

Beneficial Effects of Laser Therapy in the Early Stages of Rheumatoid Arthritis Onset

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The purpose of this study was to determine the effects of laser therapy in pain reduction and/or recovery of patients at the onset of Rheumatoid Arthritis (RA), comparatively with the traditional non-steroidal anti-inflammatory drugs (NSAIDs). Fifty-nine patients with RA of 6-12 months duration were included in the study. The patients were divided into 3 groups: Group 1 (21 patients) received laser therapy; Group 2 (18 patients) was submitted to placebo laser therapy and NSAIDs medication; Group 3 (20 patients) was treated only with NSAIDs. Physical therapy was instituted in all three groups. GaAIA's diode laser of 830 nm wavelength and 200mW maximum output power was used. Group 1 received laser therapy once each day, eight days per month, for a total of 32 treatments during a four-month period. The parameters used were 2-4 J/cm² energy density, and a frequency of 5 Hz or 10 Hz depending on the number and severity of pain in the affected joints. Placebo laser treatment was given to group 2. The functional activity score, the acute pain phase reactants (ESR and C – reactive protein), T-lymphocytes and NK (natural killer) – cells were estimated. Synovial biopsies and Magnetic Resonance Imaging (MRI) of the synovial membrane were performed as well. The analysis of the clinical and biological parameters at the end of treatment showed a statistically significant decrease of duration of morning stiffness, of pain at rest and during movements, and improved acute phase reactants. The overall efficacy rate in these studies was 86% in the first group, 50% in laser placebo group and 40% in the NSAIDs-treated third group. After four months of treatment, our investigations showed that 830 nm infrared laser therapy promoted the restoration of function, relieved pain and limited the complications of RA.