Distribution of *Actinobacillus actinomycetemcomitans* serotypes in gingival tissues of Japanese periodontitis patients

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**Introduction:** *Actinobacillus actinomycetemcomitans* has been considered as one of the periodontal pathogens. This bacterium produces some virulence factors and can invade in diseased gingival tissues. *A. actinomycetemcomitans* can be classified into six distinct serotypes (a-f) based on their serologic specificity of polysaccharide antigens. Serotype specific antigens of *A. actinomycetemcomitans* may have difference in virulence potential and their distribution might be related to periodontal status. The aim of this study was to determine the distribution of *A. actinomycetemcomitans* serotypes in diseased gingival tissues of Japanese periodontitis patients.

**Materials and Methods:** 56 periodontitis patients were recruited including 32 Generalized Chronic Periodontitis (CP), 16 Generalized Aggressive Periodontitis (GAgP) and 8 Localized Aggressive Periodontitis (LAgP). Gingival tissues were collected in flap surgery and extracted bacterial DNA was investigated by PCR assay for prevalence of *A. actinomycetemcomitans* and distribution of *A. actinomycetemcomitans* serotypes was observed using serotypes specific primers.

**Results:** The detection frequency rate of *A. actinomycetemcomitans* in LAgP (63%) was significantly higher than that of CP (16%) (P<0.05). *A. actinomycetemcomitans* serotypes c was frequently found in three periodontitis groups. Serotypes a, b and d were detected at low frequency while serotype e was not seen in any periodontitis groups. In a few cases, two or three serotypes were simultaneously detected in same isolates.

**Conclusion:** *A. actinomycetemcomitans* serotype c might be associated with occurrence of periodontal tissue destruction in Japanese subjects.