Proatherogenic/antiatherogenic high density lipoprotein type in acute coronary syndrome and healthy male person

---

Abstrak

Tujuan: Membuat kriteria tipe HDL proaterogenik/antiaterogenik berdasarkan konsentrasi Apolipoprotein A-I
(ApoA-I), Paraoxonase-1 (PON-1), Neopterin dan HDL-cholesterol.
Metode: Penelitian dilakukan secara kontrol-kasus pada 52 subjek dengan sindrom koroner akut (SKA) dan 30 subjek
kontrol sehat. Tipe HDL proaterogenik dan antiaterogenik ditentukan berdasarkan konsentrasi ApoA-I, PON-1, Neopterin
dan HDL-cholesterol. Konsentrasi ApoA-I diukur menggunakan metode imunoturbidimetri, PON-1 diukur dengan metode
kolorimetri, Neopterin diukur dengan metode ELISA dan HDL-cholesterol diukur dengan metode homogenous. Analisis
regresi logistik univariat dilakukan dengan SKA sebagai variabel tergantung dan konsentrasi ApoA-I, PON-1, Neopterin
dan HDL-cholesterol sebagai variabel tidak tergantung. Tipe HDL proaterogenik dan antiaterogenik ditentukan dengan
menggunakan nilai cut off dan odd ratio ApoA-I, PON-1, Neopterin dan HDL-cholesterol.
Hasil: Umur subjek penelitian adalah 50,89 + 12,63 tahun, konsentrasi HDL-cholesterol : 39,82 + 9,84 mg/dL, Apo
A-1 : 119,77 + 32,05 mg/dL, PON-1 : 41,26 + 18,19 kU/L, Neopterin : 16,22 + 38,10 nmol/L. Cut off ApoA-I, PON-1
dan Neopterin secara berturut-turut adalah 124,5 mg/dL, 40,8 kU/L, and 7,016 nmol/L. Hasil analisis regresi logistik
univariat didapatkan OR untuk ApoA-I, PON-1 dan Neopterin secara berturut-turut 29,759 (95% CI : 4,074 ? 217,382),
1,647 (95% CI : 0,412 ? 6,586), 4,317 (95% CI : 1,098 ? 16,977). Dengan sistem scoring, kami menyimpulkan total
score > 18 menunjukkan tipe HDL proaterogenik, dan total score < 18 merupakan tipe HDL antiaterogenik. Dengan
sistem scoring ini kami menemukan 78,85% populasi SKA termasuk ke dalam tipe HDL proaterogenik.
Kesimpulan: Disfungsi HDL atau tipe HDL proaterogenik/antiaterogenik dapat diperkirakan dengan menggunakan sistem
scoring ApoA-I ? PON-1 ? Neopterin ? HDL-cholesterol. Subjek dengan total score < 18 dikelompokkan ke dalam tipe HDL
antiaterogenik, sedangkan subjek dengan total score >18 memiliki tipe HDL proaterogenik.

<hr>
Abstract
Aim: To make proatherogenic/antiatherogenic HDL type criteria using Apolipoprotein A-I (ApoA-I), Paraoxonase-1
(PON-1), Neopterin and HDL-cholesterol levels, which may be useful in clinical practice.
Methods: This was a case control study recruiting 52 subjects with Acute Coronary Syndrome (ACS) and 30 control
healthy subjects. HDL type was classifi ed into antiatherogenic and proatherogenic based on the levels of ApoA-I,
PON-1, Neopterin and HDL-cholesterol. Concentrations of ApoA-I was measured by immunoturbidimetry method,
PON-1 was measured by colorimetric method, Neopterin was measured by ELISA, and HDL-C was determined by
homogenous method. Univariate logistic regression analysis was done using ACS as a dependent variable and levels
of ApoA-I, PON-1, Neopterin and HDL-cholesterol as independent variables. Proatherogenic/antiatherogenic HDL
type was determined by using ApoA-I, PON-1, Neopterin and HDL-cholesterol cut off and odd ratios.
Results: Patient?s age was 50.89 + 12.63 year, HDL-C was 39.82 + 9.84 mg/dL, Apo A-1 was 119.77 + 32.05 mg/
dL, PON-1 was 41.26 + 18.19 kU/L, Neopterin was 16.22 + 38.10 nmol/L. Cut offs of ApoA-I, PON-1 and Neopterin
successively were 124.5 mg/dL, 40.8 kU/L, and 7.016 nmol/L. On univariate logistic regression analysis showed that
OR of ApoA-I, PON-1 and Neopterin respectively were 29.759 (95% CI : 4.074 ? 217.382), 1.647 (95% CI : 0.412 ?
6.586), 4.317 (95% CI : 1.098 ? 16.977). Using scoring system, we concluded that total score > 18 was proatherogenic
HDL type, and total score < 18 was antiatherogenic HDL type. With this scoring we found 78.85% had proatherogenic
HDL type in ACS population.
Conclusions: Dysfunctional HDL or proatherogenic/antiatherogenic HDL type can be predicted by using ApoA-I ?
PON-1 ? Neopterin ? HDL-cholesterol scoring system. Those with score of 18 are supposed to have antiatherogenic
HDL type, and those with score of > 18 were having proatherogenic HDL type.