

THRAP2 Gene Identified as a Candidate Susceptibility Gene of Thyroid Autoimmune Diseases Pedigree in Tunisian Population

Authors : Ghazi Chabchoub, Mouna Feki, Mohamed Abid, Hammadi Ayadi

Abstract : Autoimmune thyroid diseases (AITDs), including Graves' disease (GD) and Hashimoto's thyroiditis (HT), are inherited as complex traits. Genetic factors associated with AITDs have been tentatively identified by candidate gene and genome scanning approaches. We analysed three intragenic microsatellite markers in the thyroid hormone receptor associated protein 2 gene (THRAP2), mapped near D12S79 marker, which have a potential role in immune function and inflammation [THRAP2-1(TG)n, THRAP2-2 (AC)n and THRAP2-3 (AC)n]. Our study population concerned 12 patients affected with AITDs belonging to a multiplex Tunisian family with high prevalence of AITDs. Fluorescent genotyping was carried out on ABI 3100 sequencers (Applied Biosystems USA) with the use of GENESCAN for semi-automated fragment sizing and GENOTYPER peak-calling software. Statistical analysis was performed using the non parametric Lod score (NPL) by Merlin software. Merlin outputs non-parametric NPLall (Z) and LOD scores and their corresponding asymptotic P values. The analysis for three intragenic markers in the THRAP2 gene revealed strong evidence for linkage (NPL=3.68, P=0.00012). Our results suggested the possible role of THRAP2 gene in AITDs susceptibility in this family.

Keywords : autoimmunity, autoimmune disease, genetic, linkage analysis

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