

Carpal tunnel syndrome can be treated by near infrared light therapy (Genesis pain relief light)

Hao Wu, M.D., M.Sc. & Ph.D.; and Paul Ziemer, M.D.

Contact Info: Hao Wu, 7 Innovation Drive, Hamilton, L9H 7H9, ON

T:289-895-8479, hwu@genesishealthlight.com

Date: 2010-11-09

Abstract

Background: Near infrared (NIR) has a good penetration into tissue and allows a multiple energy transfermission without overheat the skin (Figure 1). NIR produces a therapeutically usable field of heat which increases tissue temperature, oxygen partial pressure and blood perfusion. These three factors are vital for a sufficient tissue supply with energy and oxygen. NIR also can put direct stimulation on mitochondria to accelerate cell repair process and diminish inflammation.

Research Question: Can Genesis pain relief light treatment reduce symptoms in the patients with chronic hand pain and carpal tunnel syndrome (CTS) evaluated by Levine score system?

Method: We collect 30 patients with chronic hand pain and numbness in at least one hand, all of them were diagnosed with carpal tunnel syndrome by a physician. Age of patients was from 45 to 65, mean age at 56.3. There were 16 female and 14 male. All patients were treated by Genesis pain relief light at various positions including palm, wrist and elbow for 10 mins each point. The patients were asked come back three times within a week to do the same treatment. Before and after the treatment, patients were asked to fill up Levine questionnaire to evaluate symptom and function scale. Any scale difference more than 20% for before and after will be recognized as a real improvement.

Results: For symptom scale, there were 16 patients with a real improvement (54%). For functional scale, there were 11 patients had a real improvement (37%). The total effective rate was 89%. The mean and standard deviation (SD) of before treatment of symptom scale was 31.59 ± 9.94 , after treatment was 20.64 ± 5.00 . Using T test to compare before and after means, the difference was significant ($p < 0.001$)(Figure 1). The mean and SD of functional scale was 17.41 ± 7.15 for before and 12.77 ± 4.21 for after treatment. The T test result is also that after treatment is significantly lower than before treatment ($p = 0.012$)(Figure 2).

Conclusion: For carpal tunnel syndrome, Genesis pain relief light has a significant effectiveness to reduce the symptoms and improve functions of hand and wrist in CTS patients.

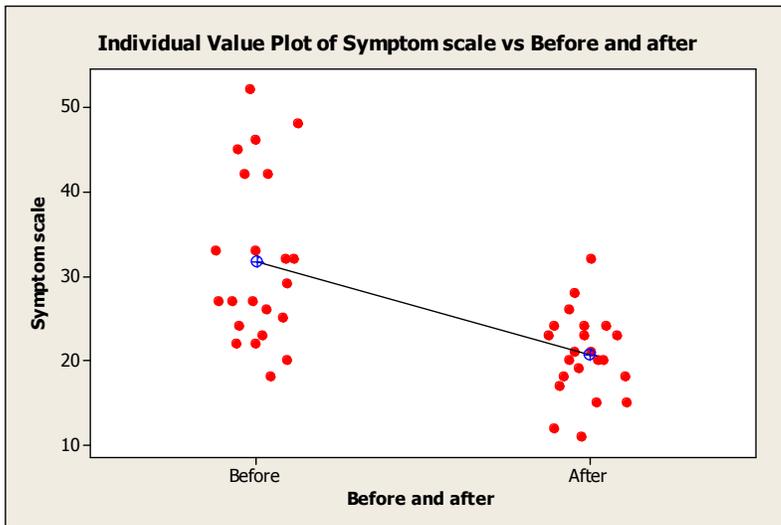


Figure1. After treatment, the mean value of symptom scale is significantly lower than before treatment ($p < 0.001$).

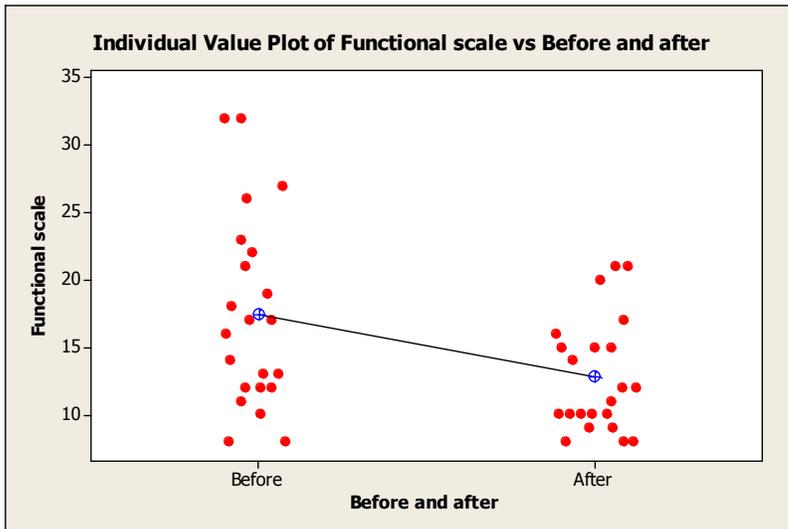


Figure2. After treatment, the mean value of Functional scale is significantly lower than before treatment ($p < 0.001$).