Turkish Journal of Medical Sciences

Turkish Journal

of

Medical Sciences

Keywords
Authors

medsci@tubitak.gov.tr

Scientific Journals Home Page

A Relation Between the Apolipoprotein E Genotypes and Microalbuminuria in Type 2 Diabetes Mellitus

Ersin AKARSU[1]
İbrahim PİRİM[2]
İlyas ÇAPOĞLU[1]
Hasan KAYA[1]
Güngör AKÇAY[1]
Necdet ÜNÜVAR[1]
Departments of [1]Internal Medicine, [2]Genetic, Faculty of Medicine, Atatürk University, Erzurum - TURKEY

Abstract: Various relations between apolipoprotein E (apo E) and diabetic nephropathy have been reported. In this study, the question of whether there is any relation between apo E genotypes and microalbuminuria in patients with type-2 diabetes mellitus was examined. Twenty-one male and 25 female patients, with ages the range of 37-62 years (mean 51.7 $\pm$ 7.5) with type-2 diabetes mellitus were studied. The apo E genotypes were determined by PCR amplification of the 227 bp region followed by CfoI digestion to release specific band patterns. While 24 patients had microalbuminuria (microalbuminuria group), 22 patients had normoalbuminuria (normoalbuminuria group). The patients with microalbuminuria had suffered from diabetes for a longer period of time (median 13 vs 11 years $p<0.005$) and had higher levels of serum total cholesterol (median 199 vs 161 mg/dl, $p<0.01$) and LDL cholesterol (median 123.5 vs 95 mg/dl, $p<0.01$) than the other group. In the microalbuminuria group, the distribution of apo E genotypes was revealed as e2/e2 2 (8.3%), e3/e2 7 (29.2%), e4/e2 0 (0%), e3/e3 12 (50.0%), e4/e3 2 (8.3%) and e4/e4 1 (4.2%). In the normoalbuminuria group, the distribution of apo E genotypes was revealed as e2/e2 0 (0%), e3/e2 3 (13.6%), e4/e2 0 (0%), e3/e3 14 (63.6%), e4/e3 4 (18.1%) and e4/e4 1 (4.5%). In these two groups of patients, in terms of the distribution of apo E genotypes, no significant difference could be found ($p>0.05$). However, the apo e2 allele frequency in the microalbuminuria group in comparison to the normoalbuminuria group was found to be quite high (22.9% vs 6.8%, odd ratio 4.89, $p<0.05$). As a result, we concluded that the e2 allele of apo E may play a role in the mechanism of nephropathy in type-2 diabetes mellitus

Key Words: Diabetes mellitus, microalbuminuria, apolipoprotein E genotypes

Turk J Med Sci 2001; **31**(1): 59-64.
Full text: pdf
Other articles published in the same issue: Turk J Med Sci,vol.31,iss.1.