ASSOCIATION OF ApaI POLYMORPHISM OF GENE VDR WITH THE DEVELOPMENT OF CHRONIC GENERALIZED PERIODONTITIS

Sumy State University, Ukraine

The importance of vitamin D in regulating inflammatory reactions and the immune response, as well as participation in bone remodeling and mineralization processes, determine its important role in the pathogenesis of periodontitis. Among the factors actively studied, the important place belongs to genetic markers, namely polymorphic variants of the receptor of vitamin D gene [1-3].

Materials and Methods. Buccal epithelium of 116 patients with chronic generalized periodontitis (CGP) and 67 persons of the control group was used. ApaI polymorphism (rs7975232) of the VDR gene was determined by the polymerase chain reaction (PCR) method, followed by analysis of the length of the restriction fragments. Statistical analysis was performed using the SPSS-17 program. The reliability of the differences was determined by the χ2-criterion. The values P < 0.05 were considered reliable.

Results. The analysis of frequency of genotypes by ApaI polymorphism showed that in the control group the ratio between the homozygotes for the main α-allele (α/α), heterozygotes (α/Α) and homozygotes for the minor Α-allele (Α/Α) was 37.3%, 40.3% and 22.4%, while in patients with chronic generalized periodontitis, the corresponding indices were 22.4%, 53.4% and 24.2%. Differences in the distribution of genotypes between the comparison groups were statistically insignificant (P = 0.084). However, using the method of logistic regression made it possible to find out that the heterozygote α/Α has a 2.21 times higher risk of chronic periodontitis than carriers of the α/α-genotype (P=0.029).
ApaI polymorphic variant of the VDR gene is associated with the development of chronic generalized periodontitis in the Ukrainian population. The risk of chronic generalized periodontitis is higher in heterozygote a/A than that of the homozygote in the major allele.

**References.**


Key words: periodontitis, genetic polymorphism, vitamin D receptor.

*Accepted for printing on 23 Oct 2017*