amin dengan berat molekul rendah, telah diasumsikan diproduksi pada lesi aterosklerotik dapat berasal dari sel endotel, makrofag dan sel mast. Ketebalan lapisan intima media pada arteries karotis komunis merupakan penanda adanya aterosklerosis dan berhubungan dengan kejadian kardiovaskular.

Tujuan: Membuktikan adanya hubungan yang simetris antara kadar histamine plasma dengan derajat aterosklerosis berdasarkan pengukuran CIMT pada pasien *stable CAD*.

Metode: Terdapat dua puluh satu pasien yang diambil secara purposive sampling berdasarkan kriteria diagnostik standar di unit rawat jalan RS Dr Soetomo Surabaya. Sampel darah vena diambil dan disentrifugasi kemudian diukur menggunakan Histamine ELISA-Kit kemudian dilakukan ultrasonografi arteri karotis untuk mengukur ketebalan lapisan tunika intima media dengan menggunakan GE Electric General Vivid 7.

Hasil : Rerata nilai kadar histamin plasma pada penelitian ini adalah 18,30 ± 5,31ng/ml sedangkan rerata nilai CIMT adalah 1,14 ± 0,32 mm. Analisis inferensial menggunakan uji korelasi Pearson menunjukkan terdapat korelasi positif, bermakna dan moderat antara kadar histamin plasma dengan derajat aterosklerosis berdasarkan pengukuran CIMT ($r = + 0,504$, $p = 0,02$)

Kesimpulan: Terdapat korelasi positif yang bermakna dan moderat antara kadar histamin plasma dengan derajat aterosklerosis berdasarkan pengukuran CIMT.

Kata Kunci : Aterosklerosis; kadar Histamin plasma, Ketebalan lapisan intima media karotis

Correlation between Plasma Histamine Level and Atherosclerosis Severity Based On *Carotid Intima Media Thickness (CIMT) Measurement in Patients with Stable Coronary Artery Disease*

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ABSTRACT

Background: Atherosclerosis is a systemic disease and carotid and coronary arteries are the two most common sites on involvement of atherosclerosis. Histamine, a low-molecular-weight amine, has been suggested it is produced in the atherosclerotic lesion although the activity of histamine has not been clarified completely. The source of histamine in atherosclerotic lesion should be clarified in details; however, it could be macrophage, endothelial cells, and mast cells. Intima media thickness of the common carotid artery is a surrogate marker of atherosclerosis and associated with cardiovascular events.

Objective: To prove a symmetrical relationship between plasma histamine level and atherosclerotic severity based on CIMT measurement in patients with *stable CAD*.

Methods: Twenty-one patients collected by purposive sampling determined by standard diagnostic criteria in Cardiology outpatient clinic of Dr Soetomo Hospital Surabaya. Vein whole blood were drawn and centrifuged immediately after collection. The level of plasma histamine were measured using Histamine ELISA-Kit and then carotid intima media thickness were measured by vascular ultrasonography GE General Vivid 7.

Results: The mean values of plasma histamine level in this study were 18,30 ± 5,31 ng/ml. The mean value of CIMT were 1,14 ± 0,32 mm. Inferential analysis using Pearson correlation test showed a positive, moderate and significant correlation between plasma histamine level and atherosclerosis severity based on CIMT measurement, $r = +0.504$ and $p = 0.02$ ($p < 0.05$)

Conclusion: There were significant, positive and moderate correlations between plasma histamin level and atherosclerosis severity based on CIMT in patients with SCAD.

Keywords: Plasma Histamine level, Atherosclerosis, Carotid Intima Media Thickness