Presentation Abstract

Session: B-34-Musculoskeletal Evaluation and Care

Wednesday, Jun 02, 2010, 1:00 PM - 6:00 PM

Presentation: 1780 - **A Randomized Controlled Trial for the Efficacy of Therapeutic Class IV Laser Treatment for Tendinosis**

Location: Hall C, Poster Board: 217

Pres. Time: Wednesday, Jun 02, 2010, 2:00 PM - 3:30 PM

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Abstract: There is little consensus regarding effective treatments for tendinosis. Low level laser therapy (LLLT) has been shown to be effective at the cellular level, increasing cytochrome C oxidase production and reversing the effects of cellular inhibitors of respiration. Previous studies on LLLT have used class III lasers (output less than 0.5W); however, recently a dual wavelength (980/808 nm) class IV laser has been developed for use in LLLT (power output 10W). These instruments can deliver 8-9 J/cm2, achieving a photochemical biomodulatory dose in only minutes. The potential for a fast, safe and effective treatment warrants further investigation. **PURPOSE:** To determine the efficacy of a class IV laser for the treatment of chronic epicondylitis. **METHODS:** Ten subjects volunteered to participate in a double blinded randomized study using LLLT (LiteCure LCT 1000), or an identical sham in which the laser was replaced with a red incandescent light. Subjects underwent clinical examination (measures of pain, range of motion, strength and ultrasonic imaging) to confirm the diagnosis of chronic tendinosis of the extensor carpi radialis brevis tendon followed by eight treatments of 10 J/cm2 over 18 days. The clinical exam was/will be repeated at completion of the treatments and at 3, 6 and 12 months post-treatment. **RESULTS:** No differences were noted between the two groups for any parameter before treatment. The mean duration of symptoms was 14.5±12 months, all subjects displayed pain and loss of strength and range of motion on the afflicted side, as well as ultrasonic evidence consistent with chronic tendinosis. There was a trend for increased strength (control change = -0.4±5.3 kg; LLLT change +0.8±3.7 kg; $p<0.07$) and decreased pain rating (change control = +0.6±3.3 units, 1/5 decreased pain; change LLLT= -2.6±3.3 units, 4/5 decreased pain; $p<0.06$) in the treatment group compared to the placebo group at the first post treatment exam. **CONCLUSION:** Preliminary results suggest that LLLT is efficacious for the treatment of chronic epicondylitis. However, it remains to be seen whether statistical significance will be achieved with a larger group and whether the ultrasonographic evidence will indicate improved tendon health at 3 months.

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Disclosures: D. Roberts, LiteCure, LLC™, Contracted Research.