

Red, infrared, and simultaneous laser-wavelength irradiation effects on 5-Fluorouracil-induced oral mucositis in hamsters

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Abstract

The association of more than one wavelength for photobiomodulation therapy (PBMT) to treat oral mucositis (OM) is unusual in the literature. Thus, this study aims to compare the simultaneous irradiation effects with their isolated application to treat OM. In order of that, 48 male Syrian hamsters were divided into 4 groups: Chemotherapy (Ch), which received only a OM induction protocol (5-fluorouracil chemotherapy and superficial oral mucosa scratches); Red laser (RL), which received the OM induction and a PBMT protocol at 660 nm; Infrared laser (IRL), which received the OM induction, and a PBMT protocol at 808 nm; and the RL+IRL group, which received the simultaneous application, of 660 nm and 808 nm wavelengths. Clinical, histological, immunohistochemical and biochemical analyses were performed. The RL and IRL showed the best results overall. In conclusion, in this study, the simultaneous protocol did not present superior results than the isolated irradiations.

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