

Study of photobiomodulation in the skin collagen production after fractional CO₂ laser in rats

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Skin aging is characterized by a progressive loss of functionality and regenerative potential. With increasing life expectancy, people are becoming more concerned about their appearance, increasing the demand for facial treatments. For nearly 15 years the fractional CO₂ laser was considered the gold standard for facial treatment, however it is no longer being widely used due to the long skin recovery period and the risk of serious side effects. Aesthetics professionals have used photobiomodulation (PBM) to increase circulation and lymphatic drainage and mainly because of its anti-inflammatory effects after procedures with the potential to generate inflammation. However, most procedures that generate inflammation are also collagen inducers. Thus, it is plausible to admit that if the inflammatory process is reduced with the use of PBM, collagen production may be reduced and thus the result may be impaired. Thus, therapeutic resources that minimize the side effects of fractional CO₂ laser are relevant. Therefore, the objective of this study will be to evaluate the role of PBM in the collagen production after the fractional CO₂ in the skin. For this purpose, male Wistar rats will be submitted to CO₂ laser injury on the skin and treated or not with PBM. After 21 days, the collagen production as well as mechanical properties of skin will be evaluated. This study will bring scientific evidence on the association of PBM with the CO₂ laser.

Mini resume:

Roberta Cruz Bueno, CRBM 34104 - Esthete Biomedical

Graduated in Science

Biomedical and qualified in aesthetics and clinical analysis.

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Technical consultant in ablative and non-ablative fractional high-power lasers IPL, Cryolipolysis, Plasma Jet and Microfocused Ultrasound.

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