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HLA and non-HLA genes in Behçet's disease: a multicentric study in the Spanish population

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Objective

The aims of this study were to further investigate the influence of the HLA region in Behçet´s disease (BD) and to explore the relationship with non-HLA genes recently described to be associated in other populations.

Methods

A total of 208 BD patients and 283 ethnically matched controls were included in this study. HLA-A and HLA-B low resolution typing was carried out by PCR-SSOP Luminex. Eleven tag single nucleotide polymorphisms (SNPs) located outside of the HLA-region previously described associated with the disease in genome wide association studies with a minoritary allele frequency in Caucasian greater than 0.15 were genotyped using TaqMan assays.

Results

Different HLA-A (A*24, A*31 and A*66) and HLA-B (B*51 and B*57) were associated to BD as risk factors, whereas others (A*03, B*35 and B*58) were found to be protective. Multivariate analysis performed grouping the HLA-A as well as the HLA-B risk and protective factors suggests 2-fold influence of HLA-B as a risk factor compared with HLA-A, but similiar influence of both loci as protective. When HLA risk factors were *considered* together, no influence of the HLA-A itself was detected. Regarding the non-HLA genes, *IL23R* was the most strongly associated to the disease in our population but its effect seems to be restricted to individuals bearing HLA-B risk factors.

Conclusion

Different HLA-B as well as HLA-A are associated to BD in addition to HLA-B51. Other non-HLA genes, such as *IL23R*, play a role in the susceptibility of the disease, although its influence could be conditioned to the presence of HLA factors.

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