



## Periodontal Medicine in Comprehensive Health Care

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In the last decades, the correlation between oral and systemic diseases has been studied exhaustively. Researchers have investigated the mechanisms by which bacteria present in the oral environment contribute to a systemic infection [1]. Periodontal diseases (DP) comprise many infections and inflammatory conditions originating from the interaction of supragingival and subgingival biofilms with the inflammatory response of the host [2]. The presence of the bacterial biofilm, microorganisms that make it up and its toxic products induce an inflammatory response [3]. In this sense, the hypothesis of the involvement of PD in systemic diseases is based on the entry of bacteria and their products into the circulatory chain, as well as the formation of mediators of inflammation, such as cytokines and acute phase proteins [4].

Currently, the term Periodontal Medicine has been diffused among health professionals, when it is proven that there is a correlation between oral health and the general health of the patient. A variety of systemic factors and conditions may interfere with and modulate the relationship between bacterial biofilm and host response, such as diabetes, smoking, atherosclerosis, pregnancy complications, leukemia, obesity, kidney disease, lymphoma, and hormonal changes. Among these, the most studied is diabetes [5].

Diabetes Mellitus (DM) is an endocrine disorder that causes numerous systemic disorders. It is characterized by a constant state of hyperglycemia with disturbance in the metabolism of carbohydrates, lipids and proteins due to a deficiency in the secretion or activation of insulin [6]. The characteristic clinical picture is represented by polydipsia, polyuria and polyphagia, resulting from hyperglycemia. PD is now considered the sixth most common complication of DM [7]. The association of PD to DM can be explained by some factors found in uncontrolled patients: 1 - altered immune response due to a deficiency in the macrophagic and chemotactic response of polymorphonuclear cells, 2 - there is an increase in the number of inflammatory mediators, 3 - fibroblast matrix synthesis, growth and proliferation, and 4-alteration of the function of extracellular matrix components [8].

Studies have shown that diabetic individuals have periodontal disease in higher prevalence, extent and severity when compared with non-diabetic subjects [9-11]. Periodontitis is linked to metabolic control in a bidirectional way, that is, influencing and under-going influence of metabolic control in diabetes. Diabetic subjects with inadequate glycemic control respond to the presence of exacerbated supra and subgingival biofilm, with hyperactivation of the specific inflammatory response in all their pathways [10,12]. Diabetic subjects with poor glycemic control have greater destruction of the periodontal tissues and greater occurrence of tooth loss than diabetic people with good metabolic control [8].

Therefore, Periodontal Medicine is a current approach that highlights the influence of periodontal and systemic diseases, which are extremely important in the prevention and treatment of diseases. Thus, the orientation of health professionals regarding the interactions between oral and systemic conditions becomes essential, since it extends the vision of their specialty to a holistic range of health care. The multidisciplinary action between doctors and dentists should not only occur in the early diagnosis and treatment of diseases. The team should promote patient awareness in the suitability of their lifestyle, including healthy habits and elimination of risk factors for various diseases. Prevention is the best form of health care.

### Bibliography

1. Kim J and Amar S. "Periodontal disease and systemic conditions: a bidirectional relationship. *Odontology* 94.1 (2006): 10-21.
2. Socransky SS and Haffajee AD. "The bacterial etiology of destructive periodontal disease: current concepts". *Journal of Periodontology* 63.4 (1992): 322-331.
3. Van Dyke TE and van Winkelhoff AJ. "Infection and inflammatory mechanisms". *Journal of Clinical Periodontology* 40 (2013): S1-S7.

4. Scannapieco FA. "Position paper of The American Academy of Periodontology: periodontal disease as a potential risk factor for systemic diseases". *Journal of Periodontology* 69.7 (1998): 841- 850.
5. Javed F, *et al.* "Periodontal inflammatory conditions among smokers and never-smokers with and without type 2 diabetes mellitus". *Journal of Periodontology* 86 (2015): 839-846.
6. Bastaki S. "Diabetes mellitus and its treatment". *International Journal of Diabetes and Metabolism* 13 (2005): 111-134.
7. Løe H. "Periodontal disease. The sixth complication of diabetes mellitus". *Diabetes Care* 16.1 (1993): 329-334.
8. Wehba C. "Interrelationship between diabetes mellitus and periodontal disease. In: DIB, L.L., SADDY, M. S. Clinical Update in Dentistry". Sao Paulo: Medical Arts (2006): 610-616.
9. Dion N., *et al.* "Correction of nutrition test errors for more accurate quantification of the link between dental health and malnutrition". *Nutrition* 23.4 (2007): 301-307.
10. De Marchi RJ, *et al.* "Association between oral health status and nutritional status in south Brazilian independent-living older people". *Nutrition* 24.6 (2008): 546-553.
11. Shay K and Ship JA. "The importance of oral health in the older patient". *Journal of the American Geriatrics Society* 43.12 (1995): 1414-1422.
12. Ritchie CS, *et al.* "Nutrition as a mediator in the relation between oral and systemic disease: associations between specific measures of adult oral health and nutrition outcomes". *Critical Reviews in Oral Biology & Medicine* 13.3 (2002): 291-300.

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