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Serum lipid abnormalities are not associated with apoB 3' VNTR polymorphism in nephrotic children

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ABSTRACT. Apolipoprotein B (apoB) gene 3' variable number of tandem repeat (VNTR) is highly variable, and therefore can be an informative marker for associative analysis of lipid metabolism. This is the first report focusing on a possible association of apoB VNTR polymorphism with nephrotic hyperlipidemia. Genomic DNA was extracted from 500 children with primary nephrotic syndrome (PNS) and 500 healthy controls. The apoB genotype was determined by PCR analysis. Allele size distribution followed a unimodal curve, with the main peak at the hypervariable element 35 (HVE35); the most prevalent genotype was HVE35/35 in both control and PNS children. The genotype and allele distributions of apoB variants in PNS children were not significantly different from controls. There was significant variation in serum lipid profiles among different genotypes in control children. Individuals with the long (L) allele exhibited significantly higher total cholesterol, low-density lipoprotein cholesterol (LDL-C)

and apoB levels than those with the medium (M) or short (S) allele; consequently, M/L carriers had significantly higher total cholesterol, LDL-C and apoB concentrations than did S/S, S/M, S/L, or M/M carriers. However, in PNS children, no significant differences in serum lipid levels were observed among individuals with different genotypes and alleles of apoB 3' VNTR. We conclude that hyperlipidemia in nephrotic children is not associated with apoB 3' VNTR polymorphism.

Key words: Apolipoprotein B; Genetic variation; Hyperlipidemia; Child; Nephrotic syndrome

