**Title: Evaluation of the influence of the culture medium in the effect antimicrobial blue light therapy on periodontopathogens**

**Authors: Luciana T. C. Salviatto, Renato Araujo Prates, Bianca Godoy-Miranda, Sara Raquel S. Silva, Jean Abdias L. dos Santos, Alessandro Melo Deana**

**Nove de Julho University**

Periodontal disease (PD) is a chronic inflammatory disease caused by bacterial biofilm which is highly prevalent worldwide. Antimicrobial photodynamic therapy (aPDT) has been used as a complement to the conventional treatment and aims at the production of reactive oxygen species (ROS) using light and an exogenous photosensitizer to eliminate microorganisms. On the other hand, antimicrobial blue light therapy (aBLT) takes advantage of endogenous photosensitizers (such as protoporphyrin and flavin). The objective of the present study is to evaluate the potential for the bacterial kill by aBLT and the influence of the culture medium in the death rate of Aggregatibacter actninomycetencomitans and Porphyromonas gingivalis. The protocol used will be the use of a 403nm ± 15 LED (blue / violet) with a power of 1W, the irradiance of 588,2 mW / cm2, for 0, 1, 5 and 10 min of irradiation exposure. Four groups are being studied: A. actinomycetencomitans cultivated in BHI; P.gingivalis grown in BHI; A. actinomycetencomitans grown in blood agar; and P. gingivalis grown in blood agar. The plates will be incubated in microaerophy and anaerobiosis, in a bacteriological greenhouse, with a temperature regulated at 37o C during a period of 48h to count the colony-forming units (CFU / mL) and performed in triplicate. The comet test will be carried out on the culture of microorganisms after irradiation to assess the possible DNA damage generated by antimicrobial therapy with the blue light. In the conference, we will present the first results from this work.

Keywords: blue light antimicrobial therapy, *Porphyromonas gingivalis,* *Aggregatibacter actinomycetencomitans*, endogenous photosensitizer, periodontitis.

**Biography:**

Luciana graduated in Dentistry in the University of Santo Amaro (1999), specialization in Periodontics from Paulista University (2004) and in Implantology in the Paulista Association of Dental Surgeons (2008). In 2019 she specialized in Training Teachers for Higher Education in the Nove de Julho University and joined the master's degree in Biphotonic Applied to Health Sciences at the same institution, where she has a research project in the field of antimicrobial phototherapy in periodontics. She currently works as a specialist in periodontics and implantology in her private clinic and in the future intends to teach and continue researching in her area of expertise. Her free time is spent with her family and practicing sports like swimming, dancing and pilates.