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Effect of Pulsed Electromagnetic Field (PEMF) Therapy in Racket Players with Lateral Epicondylitis: A Pilot Study

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ABSTRACT

Introduction: Lateral epicondylitis is a common overuse injury among racket sports players, causing pain, reduced grip strength, and impaired functional performance. Pulsed Electromagnetic Field (PEMF) therapy may help to reduce inflammation and promote tissue healing; however, sport-specific evidence remains limited.

Aim: To evaluate the effects of PEMF therapy on pain, grip strength, and functional performance in racket players with lateral epicondylitis.

Materials and Methods: Twenty racket sports players aged 18-35 years with clinically diagnosed lateral epicondylitis were randomly assigned to a control group (n=10) receiving conventional physiotherapy and a trail group (n=10) receiving PEMF therapy (MAG-30, intensity-30 mT, time period-15 minutes) along with conventional physiotherapy. Both groups received intervention, 5 sessions per week for 4 weeks. Outcome measures included pain using the Visual Analogue Scale (VAS), grip strength assessed by hand dynamometer, and functional performance by Patient-Rated Tennis Elbow Evaluation (PRTEE) score. Pre- and post-intervention data were analysed and presented as mean±SD.

Results: Baseline values were comparable between groups. Following four weeks of intervention, pain levels decreased more in the trail group (7.8±0.7 to 2.1±0.5) compared to the control group (7.3±0.8 to 3.3±0.7). Grip strength improved from 14.8±2.0 kg to 26.1±2.3 kg in the trail group, as compared to the control group from 16.0±2.1 kg to 22.6±2.4 kg. Functional performance showed better improvement in the trail group (62.3±3.9 to 23.8±3.6) as compared to the control group (60.1±4.2 to 31.9±4.0). No adverse events were reported.

Conclusion: This pilot study suggests that PEF therapy is a safe and effective adjunct to conventional physiotherapy for reducing pain and improving strength and functional outcomes in racket players with lateral epicondylitis. The findings support the need for larger randomised controlled trials to confirm their clinical efficacy.

Keywords: Grip strength, Lateral epicondylitis, Pain, Pulsed electromagnetic field therapy, Racket sports.

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