The Therapeutic Effects of Laser Therapy on Tissue Healing

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Author and Purpose

Kajagar BM et al., 2010

Purpose

To analyze the effects of LLLT on wound healing through analysis of the treated and untreated groups.

Methods

A 1.27 cm² circular wound template was fabricated with an inner diameter of 10 mm, and the center of the laser was placed at the center of the template.

Results

Both wounds healed by day 20 in the control and sham group.

Conclusion

LLLT is an effective treatment option for enhancing wound contraction in partial thickness abrasions.

Scar thickness decreased by a mean of 0.26 mm.

No significant difference in healing rate between the control and experimental group.

No treatment-related benefits or adverse effects were observed during the study.

Baretto Jr, Salgado CG, 2010

Purpose

To determine the efficacy of LLLT on the healing of diabetic foot ulcers.

Methods

Diabetes mellitus (DM) was induced in 22 mice by s.c. injection of 80 mg/kg streptozotocin. LLLT was performed with a wavelength of 808 nm with an energy density of 4 J/cm² for at least 3 weeks.

Results

No differences between treatment and control group.

Conclusion

LLLT provides no additional healing benefits as there were no differences in healing rate between the control and experimental group.

No significant differences in healing rates between the two groups.

No treatment-related benefits or adverse effects were observed during the study.

Kajagar BM et al., 2012

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Future Research

Based on the conclusion, future research should focus on determining which LLLT parameters are optimal for different tissue conditions. The studies evaluated demonstrated appropriate parameters for partial thickness abrasions and diabetic foot ulcers. However, proper LLLT parameters for scar tissue and leprosy-related ulcers were not reported. Future researchers should continue to study the effects of LLLT on these two conditions as well as others, taking into consideration the effect of time on wound healing, as most tissues have self-healing properties.

Bibliography