

Oral Health Influencing Systemic Health: A Journey of Crossroads

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It is rightly said that the mouth is the mirror of the body and no organ is disconnected to one and another. The various organ systems are interconnected to each other through the system biology through the flow of matter via blood vessels and lymph. The oral disease is mainly caused by periodontal microbiome mainly periodontal bacteria and viruses. The past literature suggests the link of oral and systemic diseases through focal infection and transient bacteremia contributing towards the inflammatory state in a number of systemic diseases, especially cardiovascular diseases and diabetes, have been strongly linked to oral health. Two mechanisms have been proposed to account for the connections that have been found. First and foremost, persistent oral inflammation can raise blood levels of inflammatory markers, which might impair immune function or add to the body's overall illness load. Second, systemic endotoxemia or bacteremia, which can affect diseases at distant sites or the entire body, might enter the bloodstream via the mouth cavity and act as a reservoir for harmful bacteria.

Multimodal links between oral & systemic health are brought to bear by specific populations. Particularly, periodontal disease has been linked to cancer, poor pregnancy outcomes, diabetes, metabolic syndrome, obesity, liver disease, cardiovascular disease, Alzheimer's disease, and eating disorders. Although bidirectional relationships are acknowledged, there is also a chance for numerous comorbidities, connections, and relationships.

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The predisposing & precipitating factors, such as genetic factors (gene polymorphisms), environmental factors (stress, habits—such as smoking & high-fat diets/consumption of highly processed foods), medications, microbial dysbiosis & bacteremias/viremias/microbemias, & an altered host immune response are some of anticipated mechanisms that mediate this connection between oral & systemic health. Therefore, in susceptible host, these predisposing & precipitating factors cause development of systemic diseases and conditions as well as periodontal disease. Advanced diagnostic aids such as sequencing techniques, micro arrays, and DNA probes have been proved very beneficial in illuminating the oral microbiome's hidden components. As a result, oral microbial dysbiosis has been better characterized, including possible bacterial periodontopathogens and changes in the makeup of the oral virome during disease.

Off-late periodontal viruses have gained importance in the progression of periodontal disease in association with bacteria. Periodontal bacteriophage has shown to undergo destruction of the various periodontal structures thus further aggravating periodontitis. The effects of these eukaryotic and prokaryotic viruses on periodontal inflammation, putative periodontopathogens, & host immune response have been explored in the past. In order to completely understand the pathophysiology and systemic effects of periodontitis, it may be crucial to further investigate implications of viral pathogen participation in the disease. It's a time to embrace viral dark matter inside periodontal environment so as to know the etiopathogenesis in the causation of periodontal and systemic diseases and thereby obtain the preventive measures against these communities of microorganisms. Reduction in the load of the periodontal microbiome by non-surgical periodontal therapy would definitely reduce transient bacteremia and improve the periodontal and systemic health status. The medical and dental fraternity should join hands in eradicating both diseases and maintaining the overall health of the body.

Conclusion

In summary, the time has come to visualize and act on these factors and thus prevent the progression of periodontal and systemic diseases as it often happens synergistically. Thorough appraisal of systemic & oral diseases & conditions & other mechanistic, predisposing, & precipitating factors is paramount to enhanced addressing oral & systemic health and needs of our patients. Oral disease is no longer a separate entity. Measures are to be taken to their fullest to treat oral diseases thereby treating the systemic diseases as well. As it is rightly said that prevention is better than cure, scaling and root planing and other oral hygiene measures will prove to be beneficial in preventing these inflammatory diseases leading to good oral and systemic health.

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