

Title: Mycobacterium tuberculosis : a new hitchhiker in the etiopathogenesis of periodontitis

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Abstract: Periodontitis, a chronic inflammatory disease of the gums affects both the ligament and alveolar bone. A severe form of periodontal disease affects a strikingly high number of one billion adults globally. The disease permutes both the soft and hard tissues of the oral cavity leading to localized and systemic diseases. Periodontitis has a deleterious impact on systemic health causing diabetes, cardiovascular diseases (CVD), and other disease. The cause of the enhanced inflammatory process is due to dysbiosis and an unregulated immune response. Innate immune response and T cells trigger uninhibited cytokine release causing an unwarranted inflammatory response. The RANK- RANKL interaction between osteoblasts, immune cells, and progenitor osteoclasts results in the maturation of osteoclasts, which promote bone resorption. It is well established that dysbiosis of the oral cavity has been implicated in periodontitis. But emerging reports suggest that the pulmonary pathogen, Mycobacterium tuberculosis (Mtb), causes extrapulmonary diseases such as periodontitis. Many clinical case reports advocate the involvement of Mtb in periodontitis, which poses a threat with the surge of tuberculosis in HIV and other immunocompromised individuals. Fostering a better understanding of the mechanism, causative agents and control on inflammatory response is imperative in the prevention and treatment of periodontitis.

Keywords: Periodontitis; Chronic inflammatory disease; Oral dysbiosis; Immune dysregulation; Cytokine release

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