

Evaluation of the photodynamic effect mediated by methylene blue in surfactant vehicle for the adjuvant treatment of periodontal disease: randomized, controlled, and double-blind clinical trial

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Abstract:

Periodontitis is an inflammatory disease that affects the supportive tissues of the teeth in response to the presence of microorganisms. The gold standard treatment is scaling and root planing. To reduce the use of antibiotics, antimicrobial photodynamic therapy has been studied as an adjunct in periodontal treatment. The main limitation of the technique is the formation of dimers that decrease the effectiveness of the photosensitizer, and sodium dodecyl sulfate has been shown to decrease dimerization. The aim of this study is to evaluate the photodynamic effect mediated by methylene blue in sodium dodecyl sulfate for the adjuvant treatment of periodontitis. This clinical trial will be performed with 40 participants and all of them will receive scaling and root planing. After 40 days, photodynamic therapy with real irradiation or placebo irradiation will be applied. The random allocation will be in the following groups: 1) group treated with scaling and root planing and photodynamic therapy with methylene blue in sodium dodecyl sulfate; or 2) with photodynamic therapy with methylene blue; 3) and group treated with root scraping and straightening associated with photosensitizer without light irradiation and 4) treated with photosensitizer in sodium dodecyl sulfate without light irradiation. The photosensitizer will be in contact for 1 min and the irradiation time or not 2 min. The laser's wavelength will be 660 nm and 100 mW of power. Primary outcome will be microbial count and secondary outcomes will be clinical probing depth, clinical attachment level and bleeding on probing.

Biography:

Graduated in Dentistry from the State University of Londrina - UEL in 1992. Specialist in Periodontics and Orofacial Harmonization; qualified in Ozone Therapy, Laser Therapy and Floral Therapy. Currently attending Post Graduation Program in Biophotonics applied to Health Sciences University Nove de Julho - UNINOVE.