**Antimicrobial Photodynamic Therapy in Candida albicans using methylene blue in water and associated with sodium dodecyl sulfate: a dosimetry study.**

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**Abstract:**

Methylene Blue (MB) is a compound that has been widely investigated as an antimicrobial agent for Photodynamic Therapy (PDT). Recently, our research group showed that the control of aggregation, through the association of MB with sodium dodecyl sulfate (SDS) potentiates the PDT action. However, in addition to optimizing the vehicle used, dosimetry also plays an important role in the outcome of therapy. The objective of this study is to compare the dosimetry of MB mediated PDT both in water and associated with SDS in *Candida albicans*. The fungi will be placed in two 48-well plates with their treatment (control; MB aqueous solution; SDS 0.25%; MB + SDS 0.25%). Then, the samples will be homogenized and incubated in the dark for 5 minutes. After incubation, one plate will be the plate that has been exposed to light (659 ± 9nm, in different dosimetry, i.e., keeping the irradiance constant and varying radiant exposure; later, doing the opposite). At the end of the irradiation, the samples will be diluted in ultra-pure water (10 to 100000 times). The dilutions will be spread on sabouraud dextrose agar and placed in an incubator at 37°C for 24 hours. After this period, colonies will be counted. This work will show the most important dosimetric parameter (irradiance or radiant exposure) for antimicrobial PDT.

**Biography:**

José Marcelo is currently a PhD student in Biophotonics Applied to Health Sciences, UNINOVE. He graduated in Nursing at UNINOVE, where he initiated his studies (scientific initiation) and got the master degree. His main objectives in research are related photodynamic therapy applied in cell culture and/or microorganisms. In free time, he dedicates himself to the family, aiming at the education and well-being of his daughters.