

Association between age at diagnosis of Graves' disease and variants in genes involved in immune response.

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Abstract

BACKGROUND:

Graves' disease (GD) is a complex disease in which genetic predisposition is modified by environmental factors. The aim of the study was to examine the association between genetic variants in genes encoding proteins involved in immune response and the age at diagnosis of GD.

METHODS:

735 GD patients and 1216 healthy controls from Poland were included into the study. Eight genetic variants in the HLA-DRB1, TNF, CTLA4, CD40, NFKb, PTPN22, IL4 and IL10 genes were genotyped. Patients were stratified by the age at diagnosis of GD and the association with genotype was analysed.

RESULTS:

Polymorphism in the HLA-DRB1, TNF and CTLA4 genes were associated with GD. The carriers of the HLA DRB1*03 allele were more frequent in patients with age at GD diagnosis ≤ 30 years than in patients with older age at GD diagnosis.

CONCLUSIONS:

HLADR1*03 allele is associated with young age at diagnosis of Graves' disease in Polish population.