

Vitamin D receptor gene Apal, TaqI, FokI and BsmI polymorphisms in a group of Turkish patients with Hashimoto's thyroiditis.

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Abstract

AIM: Previous studies have suggested an influence of vitamin D receptor polymorphisms on the development of autoimmune thyroid disease in different ethnic populations. We aimed to investigate the distribution of vitamin D receptor (VDR) alleles in a group of Turkish patients with Hashimoto's thyroiditis (HT).

METHODS: One hundred and eleven patients (male/female: 5/106, 47.9±12.8 years) and 159 healthy controls (male/female: 21/138, 30.5±6.3 yrs) were included in the study. VDR gene FokI, BsmI, Apal TaqI polymorphisms were examined using a polymerase chain reaction (PCR) -based restriction analysis. Serum levels of (thyroid-stimulating hormone) TSH, anti-thyroid peroxidase and anti-thyroglobulin levels were determined.

RESULTS: The VDR TaqI "TT" (59.5% in patients vs. 27.6% in controls; 95% confidence interval [CI]: 0.14-0.46) and FokI 'FF' genotypes (67.6% in patients vs. 44.6% in controls; 95% CI: 0.46-0.81) occurred more frequently in patients, while VDR "Tt" (56.6% in patients vs. 32.4% in controls 95% CI: 1.22-2.14) and "Ff" genotypes (25.2% in patients vs. 49.1% in controls 95% CI: 1.27-2.18) were more common in controls. There were no differences in the genotype frequencies of the Apal and BsmI polymorphisms in cases and controls. The most common genotypes were "bbAaTTFF" in the thyroiditis group (12.6% patients vs. 5.6% in controls, P>0.05) and "BbAaTtFf" in the control group (6.3% patients vs. 22.2% in controls, P=0.002).

CONCLUSION: VDR gene TaqI TT and FokI FF genotypes are associated with increased risk of HT disease in our group of Turkish patients. BbAaTtFf genotype seems to be protective for HT disease in our population.