

MHC class II antigens in alopecia areata

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ABSTRACT

Introduction. In accordance with assumption of a possible autoimmune nature of alopecia areata, the purpose of this study was to investigate associations between alopecia areata and MHC class II antigens (DR and DQ loci).

Materials and methods. The study was performed on 23 patients with alopecia areata, classified in two groups, on the basis of severity of clinical picture: 13 alopecia totalis/universalis and 10 unilocular/multilocular alopecia areata patients.

MHC class II antigens were determined by double staining immunofluorescence. Seventeen antigens were determined for DR locus, and 9 antigens for DQ locus. For all antigens phenotypic frequency and relative risk were calculated. The Control group consisted of 114 healthy tissue and organ donors. Chi square test for small samples was used in statistical analysis.

Results. Significantly higher frequencies of DQ2, and smaller of DR1 antigens were detected in the whole group. In alopecia totalis/universalis subgroup a significantly higher frequency of the DQ2 and a smaller one of DQ3(9) antigens were observed. In the unilocular/multilocal alopecia areata subgroup only a significant decrease of the DQ3(9) frequency was found.

Conclusion. It can be assumed that an increased frequency of DQ2 increases the risk of severe forms of alopecia areata while the absence of DQ3(9) may have some protective role. Further studies on a larger number of patients are however necessary.

KEY WORDS

Alopecia areata, HLA Class II antigens, DR, DQ

Introduction

Alopecia areata (AA) is a non-cicatricial alopecia of unknown etiology. Findings of CD4+, CD8+ lymphocytes and CD1+ cells in perivascular, peribulbar and intrafollicular infiltrate, an up-regulated expression of MHC class I molecules in hair follicles, hair follicle specific auto-antibodies, possible associations with immune

disorders as well as a beneficial effect of immune-modulating agents support the assumption that AA is an autoimmune disorder. In accordance with such a supposition we decided to investigate the associations between AA and MHC class II antigens, the DR and DQ loci in patients from Vojvodina.

