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Clinical and microbiological evaluations of children with hypophosphatasia affected by periodontitis

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Abstract Four patients with hypophosphatasia, including twin brothers and younger and older sisters, were analyzed longitudinally. Ten periodontitis-related bacterial species in dental plaque were detected using a Polymerase chain reaction (PCR) method with species-specific sets of primers. Further, clinical parameters related to periodontal conditions were recorded at each visit. One of the twins, who had experienced early exfoliation of the primary teeth, had a greater number of bacterial species than his brother, who had no alveolar bone loss. Both of the sisters experienced early exfoliation of their primary teeth, and the average numbers of tested bacterial species were higher in other subjects of the same age. Our results indicate that impaired cementum tissue caused by hypophosphatasia may produce favorable sites for colonization of periodontitis-related bacteria.

Key words Children, Hypophosphatasia, Longitudinal monitoring, Periodontal bacteria, Periodontitis, Polymerase chain reaction (PCR)

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