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

ABSTRACT

Background: Behcet's disease is a chronic relapsing and remitting autoimmune multisystem inflammatory disease characterised by oral aphthae, genital ulcers, skin lesions, gastrointestinal involvement, arthritis, vascular lesions and neurological manifestations. We hypothesised a link between rs57095329 of miR-146a and Behcet's disease, with further links with common clinical features.

Methods: We tested our hypothesis in 130 Behcet's disease patients and 131 age and sex-matched healthy controls. Behcet's disease current activity index (BDCAI) was used to assess patients' disease activity status. MiR-146a (rs57095329) was genotyped in all participants using RT-PCR and results in patients analysed according to clinical features.

Results: The frequency of the GG and AG genotypes in rs57095329 were strongly associated with Behcet's disease (adjusted OR 8.05, 95% CI 3.63–17.82; $P < 0.001$ and OR 2.26, 95% CI 1.27–4.04; $P = 0.006$, respectively), and in dominant (GG+AG > AA) and recessive (GG > AA+AG)

models (both $P < 0.001$). Additionally, G allele distribution was significantly greater in Behcet's disease compared with controls (OR 2.85, 95% CI 1.98–4.11, $P < 0.001$). The AA genotype and A allele were linked to oral ulcers, the GG genotype and G allele to neurological disease, and the GG genotype and G allele to ocular disease (all $P < 0.01$). There were no links with genital ulceration, skin lesions, vascular disease or the result of the pathergy test.

Conclusion: The miR-146a (rs57095329) is associated with Behcet's disease and certain genotypes and alleles with oral ulcers, and with ocular and neurological manifestations.