

Efficacy of class IV diode laser on pain and dysfunction in patients with knee osteoarthritis: a randomized placebo-control trial

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Objectives

The aim of this study was to investigate the effect of class IV diode laser on knee pain and functions in patients with knee osteoarthritis.

Patients and methods

Fifty patients with a mean±SD) age of 55.68±8.88 years, height of 173.84±4.946 cm, weight of 83.86±5.28 kg, and BMI of 27.78±1.89 kg/cm² were randomly assigned equally into two groups (25 patients in each group). Group I received a multiwave locked system laser plus exercises and group II received placebo laser plus exercises three times weekly for 4 weeks. Exercise program was applied for both groups three times weekly for 4 weeks. The exercises included range of motion, stretching, isometric, and isotonic resisted exercises to the quadriceps and hamstring muscles. Pain was evaluated using a visual analog scale and knee function by using the Western Ontario and McMaster Universities Index of Osteoarthritis (WOMAC). Statistical analyses were performed to compare differences between baseline and post-treatment results for both groups.

Results

Visual analog scale and WOMAC were significantly decreased in both groups after 4 weeks of treatment, with a more significant decrease gained in group I ($P > 0.0001$).

Conclusion

Class IV diode laser combined with exercise was more effective than exercise alone in the treatment of patients with knee osteoarthritis. Multiwave locked system laser combined with exercise effectively decreased pain and WOMAC as compared with the placebo laser plus exercises group.

Keywords:

class IV laser, knee function, knee osteoarthritis, multiwave locked system, pain

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