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Fatty acid-binding protein 2 Ala54Thr polymorphism among psoriatic patients in Çanakkale, Turkey

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ABSTRACT

A single nucleotide polymorphism (G-to-A) in codon 54 of exon two resulting in an alanine to threonine substitution and we hypothesized that, in psoriatic patients Ala54Thr carriers would have increased risk for psoriasis than Ala54-homozygous counterparts. 141 psoriatic patients and 131 healthy individuals who gave informed consent, were enrolled to study. FABP2 polymorphism was evaluated with melting curve analysis (RealTime PCR). Genotype frequencies were estimated by gene counting. In consistency of genotype frequencies with the Hardy-Weinberg equilibrium was tested using a Chi-Square. Odds ratio (OR) and 95% confidence interval were calculated to estimate the risks related to (FABP2) Ala54Thr polymorphism. To calculate the significance of OR, Fisher's exact test was used. Eighteen patients (12.8%) had Ala54/Ala54 (wild group) and 118 (83.7%) patients a mutant genotype, Ala54/Thr54 (55 patients, 39%) or Thr54/Thr54 (63 patients, 44.7%). In control group, ten subjects (7.6%) had the genotype Ala54/Ala54 (wild-type group) and 121 (92.4%) participants had the genotype Ala54/Thr54 (n=47, 35.9%) or Thr54/Thr54 (n=74, 56.5%). The genotype distribution were consistent with Hardy-Weinberg equilibrium for psoriatic and healthy groups (χ^2calculated: 0.07 2nd degree).When psoriatic patients with homozygote "AA" or heterozygote genotype "GA" were compared with the ones with normal genotype, no statistical correlation was found (ORAAvs GG:0.47; 95%CI: 0.20-1.09; p:0.08 and ORGA vs GG:0.65; 95%CI: 0.27-1.55; p:0.33). Asidethe transition of G to A at codon 54 of FABP2 were not increased psoriasis risk in statistically significant manner (OR: 0.68;95% CI: 0.47-0.99; p: 0.046). The overall odds ratio was found 0.697 (p=0.055) by Armitage's Trend Test. We found no correlation between allelic distribution or genotype frequency of FABP2 Ala54Thr polymorphism and psoriasis. In conclusion, our present results suggest that FABP2 genotypes were not statistically significant and unsuitable to use as dependent determinants of the risk. The alanine to threonine substitution of FABP2 gene can't be used as diagnostic marker for psoriasis and validation of these findings require to replicate within large-scale study group to find real association.

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