**Efficacy of photodynamic therapy for pericoronitis treatment: a controlled, randomized, double-blind clinical trial**

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**Abstract:**

Pericoronitis is a prevalent condition during eruption of third molars, many times debilitating. The most indicated treatment (initial phase) is the irrigation. There is no adequate treatment at this phase, and evolution of disease may require antibiotic therapy. To reduce systemic dissemination of infection and antibiotics use, it is important to test the efficiency of treatments in the initial phase of pericoronitis. Antimicrobial photodynamic therapy (aPDT) is an interesting alternative because is easy to perform and does not cause bacterial resistance. The aim of this study is to evaluate the effectiveness of aPDT in pericoronitis in its initial phase. In this controlled clinical trial, 34 healthy young individuals with pericoronitis will be randomized into the positive control group (n = 17): irrigation with sterile saline and aPDT (methylene blue -MB, 0.005%, λ = 660 nm , 9J per point, 318 J/cm2) and experimental group (n = 17): treatment identical to G1, however MB will be delivered in a new formulation for oral use. Microbiological quantification will be performed for T*annarella forsythia by PCRq.* Saliva and gingival crevicular fluid will be collected to evaluate cytokines. Also, will be analyzed the pain, edema and buccal opening and the impact of oral health in quality of life. The variables will be evaluated in baseline and 4th day after aPDT. For statistical analysis: ANOVA two-way, complemented by the Bonferroni test. We expect that aPDT will improve clinical parameters and reduce the amount of *T.forsythia.*

Biography: Tânia Oppido Schalch is a dentist, specialist in periodontology and joined, in 2019, the Nove de Julho University as a Master´s student in Biophotonics applied to health sciences program, collaborating in the development of many projects. Attended college at São Paulo University (USP), where she conducted, for 5 years, researchs in the area of oral microbiology. Tânia has knowledge about lasertherapy, microbiology, periodontology and has experience with clinical and laboratorial research.