MiR-146a and miR-155 polymorphisms in Egyptian patients with Behcet's disease

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Abstract

Background: The current study designed to analyze whether polymorphisms of miR-146a and miR-155 are related to Behçet's disease (BD) in Egyptian population. Methods: A total of 96 unrelated BD patients and 100 healthy subjects were genotyped for miR-146a (rs2910164) and miR-155(rs767649) using real-time polymerase chain reaction. Results: the results showed significant elevation in the frequency of rs2910164 GG and CC genotypes in BD patients compared with controls (adjusted OR = 22.156, 95% CI (4.728-103.818); P < 0.001 and adjusted OR = 40.358, 95% CI (8.928 -182.440); P < 0.001, respectively). Also, rs2910164 G allele conferred a higher risk of developing BD (adjusted OR = 3.665, 95% CI (2.013-6.671); P < 0.001). MiR-146a (rs2910164) polymorphism was a risk factor for susceptibility to BD in dominant, recessive and additive models of inheritance (All P < 0.001), while, the miR-155(rs767649) polymorphism was a risk factor in recessive model only (P = 0.021). GG and CG genotypes of rs2910164 were associated with higher BDCAI activity and ocular involvement compared with CC genotype (P = 0.005 and P =0.004, respectively). Genotype AT of rs767649 was related to higher BDCAI activity (P = 0. 026) compared with TT or AA genotypes. Conclusion: The miR-146a

(rs2910164) and miR-155(rs767649) were likely to play an important role in Egyptian population to develop BD and also influence disease severity.