Comparison of the relationships between serum apolipoprotein B and serum lipid distributions.


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BACKGROUND: Apolipoprotein B (apo B) has been reported to be a better predictor of coronary artery disease than cholesterol indices. The objectives of this study were to evaluate concordances/discordances between cholesterol indices and apo B and to assess the factors that influence them.

METHODS: For this study, 11,816 individuals (6965 males, 4851 females), none of whom had a past history of coronary artery disease, were selected from among visitors to the health promotion center at Kangbuk Samsung Hospital between January and December 2002. We assessed concordances between the biochemical indices of atherogenicity and evaluated factors associated with discordances.

RESULTS: Apo B and various cholesterol indices were correlated, although concordance fell within the range 47%-56%. Multinomial logistic regression analysis showed an increasing risk of a disproportionately higher apo B than LDL-cholesterol in males, the elderly, smokers, individuals with metabolic syndrome, in those with high HDL-cholesterol or triglyceride (TG) concentrations or larger waist circumferences, and in those with low total cholesterol (TC).

CONCLUSIONS: The introduction of apo B to standard lipid profile testing could improve the evaluation of risk factors of coronary artery disease and aid more accurate assessment of the effects of cholesterol-lowering therapy, particularly in males, the elderly, smokers, or in individuals with metabolic syndrome, high HDL-cholesterol, high TGs, larger waist circumferences, or low TC.

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