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Relationship of periodontopathic bacteria with early-onset periodontitis in Down's syndrome.

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Source

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Abstract

BACKGROUND: Down's syndrome (DS) patients often develop severe early-onset marginal periodontitis in early adulthood; however, there is little information available on the microbiology of DS periodontitis.

METHODS: Subgingival plaque specimens were taken from 67 DS young adults and 41 age-matched systemically healthy individuals with mental disabilities (MD). The prevalence of 10 possible periodontopathic bacterial species, Actinobacillus actinomycetemcomitans, Porphyromonas gingivalis, Bacteroides forsythus, Treponema denticola, Prevotella intermedia, Prevotella nigrescens, Capnocytophaga ochracea, Capnocytophaga sputigena, Campylobacter rectus, and Eikenella corrodens, were investigated in their subgingival plaque samples using a polymerase chain reaction method. The detection of P. gingivalis fimA genotypes was also performed in P. gingivalis-positive samples.

RESULTS:
Although DS subjects generally develop an earlier and more extensive periodontal breakdown than those with MD, no significant differences were observed in the bacterial profiles. The profiles of subjects with periodontitis were significant in DS, but not in MD. The prevalence of P. gingivalis, B. forsythus, and P. intermedia were significant in the DS periodontitis group, compared to DS gingivitis group. Moreover, the occurrence of P. gingivalis with the type II fimA gene was significantly related to periodontitis in both DS and MD, with odds ratios of 6.32 and 12.03, respectively.

CONCLUSIONS: These results suggest that early-onset periodontitis in DS is mainly due to the more susceptible host for the causative microbial agents including P. gingivalis with type II fimA.

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