Association Between FCGR3A Polymorphisms and Periodontitis in Hong Kong Chinese

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Genetic polymorphisms are believed to be associated with periodontitis. Objective: To compare single nucleotide polymorphisms (SNPs) in coding and regulatory regions of the Fc gamma receptor IIIa (FCGR3A) gene of individuals with or without periodontitis in order to determine whether any genetic polymorphisms are associated with periodontitis in Hong Kong. Methods: 204 patients with periodontitis and 217 periodontitis-free subjects were recruited from the patient pool of the Faculty of Dentistry, The University of Hong Kong. DNA was extracted from whole blood taken from the subjects. The samples were genotyped by the Sequenom MassARRAY system using specific primers and directly sequenced. Chi-square test was used to analyze the association between genotype distribution and periodontitis. Results: Most of the SNPs studied did not show any significant associations with periodontitis. Genotype TT of the SNP rs2290834(C/T) was more frequently observed in the patient group than genotypes CC or CT (odds ratio, 4.94; 95% confidence interval, 2.86~8.54; $p<0.001$). Conclusion: SNP rs2290834 in the coding region of FCGR3A may be associated with periodontitis in the Hong Kong Chinese population. (Supported by URC grant 10206094.)

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