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Apolipoproteins in diabetes dyslipidaemia in South Asians with young adult-onset diabetes: distribution, associations and patterns; JArticle; Annals of Clinical Biochemistry 2010; 47: 29-34; Vol: 47; 2010_.29-34pp

Abstract : Background: Apolipoproteins B (apoB) and AI (apoAI) are strong predictors of cardiovascular disease (CVD). We describe apolipoprotein distributions and their associations with lipids and diabetes subtype in diabetic young adult South Asians. Methods: In 995 subjects with diabetes, we measured fasting total cholesterol (TC), high-density lipoprotein cholesterol (HDL), triglycerides (TG), apoB and apoAI, glycosylated haemoglobin (HbA1c) and glutamic acid decarboxylase antibodies (GADA). Low-density lipoprotein cholesterol (LDL) and non-HDL (NHDLC) were calculated. We compared values in subjects aged 15-50 y from the United States National Health and Nutrition Examination Survey (NHANES). Results: Median age and duration of diabetes were 38 (range 14-45) and 4 (0-24) y. Men had significantly higher TC, TG, NHDLC, TC/HDL, apoB/AI and NHDLC/apoB, and lower apoAI than women. Compared with the reference group, patients with type 1 diabetes had lower TG, apoB:apoAI and HDL:apoAI, and higher HDL and apoAI. Patients with type 2 diabetes had higher TG, TC, LDL, NHDLC, TC:HDL, apoB, apoAI and apoB:apoAI, and lower HDL, LDL:apoB and HDL:apoAI. Among patients with type 2 diabetes, 54% had high apoB (.1.2 g/L) and 33% also had high TG (.1.5 mmol/L). Measures of obesity (body mass index and waist circumference) were weakly correlated with lipid and apoprotein parameters, suggesting a modest contribution to dyslipidaemia. Conclusions: A large proportion of young adult Sri Lankan patients with type 2 diabetes has a low LDL:apoB and high apoB and/or TG, suggesting that these patients are at increased risk of CVD.