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Apolipoprotein b/ Apolipoprotein A1 (APO B/ APO A1) and LDL/HDL cholesterol ratios indicators of metabolic syndrome

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Aim: Evaluate the possibility of a more precise estimate of the risk of metabolic syndrome using ratios APO B / APO A1 and LDL / HDL cholesterol.

Methods: Study population During years 2011-2012 prospective study of 82 clinically healthy people (40,2% men and 59,8% women), inhabitants of Pleven region in the Republic of Bulgaria were conducted. The inclusion criteria are: age above18 years, without medical history of cardiovascular diseases (myocardial infarction-MI, stroke, etc.) and not suffering from diabetes mellitus.

Exclusion: criteria are: cardiovascular diseases (stable angina pectoris, myocardial infarction or stroke), planned coronary revascularization (PCI or CABG), diabetes mellitus, pregnancy, renal failure, neoplasm. Standard individual interview and measurement of waist, hip, height and body mass index (BMI) were performed. Arterial blood pressure of the participants is also measured. The following biomarkers are tested (fasting): apolipoprotein B, apolipoprotein A1, blood glucose, HDL-cholesterol, serum triglycerides (TG), LDL-cholesterol. People with MetS are determined according to International Diabetes Federation criteria.

Statistical Analysis: The difference between the groups is analyzed by one way ANOVA test and multiple comparison tests of means. Adjusted estimations of 95% confidence interval (CI) are done. Apo B, Apo A1, the ratio Apo B /Apo A1, HDL-cholesterol, LDL-cholesterol and the ratio LDL / HDL are included in the multiple logistic regression analyses.

Results: po B (HR 0, 48, 95% CI 0, 27-0, 85) and total cholesterol (TC) levels are significantly connected with MetS components. Apolipoprotein B, the ratio Apo B/Apo A1 and the ratio LDL / HDL appear as independent risk factors for metabolic syndrome.

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