Abstract

Porphyromonas gingivalis is a microorganism strongly associated with the etiology of periodontitis. This periodontal bacterium possesses an array of virulence factors, among which gingipains have a key importance, being involved with extracellular matrix destruction of periodontal tissues, modulation of host immune response and stimulation in the production of pro-inflammatory cytokines by different types of cells. These proteinases have specific affinities, being Arg-gingipains (RgpA and RgpB, encoded by rgpA and rgpB genes, respectively) and Lys-gingipains (Kgp, encoded by the kgp gene). It has been described that there are polymorphisms in the genes encoding for gingipains. Therefore, the aim of the present study was to describe the frequency of rgpA and kgp genotypes in clinical isolates of P. gingivalis obtained from periodontitis patients. For determining the rgpA and kgp genotypes, we used PCR amplification and restriction analysis. From 47 isolates obtained from 4 individuals with chronic periodontitis and 2 subjects with aggressive periodontitis, 38 were typified for rgpA gene and all exhibited the electrophoretic pattern A (100%). For kgp gene, we characterized 43 isolates, 28 of them (65.2%) with the kgp-I electrophoretic profile and 15 isolates (34.8%) with the kgp-II profile. In the isolates belonging to one individual, we found both genotypes of kgp gene. The results indicate a clear predominance of the electrophoretic pattern A (for rgpA gene) and kgp-I genotype was the most frequently found of the kgp genotypes.

Keywords

Porphyromonas gingivalis, gingipains, genotypes, kgp, rgpA.