

Effects of photobiomodulation on xerostomia in cancer patients undergoing oncological treatment. A randomized controlled clinical trial.

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ABSTRACT

Xerostomia is defined as a subjective sensation of dry mouth described by patients, which is commonly related to hyposalivation (decreased salivary flow rate). Its etiology is multifactorial and can be associated with secondary salivary gland disease, systemic diseases, drugs as well as head and neck radiotherapy, which is related to radiation dose, fraction size and duration of treatment. Xerostomia impairs speech, chewing and swallowing with a consequent worsening of the nutritional status and functional decline. Therapeutic management of xerostomia includes oral hygiene with fluoride and antimicrobial agents, saliva substitutes and sialogenic agents. In this context, Photobiomodulation (PBM) is an effective therapy for the supportive care of cancer patients undergoing radiotherapy, mainly in preventing high grade mucositis. However, its effects in the treatment of xerostomia in cancer patients are not yet established. **Objective:** Thus, the aim of this study is to evaluate the effects of PBM on xerostomia after radiotherapy in cancer patients receiving oncological treatment. **Materials and methods:** This study will be a randomized, blind-controlled clinical trial in which cancer patients (female or male) submitted previously to radiotherapy will be divided into 2 groups: G1 (experimental group), in which patients will receive the standard treatment for xerostomia and PBM and G2- (control group), in which patients will receive the standard treatment for xerostomia + PBM placebo. The parameter of PBM will be as follow: diode laser with emission at 808nm, 100mW, 4J per point and 40 sec. The irradiation will be applied in parotid (3 points), submandibular (2 points) and sublingual glands (2 points) as well as in the oral mucosa, totaling 20 points. Patients will be treated 3x/week for 8 weeks. The primary outcome measure will be the Xerostomia Inventory and the secondaries will be the evaluation of speech, articulatory and nutritional assessment and sialometry.

Keywords: Xerostomia. Hyposalivation. Low level laser therapy. Radiotherapy



Biography

Doctorate started 2021 in Biophotonics Applied to Health Sciences (UNINOVE).

Graduated in Medicine from the University of the State of Pará (1994). She is currently a Nutrologist at the Children's Outpatient Clinic of Guarulhos and Guarulhos General Hospital. She has experience in Medicine, working in the following specialties: Pediatrics, Pediatric Gastroenterology, Pediatric Intensive Care and Nutrology. Working with ketogenic diet since 2015, UNINOVE Professor since 2020.

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