

Ethnic difference in serum antibodies to oxidized low density lipoprotein in healthy Malaysian subjects

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Abstrak

Latar Belakang: Sebagian populasi lebih rentan untuk terserang penyakit arterosklerosis dibandingkan dengan populasi lain. Etnis India mempunyai mortalitas yang tinggi untuk penyakit jantung koroner (PJK) dibandingkan dengan etnis Cina dan Melayu. Antibodi terhadap oxLDL (Ab-oxLDL) diproduksi sebagai respons imun dan insidens PJK di berbagai etnis berhubungan dengan respon imun ini. Tujuan penelitian ini adalah untuk mengukur kadar Ab-oxLDL dan kadar lipid di kalangan 3 etnis mayoritas di Malaysia.

Metode: Penelitian ini melibatkan 150 subjek sehat di Malaysia yang terdiri dari 50 etnis Melayu, 50 etnis Cina dan 50 etnis India. Kadar Ab-oxLDL diukur dengan menggunakan metode enzim immunoassai dan kadar trigliserida dan kolesterol diukur dengan menggunakan metode enzimatik. HDL-kolesterol diukur menggunakan metode presipitasi dan LDL-kolesterol dihitung menggunakan formula Friedewald. Hasil: Kadar Ab-oxLDL [adjusted mean (95% CI)] paling tinggi dikalangan etnis Melayu [1404 (1202-1607) mU/mL] diikuti oleh etnis Cina [1026 (829-1223) mU/mL] dan India [954 (744-1163) mU/mL] ($P = 0.006$), sementara kadar HDL-C paling tinggi dikalangan etnis Cina [1.53 (1.44-1.61) mmol/L] dikuti oleh etnis Melayu [1.44 (1.35-1.53) mmol/L] dan India [1.35 (1.26-1.45) mmol/L] ($P = 0.035$). Kesimpulan: Hasil penelitian membuktikan bahwa kadar Ab-oxLDL dan HDL-C berbeda-beda berdasarkan etnis dan Ab-oxLDL mungkin mempunyai sifat antiaterogenik dikalangan etnis Melayu.

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Abstract

Background: Some populations are more susceptible to atherosclerotic diseases than others. Indians had a higher mortality due to coronary heart disease (CHD) than Chinese and Malays. Antibodies to oxidized low density lipoprotein (Ab-oxLDL) are produced as an immune response to oxidized low density lipoprotein (oxLDL). The difference in prevalence of CHD among the ethnic groups may be related to the immune response. The objectives of this study were to determine the serum Ab-oxLDL levels and lipid profile among the three major Malaysian ethnic groups. Methods: The participants of this study were 150 healthy subjects consisting of 50 Malays, 50 Chinese and 50 Indians. Serum Ab-oxLDL was measured by enzyme immunoassay method. Serum triglycerides and total cholesterol were measured by enzymatic methods. Serum high density lipoprotein cholesterol (HDL-C) was measured by precipitation method and low density lipoprotein cholesterol (LDL-C) was calculated using Friedewald formula. Results: AboxLDL level [adjusted mean (95% of CI)] was highest in Malays [1404 (1202-1607) mU/mL] followed by Chinese [1026 (829-1223) mU/mL] and Indians [954 (744-1163) mU/mL] ($P = 0.006$) and HDL-C level was highest in Chinese [1.53 (1.44-1.61) mmol/L] followed by Malays [1.44 (1.35-1.53) mmol/L] and Indians [1.35 (1.26-1.45) mmol/L] ($P = 0.035$). Conclusion: Our results indicate that Ab-oxLDL and HDL-C levels differed by ethnic and AboxLDL may have antiatherogenic properties among Malaysian ethnic groups.