PRIZE O1

The association of the IL6174GC polymorphism with diabetic neuropathy in patients with type 2 diabetes mellitus

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Background and aims: Chronic inflammatory processes play a key role in the development of complications in diabetes. C-reactive protein (CRP) is a marker of systemic inflammation and is associated with micro-and macro-vascular complications of the disease. Whether common polymorphisms of inflammatory genes are associated with development of diabetic peripheral neuropathy (DPN) is unknown. The aim of the present study was to examine the association of 174GC polymorphism of interleukin-6 (IL6) gene with DPN in patients with type 2 diabetes mellitus (T2DM). **Methods:** The study population consisted of 431 patients with T2DM (mean age 66.5 ±9.96 years, male n=218, female n=213). The IL6174GC polymorphism was detected by polymerase chain reaction and appropriate restriction enzyme digestion (SFANI). Hs-CRP was assayed by particle-enhanced immunonephelometry. Neuropathy was diagnosed using the neuropathy symptom score and the neuropathy disability score. **Results:** Prevalence of neuropathy was 36.8%. In the total sample, the genotype distribution was GG=49.1%, GC=26.8%, and CC=24.1%, with no significant gender difference. Hs-CRP levels did not differ significantly among the three genotypes. Prevalence (%) of DPN was 47.7 in GG, 29.8 in GC, and 22.5 in CC genotypes (p=0.56). Univariate analysis showed that GG genotype vs GC or CC were not associated with increased odds for DPN (p=0.67 and p=0.86, respectively). Similarly, carriers of the 'G' allele (GG/GC) were not associated with increased odds for DPN in comparison with CC homozygotes (p=0.59). Moreover, carriers of the 'C' allele (GC/CC) were also not associated with increased odds for DPN in comparison with GG homozygotes (p=0.67). **Conclusions:** The IL6174GC polymorphism is not associated with DPN and it does not affect serum CRP levels.