Wound healing of oralmucositis by the use of preventive laser photobiomodulation in patients with head and neck cancer undergoing radiochemotherapy

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Objective: To evaluate the preventive effect of laser photobiomodulation in the development of radio/chemotherapy treatment in patients with head and neck cancer.

Methods: This randomized clinical study included patients undergoing radiotherapy with or without associated chemotherapy. The patients were allocated randomly to the laser (LG, n = 30) and control (CG, n = 26) groups. The LG (AsGaAl, 660 nm laser, 86.7 mW, 2 J/cm^2) participated in the preventive protocol, while the CG underwent a simulated procedure without light emission (sham). The degree of oral mucositis (OM), salivary flow and referred pain were evaluated at the beginning of radiation therapy and during the 6th, 12th, 18th and 24th sessions.

Results: Patients of both groups showed a significant increase in the degree of OM, according to the progression of the radiotherapy sessions ($p < 0.01$). Regarding OM, salivary flow, and pain related to the oral cavity, there was no significant difference between the groups in all periods assessed ($p > 0.05$). There was a significant reduction of salivary flow from the 6th session when compared to the values from the start of radiotherapy. The photobiomodulation laser did not affect the experience of pain in patients during treatment ($p < 0.001$) when compared to that during the start of treatment.

Conclusions: The photobiomodulation laser protocol used in this study was not effective in preventing OM radiation-chemotherapy-induced OM in patients with head and neck cancer.

Speaker Biography

Alena Ribeiro Alves Peixoto Medrado has completed her PhD at the age of 25 years from Federal University of Bahia, BR. She is professor of Federal University of Bahia, BR. Currently, working as assistant professor at Bahiana – School of Medicine and Public Health, BR. She has over 200 publications that have been cited over 200 times and her publication h-index is 20 and has been serving as an editorial board member of reputed Journals.

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