

ABSTRAK

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KARAKTERISTIK POLIMORFISME GEN VITAMIN D RECEPTOR (VDR) *TaqI* (rs731236) PENDERITA PERIODONTITIS KRONIS PADA POPULASI JAWA DI BANYUMAS

Periodontitis kronis merupakan peradangan kronis jaringan periodontal yang terjadi karena beberapa faktor. Faktor lokal berupa mikroorganisme dan faktor sistemik berupa faktor genetik. Faktor genetika penyebab periodontitis kronis berupa mutasi pada gen yang berfungsi dalam pengaturan homeostasis kalsium, yaitu gen *vitamin D receptor* (VDR). Mutasi pada gen VDR yang terjadi pada suatu daerah berbeda dengan daerah lain, karena efek genetika berbeda pada populasi, suku, atau etnis yang berbeda. Hal ini dapat terjadi pada semua populasi termasuk populasi Jawa di Banyumas. Tujuan dari penelitian ini mengetahui distribusi genotip dan frekuensi alotip gen VDR *TaqI* (rs731236) penderita periodontitis kronis pada populasi Jawa di Banyumas. Jenis penelitian ini berupa penelitian deskriptif dalam bentuk studi *cross sectional* terhadap 30 penderita periodontitis kronis pada populasi Jawa di Banyumas. Sampel yang didapat dilakukan proses isolasi DNA, *Polymerase Chain Reaction-Restriction Fragment Length Polymorphism* (PCR-RFLP) dan analisis data menggunakan *Court Lab Hardy-Weinberg Equilibrium* (HWE). Hasil penelitian ini didapatkan seluruh sampel hasil isolasi DNA teramplifikasi gen VDR dengan adanya satu pita berukuran 618 bp. Proses RFLP enzim restriksi *TaqI* juga menunjukkan pemotongan pada seluruh sampel. Hasil analisis data didapatkan X^2 sebesar 0,71 dengan nilai $p = 0,39$ ($p > 0,05$). Hal ini menunjukkan frekuensi alel mutan gen VDR pada populasi Jawa di Banyumas yang menderita periodontitis kronis dalam keadaan keseimbangan genetik. Simpulan dari penelitian ini distribusi genotip penderita periodontitis kronis pada populasi Jawa di Banyumas sebanyak 22 (73%) genotip TT, 8 (27%) genotip TC, dan 0 (0%) genotip CC dengan frekuensi alel T (*wild type*) sebesar 0,87 (87%) dan alel C (mutan) sebesar 0,13 (13%).

Kata kunci : *Periodontitis kronis, gen vitamin D receptor, TaqI, rs731236, polimorfisme*

Kepustakaan : 47 (1990-2015)

ABSTRACT

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**CHARACTERISTIC *TaqI* VITAMIN D RECEPTOR (VDR) GENE
POLYMORPHISMS (rs731236) PATIENTS WITH CHRONIC
PERIODONTITIS IN THE POPULATION OF JAVA IN BANYUMAS**

Chronic periodontitis is a chronic inflammation of periodontal tissue which occurs due to several factors. Local factors such as microorganisms and systemic factors such as genetic factor. Genetic factor is the form of mutations in genes function in the regulation of calcium homeostasis, such as genes vitamin D receptor (VDR). VDR gene mutation that occurs in a region different from other regions, because of different effects on population genetics, race, or ethnicity is different. It can occur in all populations including the population of Java in Banyumas. The purpose of this study are to know the distribution of genotypes and frequency alotypes *TaqI* VDR gene (rs731236) patients with chronic periodontitis in the population of Java in Banyumas. This type of research is descriptive cross sectional study to 30 patients chronic periodontitis in the population of Java in Banyumas. Samples obtained DNA isolation process, Polymerase Chain Reaction-Restriction Fragment Length Polymorphism (PCR-RFLP) and data analysis using the Court Lab Hardy-Weinberg Equilibrium (HWE). The results of this study are the entire sample of the isolated DNA VDR gene amplified in the presence of a 618 bp-sized band. The process of restriction enzyme *TaqI* RFLP also showed cuts in the whole sample. Results of data analysis obtained X^2 was 0.71 with $p = 0.39$. The p -value obtained is greater than 0.05 indicates the VDR gene mutant allele frequency in the population of Java in Banyumas who suffer from chronic periodontitis in a state of genetic equilibrium. The conclusions of this study are the distribution of genotypes of patients with chronic periodontitis in the population of Java in Banyumas as many as 22 (73%) genotype TT, 8 (27%) genotype TC, and 0 (0%) genotype CC with the frequency of the T allele (wild type) 0, 87 (87%) and the C allele (mutant) 0.13 (13%).

Keyword : *Chronic periodontitis, vitamin D receptor, rs731236, polymorphism*

Literature : 47 (1990-2015)