Photobiomodulation treatment modulates inflammatory mediators in DSS- induced colitis in mice

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# Abstract:

Colitis is debilitating illnesses characterized by severe inflammation of the gastrointestinal tract. Treatments currently available are expensive and palliative. We here investigated the role of Photobiomodulation (PBM) on dextran sodium sulfate (DSS)-induced colitis. Male C57BL6 wild-type (WT) mice were divided into four groups: Control, PBM, DSS and DSS+PBM. DSS was added to the drinking water of mice at days 0, 2, 4 and withdrawn at day 6. PBM treatment was performed daily for 90s from day 6 to 9 on the right and left sides of the ventral surface and beside the external anal region (Wavelength 660 nm, Potency 100 mW, Total Energy 15 J). Our studies evaluated the production of IL-1beta, TNF-alfa, IL-6, IL-10, IFN-gamma and TGF-beta in the bowel tissue. PBM treatment reduced IL-1 beta and IL-6 while increased INF-gamma and TGF-beta in the bowel tissue. Thus, PBM treatment modulates the bowel inflammatory response, constituting a potential tool for treat colitis.

# Biography:

# Master's student of the postgraduate program in Biophotonics applied to Health Sciences at Universidade Nove de Julho. Dentist surgeon and Nurse, graduated from Universidade Nove de Julho, specialization in digital dentistry and qualification in laser therapy, specialization in periodontics, implantology, pediatric dentistry, public health, intensive care. Experience in the hospital and outpatient area, and in public health, with activities developed in the intensive care unit, surgical center, ostomy units, cancer center, in hospital infection control and hospital quality monitoring programs. Wide use of photodynamic therapy and photobiomodulation in dental treatments, such as endodontics, periodontics, peri-implantitis, lesions of the oral cavity.