

Special Issue on

Local Drug Delivery and Adjunctive Agents for the Treatment of Periodontal and Peri-Implant Diseases

CALL FOR PAPERS

Periodontitis and peri-implant diseases are a plaque-induced inflammatory condition that affects the periodontium; it is caused by the adherence to tooth surfaces of pathogenic bacterial species organized in complex communities that form biofilms. Standard periodontal treatment consists of mechanical debridement to remove biofilm and calculus from the affected root surfaces. This approach has proven successful for most patients. However, although systematic reviews have shown an improvement in clinical periodontal parameters, scaling and root planing (SRP) does not entirely remove periodontal pathogens, particularly in deep periodontal pockets because it does not eradicate all periodontal pathogens involved in periodontitis and peri-implantitis. In fact, it was reported that the persistence of certain periodontal and peri-implant pathogens, such as the bacteria of the orange and red complex, can lead to residual periodontal pocketing and persistent or rebound inflammation after mechanical debridement.

Given the important role played by microorganisms in the development and progression of Periodontal and peri-implant diseases, there is an increasing interest in adjunctive therapies that could improve the outcomes of SRP by reducing the periodontal pathogens specifically. For many years, in addition to SRP, systemic and locally delivered antibiotics, chemical agents, and others antimicrobials have been used to suppress the biofilm. However, there was difficulty in maintaining a stable therapeutic concentration of the antimicrobial and chemical agents, together with a potential risk of producing resistant microorganisms or patient-related adverse effects. In light of these limitations, complementary protocols have been suggested for the treatment of periodontitis and peri-implantitis.

Over time, strategies such as local delivery controlled release systems were developed. Systemic delivery has the potential advantage of reaching pathogens widely distributed in the oral cavity, including those in nondental oral niches, such as the dorsum of the tongue and the crypts of the tonsils. However, it requires high patient compliance, can lead to unwanted systemic side effects affecting compliance, and may contribute to bacterial resistance. In contrast, local administration is independent of patient compliance and allows the application of drugs to the site of infection at a concentration that cannot be reached by the systemic route. However, their application is limited to isolated clinically detected lesions, and reinfection from nontreated sites or nondental oral niches may occur.

The aim of this special issue is to update the current knowledge of adjunctive agents in the therapy of periodontitis and peri-implantitis based on the most recent scientific evidence. Special emphasis is given to the implications for mild and moderate forms of the disease. Mild to moderately advanced periodontitis refers to findings from the clinical examination and is generally characterized by periodontal probing depths of up to 6 mm with clinical attachment loss of up to 4 mm.

We especially welcome clinical studies with impact on both local and systemic delivery agents, topical and systemic antimicrobials, and interventional studies aiming at improving the knowledge about the effectiveness of the adjunctive therapies on the nonsurgical treatment of periodontitis and peri-implantitis. Review studies including those that use conceptual frameworks for biofilm pathways on any of the aforementioned topics will also be welcomed.

Potential topics include but are not limited to the following:

- ▶ Local and systemic delivery agents used for the treatment of periodontitis and peri-implantitis
- ▶ New evidence on nonsurgical periodontal treatment of periodontitis and peri-implantitis
- ▶ New antimicrobial therapies for the nonsurgical treatment of periodontitis and peri-implantitis
- ▶ Posttreatment supportive care following nonsurgical and surgical treatment of periodontitis and peri-implantitis
- ▶ Lasers in minimally invasive periodontal and peri-implant therapy
 - ▶ Risk factors that may modify the innate and adaptive immune responses in periodontal diseases
 - ▶ Risk factors that may modify the innate and adaptive immune responses in peri-implant diseases
- ▶ Critical or systematic reviews on the nonsurgical treatment of periodontitis and peri-implantitis

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/ijd/ldd/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Guest Editor

Gaetano Isola, University of Messina,
Messina, Italy
gisola@unime.it

Guest Editors

Ray C. Williams, University of North Carolina at Chapel Hill, Chapel Hill, USA
raywill@email.unc.edu

Kristina Bertl, University of Malmö, Malmö, Sweden
kristina.bertl@mau.se

Giovanni Matarese, University of Messina, Messina, Italy
gmatarese@unime.it

Alberto Monje, University of Michigan, Ann Arbor, USA
amonjec@umich.edu

Submission Deadline

Friday, 15 February 2019

Publication Date

July 2019