Study of effects of Polarized Polychromatic Noncoherent Light (Bioptron) therapy on patients with carpal tunnel syndrome.

Raeis sadat A. MD1,2; Rezaei S. MD2; Rayegani S.M. MD3; Bahrami M.H. MD3; Elias pour D. MD3
1-Department of physical medicine & rehabilitation. Modarres medical center. Shahid Beheshti university of medical sciences.
2- Laser research center, shohada medical center. Shahid Beheshti university of medical sciences.
3-Department of physical medicine & rehabilitation. Shohada medical center. Shahid Beheshti university of medical sciences.

Abstract

Introduction
Carpal tunnel syndrome CTS, a neuropathy caused by compression of the median nerve at the level of the carpal tunnel, delimited by the carpal bones and by the transverse carpal ligament, is the most common entrapment neuropathy. Its prevalence is about 2.7% in general population. Several surgical and nonsurgical treatments have been proposed for this syndrome, but there is no consensus regarding the prioritization of the suggested nonsurgical treatments.

The goal of this study was to study of effects of Polarized Polychromatic Noncoherent Light (Bioptron) therapy on patients with carpal tunnel syndrome.

Materials and methods
During this randomized clinical trial, 44 hands with mild or moderate CTS (confirmed by clinical and EDX studies), were divided randomly into two groups. The first, Control group (21 hands) received wrist splints with extension degree of 0° (neutral position) for 8 weeks. The second, Bioptron group (23 hands), received wrist splints (in neutral position) and Bioptron light (eight sessions, 3/week).

A Bioptron 2 device (Harrier Inc.) was used to deliver the Bioptron light with the following output characteristics: rated power of halogen = 90 W; light wavelength = 480–3400 nm;