

عنوان مقاله:

The Effect of Polarized Laser Radiation on Viscoelastic Properties of Soft Tissue

محل انتشار:

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خلاصه مقاله:

Background: Laser-tissue interaction on low-level laser therapy (LLLT) has widespread medical applications (e.g., improved wound healing). The tensile strength of radiated tissue by LLLT is known to be increased mainly because of cross collagen bands developed after radiation. Objective: In this work, we studied the instantaneous effect of radiation of polarized laser beam on the viscoelastic tissue properties. Methods: The viscoelastic behavior of tissue was investigated by experimental measurement and analyses of stress-strain plots. Result: LLLT increased the viscoelastic properties of the irradiated soft tissue. The maximum variation in viscoelasticity was attained when the direction of laser polarization is parallel to the tissue stretch vector. The variation also depended on duration of laser irradiation. Conclusion: Viscoelastic properties of soft tissue can be changed by polarized laser radiation

کلمات کلیدی:

Viscoelastic behavior, He-Ne laser, Polarization, Exposure time, Collagen fiber, Soft tissue, Tensile strength

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