

Korelasi leptin, adiponektin dan rasio leptin-adiponektin dengan resistensi insulin pada pasien HIV dalam terapi antiretroviral berbasis inhibitor protease = Correlation of leptin, adiponectin and leptin-adiponectin ratio with insulin resistance in HIV patient on protease inhibitor based antiretroviral therapy

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Abstrak

Latar Belakang.

Pengobatan antiretroviral (ARV) di Indonesia, meliputi dua lini. Lini kedua terdiri dari kombinasi dua NRTI (Nucleoside Reverse Transcriptase Inhibitor) dan satu PI (protease inhibitor). Protease inhibitor adalah salah satu ARV yang diketahui dapat menyebabkan lipodistrofi, yang seringkali berkembang mengalami resistensi insulin, dan berhubungan dengan peningkatan risiko kardiovaskular. Peningkatan FFA (free fatty acids) dan TNF- α akibat lipolisis sel lemak pada lipodistrofi, beberapa sitokin yang dilepaskan oleh jaringan lemak (adipokin), seperti leptin dan adiponektin dipikirkan memiliki peran terhadap resistensi insulin. Leptin dan adiponektin memiliki kaitan erat dengan metabolisme glukosa dan sensitivitas insulin.

Tujuan.

Mengetahui korelasi leptin, adiponektin dan rasio leptin-adiponektin dengan HOMA-IR pada pasien HIV/AIDS dalam terapi anti retroviral berbasis inhibitor protease.

Metode.

Studi potong lintang dengan populasi terjangkau adalah pasien HIV/AIDS dewasa yang mendapatkan terapi ARV lini ke dua di RSUPN Cipto Mangunkusumo pada September– Desember 2018. Analisis data digunakan untuk mendapat koefisien korelasi leptin, adiponektin dan rasio leptin-adiponektin dengan HOMA-IR

Hasil.

Sebanyak 111 subjek penelitian dengan subjek laki – laki sebanyak 91 orang (81%). Median usia subjek penelitian 39 tahun. Median lingkar perut 83,1 cm dan IMT $22,91 \pm 3,91$ kg/m². Sebanyak 60,4% dari subjek penelitian mengalami hipertriglisieridemia, dan 85% memiliki kadar HDL yang rendah. Pada penelitian didapatkan median HOMA IR 2,91, median adiponektin 11,4 g/mL, median leptin 9,9 ng/mL, dan median rasio leptin adiponektin 0,74. Pada penelitian ini didapatkan koefisien korelasi antara leptin dengan HOMA-IR 0.434 dengan $p < 0,001$, adiponektin dengan HOMA IR -0,214 dengan $p < 0,05$ dan rasio leptin-adiponektin dengan HOMA-IR, didapatkan nilai r 0,417 dengan $p < 0,001$.

Kesimpulan.

Terdapat korelasi positif bermakna antara leptin dan rasio leptin-adiponektin dengan HOMA- IR, sedangkan untuk adiponektin dengan HOMA-IR didapatkan korelasi negatif bermakna.

.....Background.

Antiretroviral (ARV) treatment in Indonesia includes two lines. The second line consists of a combination of two NRTIs (Nucleoside Reverse Transcriptase Inhibitors) and one PI (protease inhibitor). Protease inhibitors are ARV drugs known to cause lipodystrophy. Patients who are on HAART (highly active antiretroviral therapy), and have lipodystrophy, often develop insulin resistance which is associated with increased risk for

cardiovascular disease. Increasing of FFA (free fatty acids) and TNF- (tumor necrosis factor-alpha) in result of lipodystrophy, also several cytokines (adipokines) released by adipose tissue, such as leptin and adiponectin, also known as adipocytokines or adipokines, may play a role to insulin resistance. Leptin and adiponectin are linked to glucose metabolism and insulin sensitivity.

Objective.

Knowing the correlation of leptin, adiponectin and leptin-adiponectin ratio with HOMA-IR in HIV/AIDS patient on protease inhibitor based anti retroviral therapy.

Methods.

Cross sectional study with an affordable population of HIV/ AIDS patient on protease inhibitor- based ARV therapy in Cipto Mangunkusumo Hospital from September – December 2018. Data Analysis was used to obtain the coefficient of correlation of leptin, adiponectin and leptin- adiponectin ratio with HOMA-IR.

Results.

There were 111 subjects with 91% males. Median's age of study subject 39 years. Median of abdominal circumference 83,1 cm and median of body mass index $22,91 \pm 3,91$ kg/m². Hypertriglyceridemia was found in 60,4% from subjects and 85% had low HDL level. Median of HOMA IR 2,91, Median of adiponectin 11,4 g/mL, median of leptin 9,9 ng/mL, median of leptin adiponectin ratio 0,74. Coefficient of correlation between leptin and HOMA-IR was 0,434 with p value <0,001, adiponectin and HOMA-IR - 0,214 with p value <0.05 and leptin- adiponectin ratio 0,417 with p value <0,001

Conclusion.

A significant positive correlation between leptin and leptin-adiponectin ratio with HOMA-IR was obtain, also a significant negative correlation was obtained between adiponectin and HOMA-IR.