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## Periodontal herpesviruses: prevalence, pathogenicity, systemic risk.

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### Abstract

**Periodontitis** is an infectious/inflammatory disease characterized by the loss of periodontal ligament and alveolar bone. Herpesviruses are frequent inhabitants of **periodontitis** lesions, and the periodontopathogenicity of these viruses is the topic of this review. In 26 recent studies from 15 countries, subgingival cytomegalovirus, Epstein-Barr **virus** and **herpes simplex virus** type 1, respectively, yielded median prevalences of 49%, 45% and 63% in aggressive **periodontitis**, 40%, 32% and 45% in chronic **periodontitis**, and 3%, 7% and 12% in healthy periodontium. An active herpesvirus infection of the periodontium exhibits site specificity, is a potent stimulant of cellular immunity, may cause upgrowth of periodontopathic bacteria and tends to be related to disease-active **periodontitis**. Pro-inflammatory cytokines induced by the herpesvirus infection may activate matrix metalloproteinases and osteoclasts, leading to breakdown of the tooth-supportive tissues. The notion that a co-infection of herpesviruses and specific bacteria causes **periodontitis** provides a plausible etiopathogenic explanation for the disease. Moreover, herpesvirus virions from periodontal sites may dislodge into saliva or enter the systemic circulation and cause diseases beyond the periodontium. Periodontal treatment can diminish significantly the periodontal load of herpesviruses, which may lower the incidence and magnitude of herpesvirus dissemination within and between individuals, and subsequently the risk of acquiring a variety of medical diseases. Novel and more effective approaches to the prevention and treatment of **periodontitis** and related diseases may depend on a better understanding of the herpesvirus-bacteria-immune response axis.

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