

Effects of low-level laser therapy in combination with physiotherapy in the management of rotator cuff tendinitis.

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Rotator cuff tendinitis is one of the main causes of shoulder pain. The objective of this study was to evaluate the possible additive effects of low-power laser treatment in combination with conventional physiotherapy endeavors in these patients. A total of 50 patients who were referred to the Physical Medicine and Rehabilitation Clinic with shoulder pain and rotator cuff disorders were selected. Pain severity measured with visual analogue scale (VAS), abduction, and external rotation range of motion in shoulder joint was measured by goniometry, and evaluation of daily functional abilities of patients was measured by shoulder disability questionnaire. Twenty-five of the above patients were randomly assigned into the control group and received only routine physiotherapy. The other 25 patients were assigned into the experimental group and received conventional therapy plus low-level laser therapy (4 J/cm²) at each point over a maximum of ten painful points of shoulder region for total 5 min duration). The above measurements were assessed at the end of the third week of therapy in each group and the results were analyzed statistically. In both groups, statistically significant improvement was detected in all outcome measures compared to baseline ($p < 0.05$). Comparison between two different groups revealed better results for control of pain (reduction in VAS average) and shoulder disability problems in the experimental group versus the control (3.1 +/- 2.2 vs. 5 +/- 2.6, $p = 0.029$ and 4.4 +/- 3.1 vs. 8.5 +/- 5.1, $p = 0.031$, respectively) after intervention. Positive objective signs also had better results in the experimental group, but the mean range of active abduction (144.92 +/- 31.6 vs. 132.80 +/- 31.3) and external rotation

(78.0 +/- 19.5 vs. 76.3 +/- 19.1) had no significant difference between the two groups ($p= 0.20$ and 0.77 , respectively). As one of physical modalities, gallium-arsenide low-power laser combined with conventional physiotherapy has superiority over routine physiotherapy from the view of decreasing pain and improving the patient's function, but no additional advantages were detected in increasing shoulder joint range of motion in comparison to other physical agents.

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