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Ultrasonographic evaluation of plantar fasciitis after low-level laser therapy: results of a double-blind, randomized, placebo-controlled trial.

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The aim of this study was to investigate the effect of low-level laser therapy (LLLT) on plantar fasciitis documented by the ultrasonographic appearance of the aponeurosis and by patients' pain scores. Thirty individuals with diagnosis of unilateral plantar fasciitis were enrolled in a randomized, double-blind, placebo-controlled trial, but 25 participants completed the therapeutic protocol. The contralateral asymptomatic fascia was used as control. After enrolment, symptomatic individuals were randomly assigned to receive LLLT, or identical placebo, for 6 weeks. Ultrasonography was performed at baseline and after completion of therapy. The subjective subcalcaneal pain was recorded at baseline and after treatment on a visual analogue scale (VAS). After LLLT, plantar fascia thickness in both groups showed significant change over the experimental period and there was a difference (before treatment and after treatment) in plantar fascia thickness between the two groups. However, plantar fascia thickness was insignificant (mean 3.627 +/- 0.977 mm) when compared with that in the placebo group (mean 4.380 +/- 1.0042 mm). Pain estimation on the visual analogue scale had improved significantly in all test situations (after night rest, daily activities) after LLLT when compared with that of the placebo group. (P = 0.006 and P = 0.01, respectively). Additionally, when the difference in pain scores was compared between the two groups, the change was statistically significant (after night rest P = 0.000; daily activities P = 0.001). In summary, while ultrasound imaging is able to depict the morphologic changes related to plantar fasciitis, 904 nm gallium-arsenide (GaAs) infrared laser may contribute to healing and pain reduction in plantar fasciitis.

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