Association of low-density lipoprotein particle size and ratio of different lipoproteins and apolipoproteins with coronary heart disease

https://www.researchgate.net/publication/23386838
DOI: 10.1016/j.jjcc.2008.06.005 · Source: PubMed

Cited in:

Journal of Cardiology 52(2):118-26, 2008
Association of low-density lipoprotein particle size and ratio of different lipoproteins and apolipoproteins with coronary heart disease
Santanu Biswas, Pradip K Ghoshal, Sankar C Mandal, Nripendranath Mandal
Immunotechnology Section, Bose Institute, P-1/12 CIT Scheme VIIM, Kolkata 700054, West Bengal, India; Departments of Cardiology, N.R.S. Medical College & Hospital, 138 A.J.C. Bose Road, Kolkata 700014, India

Abstract

Worldwide coronary heart disease (CHD) is estimated to be the leading cause of death. Current knowledge about prevention of CHD is mainly derived from developed countries. Therefore, this study aimed to find out the association of CHD with ratios of different lipoproteins and apolipoproteins, LDL particle size, as well as different traditional risk factors in Asian Indian population in Eastern part of India. Case-control study of 100 patients with CHD and 98 healthy controls were age and sex matched. After clinical evaluation, blood samples were collected for biochemical assays. Multivariate logistic regression analysis found apoB (OR 2.96; 95% CI 1.02-8.54), apoB/HDL-c (OR 4.14; 95% CI 1.33-12.83), nonHDL-c (OR 5.41; 95% CI 2.08-14.10), apoB/apoAI (OR 6.64; 95% CI 2.37-18.57), and LDL particle size (9.59; 95% CI 2.92-31.54) were independently associated with CHD. Area under the ROC curves derived from the model (AUROC 0.947; 95% CI 0.916-0.977) are significantly higher than any other variables. Findings from the multivariate analysis, apoB, apoB/HDL-c, nonHDL-c, apoB/apoAI, and LDL particle size are potent indicators and useful for diagnosis of predisposed CHD.

Keywords: Coronary heart disease, Apolipoproteins, LDL particle, ROC curve

Reference

B. M. Gandhi Lipoprotein Composition of normal healthy subjects in northern India. The Indian Journal of Medical Research 75(3):393-401, 1982