Association of miR-146a rs57095329 with Behcet's disease and its complications

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abstract

Background: The present study was conducted to investigate whether rs57095329 of miR-146a is associated with Behçet's disease. The association of this single nucleotide polymorphism with disease activity and various clinical data in those patients was analyzed. Methods*:* 130 patients with Behçet's disease (17 female, 113 male) with mean age (33.58±7.79) years and 131 age and gender-matched healthy participants were included in the study. Behcet's disease current activity index (BDCAI) was used to assess Patients' disease activity status. MiR-146a (rs57095329) was genotyped in all participants using real-time polymerase chain reaction. Results*:* MiR-146a (rs57095329) genotype was in accordance with the Hardy-Weinberg equilibrium (all $P > 0.05$) in Behçet's disease patients and controls. Significant differences in the frequency of rs57095329 were noted between patients with Behçet's disease and healthy controls. The frequency of the GG and AG genotypes were found to be strongly associated with Behçet's disease (adjusted OR = 8.05, 95% CI (3.63-17.82); $P< 0.001$ and adjusted OR = 2.26, 95% CI (1.27 - 4.04); $P = 0.006$, respectively). Rs57095329 was linked considerably to Behçet's disease when considering dominant and recessive ($P< 0.001$, each). Additionally, G allele distribution was significantly greater in Behçet's disease compared with control individuals (adjusted OR =2.85, 95% CI = (1.98-4.11), $P < 0.001$). Conclusion: The miR-146a (rs57095329) is associated with Behçet's

disease, and this polymorphism is associated with ocular involvement, vascular and neurological manifestations.