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chronic periodontitis. And that they have the ability to repopulate commensal flora and reduce periodontal pathogens.

Conclusions: No one can deny that researchers around the world have conducted research at a frantic pace to understand the different probiotic treatment modalities, whether in terms of duration, the model used (human or animal), the population treated (chronic periodontitis, aggressive, gingivitis, healthy patients), the probiotic strain used, its method of administration and the dose of the probiotic. Despite this, further research needs to be conducted.

PR128 | Photodynamic Disruption of a Biofilm Composed of Two Species of Periodontal Pathogens Using Indocyanine Green-Loaded Nanospheres

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Background & Aim: Antimicrobial photodynamic therapy (aPDT) is a promising treatment for biofilm infections, which have become a health hazard due to the increasing prevalence of antimicrobial-resistant bacteria. However, few studies have examined the photodynamic disruption effect on complex biofilms. The aim of this study was to evaluate the bactericidal effect of aPDT using indocyanine green-loaded nanospheres with chitosan coating (ICG-Nano/c) against polymicrobial periodontal biofilms.

Methods: Composite biofilms of *Porphyromonas gingivalis* and *Streptococcus gordonii* were constructed in 96-well plates, and aPDT with ICG-Nano/c and an 810 nm diode laser was performed either by direct irradiation or transmitting irradiation through a 3-mm-thick gingival model. The efficacy of aPDT with ICG-Nano/c was compared with minocycline and amoxicillin. Additionally, attenuated aPDT under sublethal conditions was used to investigate gene expression related to the antioxidant response (oxyR and sod of *P. gingivalis*) and biofilm formation via quorum sensing (luxS of both species) with qPCR.

Results: aPDT with ICG-Nano/c significantly reduced the number of bacteria in the biofilm, with at least a 2 log₁₀ reduction in colony-forming units within 5 min for both irradiation methods. After 6 h of treatment, the bactericidal effects of aPDT and antibiotics were comparable, but after 32 h, antibiotics were more effective, particularly against *P. gingivalis*. Attenuated aPDT showed a slight increase in sod expression in *P. gingivalis*, while luxS expression decreased in both bacteria.

Conclusions: The ICG-Nano/c-based aPDT system showed a certain bactericidal activity against a composite biofilm of periodontal bacteria. These results suggest that the ICG-Nano/c-based aPDT system has potential as an alternative or adjunctive therapy to conventional antibiotics in the treatment of periodontal disease.

PR129 | Role of Doxycycline on the Finding of *Fusobacterium Nucleatum* in Periodontitis

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Background & Aim: To evaluate the efficiency of systemically applied Doxycycline in a daily dose of 1 × 100 mg. and 2 × 20 mg. on *Fusobacterium nucleatum* (Fn) in patients with periodontitis.

Methods: The examined group consisted of 60 patients with a moderate form of chronic periodontitis where the periodontal depth was 3–5 mm, aged 30–70 years old. The first group consisted of 30 patients who were treated with Doxycycline 2 × 20 mg. daily (morning and evening) for 75 days and a second group with the same number of subjects who received 1 × 100 mg. daily (morning), 30 days. The total dose received by each subject during the research was 3 g.

Gingival fluid samples from which Fn was determined were collected using 2 × 5 mm. methylcellulose strips (Whatmann 3MM Chromatography paper). Paper absorbents with the sample are treated on nutrient media by rolling on the media (Maki's method). The material is incubated at 36°C ± 1°C in anaerobic conditions (Anaerocult A mini—MERCK). The final identification of the bacteria was done with an automatic system for the identification of bacterial species—VITEK 2 COMPAQ.

Results: In the first group of patients who received doxycycline 2 × 20 mg. daily for 2.5 months, after 2.5 months 13 (21.67%) positive and 17 (28.33%) negative findings of Fn were registered. In the second group of patients who received doxycycline 100 mg. daily for 30 days, 21 (35.00%) positive and 9 (15.00%) negative findings of Fn were registered. In the distribution shown for Pearson chi-square = 4.34 and *p* < 0.05 (*p* = 0.04) there is a significant difference in the findings of *Fusobacterium nucleatum* (Fn) between the two groups of patients.

Conclusions: The daily dose of 2 × 20 mg. doxycycline in patients with periodontitis more effectively reduces the anaerobe *Fusobacterium nucleatum* (Fn).

PR130 | Effect of *Salvadora persica* Gel on Clinical and Microbiological Parameters of Chronic Periodontitis: A Triple-Blind Randomized Controlled Clinical Trial

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Background & Aim: *Salvadora persica* (SP) is known to have anti-inflammatory, antioxidant, anti-coagulant and