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Facing dysbiosis in periodontal diseases: An overview on probiotic therapy

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Gingivitis consists of a reversible inflammation of the soft tissues surrounding the tooth which may evolve towards periodontitis, a destructive and irreversible form. The most relevant etiological factor for gingivitis is represented by plaque accumulation.

The first periodontal treatment in case of gingival inflammation consists of the mechanical removal of accumulated plaque/calculus through scaling, root planning, and polishing, along with specific oral hygiene instructions for the domiciliary maintenance of the oral health. Additionally, chemical antimicrobial substances may also be used to decrease the bacterial load. Specifically, chlorhexidine is the substance most used for this purpose, despite side effects like tooth discoloration, oral mucosal erosion, and taste alteration can occur during its use.

Researchers are now focusing on new alternatives for the antimicrobial treatment of periodontitis and the latest innovation is represented by probiotics, defined as “live microorganisms which when administered in adequate amounts confer a health benefit on the host”, according to the Food and Agriculture Organization (FAO) and the World Health Organization (WHO).

Probiotics, especially *Lactobacillus* and *Bifidobacterium*, are generally used to promote gastrointestinal health, but, in recent years, it has also been suggested that they could positively influence the status of the oral health, contrasting bacteria responsible for caries, periodontal disease, and halitosis.

Several mechanisms have been discussed to explain their beneficial action, e.g., the exclusion and competition with pathogens for nutrients and epithelial cell adhesion, the production of antimicrobial substances against pathogenic bacteria, an immunomodulatory action, and an enhancement of the mucosal barrier function.

Several studies have been conducted to evaluate the effect of probiotics on oral health, anyway further research is expected to fully understand the potentiality of probiotics-based agents for the management of different forms of periodontal disease.

Biography

Maurizio Pascadopoli Doctor of Dental Surgery currently attending the post-graduate school of orthodontics of the University of Pavia, Italy. His research activities focus on orthodontics, professional and domiciliary management of periodontal disease, and ozone therapy for periodontal patients.

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