14:20 – 14:40

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**STRATEGIES TO OPTIMIZE PHOTODYNAMIC ANTIMICROBIAL THERAPY**

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Photodynamic antimicrobial therapy is a new approach to destroy microorganisms. A number of photosensitizer and light sources are detailed in literature using different protocols to inactivate microbial cells. However, much more knowledge concerning the importance of light parameters and dye concentration are required for a better understanding of the photodynamic efficiency. In this talk we will report our studies about some factors that may influence photodynamic antimicrobial therapy (PAT) success. For this purpose, suspensions of *Candida albicans* were used, and crescent methylene blue (MB) concentrations were examined. Regarding light parameters, two fluence rates, 100 and 300mW/cm² were compared at 3, 6 and 9 min. of irradiation, resulting fluences from 0 to 162J/cm². Our results show that concentrations above 250mM MB present a poor photodynamic cell inactivation. In addition, monomer/dimer ratio equal to 1 seems to produce the best antimicrobial effect. The same fluence in different fluence rates showed dissimilar levels of inactivation on microbial cells. In fact, the increase of the fluence rate showed an improvement on cell photoinactivation and a higher velocity to generate reactive oxygen species.