

ePoster - PDT**E56****INCORPORATION OF THE METHYLENE BLUE PHOTSENSITIZER IN THE PRESENCE OF GLUCOSE IN STRAINS OF CANDIDA ALBICANS WITH MULTIDRUG EFFLUX SYSTEMS**

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Background: Infectious diseases are responsible for 60% of deaths in developing countries. *Candida albicans* cause severe infection in immunocompromised patients and the commonly used treatments have not been effective against microbial resistance. Photodynamic therapy (PDT) is a new promising strategy to microbial inactivation based on the use of photosensitizer (PS) in the presence of oxygen and activation by light to form reactive oxygen species. *C. albicans* has glucose sensors which could facilitate the entrance of the PS. The objective of this study was to evaluate the role of glucose in the photodynamic inactivation of *C. albicans*.

Study: *C. albicans* ATCC 10231, YEM 12, YEM 13, YEM 14, and YEM 15 were aerobically grown on Sabouraud agar and incubated at 30°C for 24 hours. Microbial inoculants were divided into 4 groups with and without glucose: Control; Only irradiation; PS toxicity and PDT groups with three irradiation times. After going through the treatments, the colony-forming units were counted and the data were subjected to statistical analysis (ANOVA) and Tukey test. To measure the concentration of MB, fluorescence spectroscopy and flow cytometry were used.

Results: We observed that yeast with overexpression of Major Facilitator Superfamily membrane pore tend to accumulate more MB in its cytoplasm, whereas strains that overexpress ABC pumps demonstrated the greater survival against the photodynamic challenge.

Conclusion: PDT is an efficient strategy against *C. albicans* and the presence of glucose can intervene in the photodynamic effect. The presence of MB in the intracellular region of the yeast predisposes to greater photodynamic inactivation, however, its germicidal capacity is related to the type and characteristics of the microbial.

ePoster - Photobiomodulation**E3****PHOTOBIMODULATION IMPROVES CHRONIC PAIN: CASE REPORT ABOUT FRACTURE OF THE HUMERUS IN AN ELDERLY MAN**

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Background: The occurrence of trauma in the elderly increases significantly upon the growth of this population. Every year approximately 650 thousand new elderlies are

incorporated into the Brazilian population. Falls, common in the elderly, has been a factor of high mortality, in which fractures are the main consequence of functional impairment. The trauma in the elderly is considered a public health problem and presents relevant significance, since disabling outcomes may occur, injuries and chronic pain. It is estimated that proximal humeral injuries are common, accounting for 10% of fractures of the entire body and 70% of fractures in the humerus. This report aims to describe the evolution of Photobiomodulation performed in an elderly man patient with fracture of the humerus.

Study: The 85-year-old patient diagnosed with a consolidated humerus fracture sequel, presence of arthrosis, reporting very high pain, Visual Analogue Scale (VAS) = 9 for 3 years. The patient performed conventional physiotherapy from the date of the injury, but without significant pain improvement. Therefore, he went through a Photobiomodulation protocol and physiotherapeutic exercises. Light Emitting Diode (Bright Photomedicine, Brazil) of wavelength 850 nm, power 400 mw, time 300 s, Energy 120 J and LED Cluster size 10 cm² with continuous mode was used. The total treatment was 16 sessions, four times a week.

Results: Patient progressed with pain reduction (VAS = 2) since first Photobiomodulation application. Besides, the patient returned to his daily life activities.

Conclusion: Photobiomodulation showed to be a safe treatment, with no side effects in elderly patient with consolidated humerus fracture sequel.

ePoster - Photobiomodulation**E57****EFFECTS OF LOW-LEVEL LASER THERAPY ON GAIT ANALYSIS OF WISTAR RATS POST PERIPHERAL NERVE INJURY**

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Background: Clinically, a peripheral nerve injury (PNI) is not life-threatening to the individual, however it may generate a negative impact on life due to the possibility of motor or sensitive disorders by incomplete regeneration. Low-level laser therapy (LLLT) has demonstrated positive effects on treatment of PNI, especially on time and quality of neuromuscular repair. To analyze the effects of LLLT on the functionality of Wistar rats post crush injury of sciatic nerve (SN). The objective of this study is to analyze the effects of LLLT irradiation on nervous and muscle repair after crush injury of the sciatic nerve.

Study: A total of 85 Wistar rats were used, randomly divided into five groups: Control, Injury (crush of SN), Injury + LLLTn (LLLT on PNI area), Injury + LLLTm (LLLT on muscle area), and Injury + LLLTnm (LLLT both in PNI area and muscle area). The laser treatment