

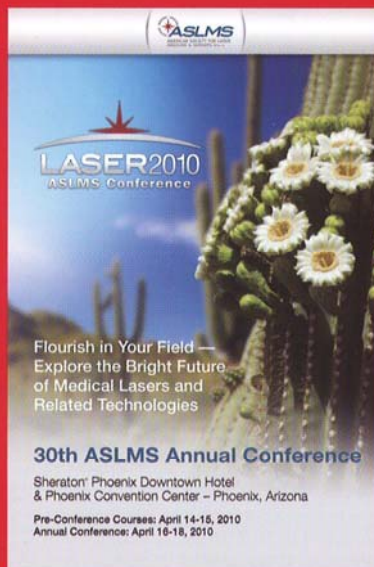
Lasers in Surgery and Medicine

The Official Journal of the



www.aslms.org

Abstracts Issue from the ASLMS Annual Conference
April 14–15, 2010
Phoenix Arizona



Supplement 22, 2010

 **WILEY-BLACKWELL**

ISSN 0196-8092

American Society for Laser Medicine and Surgery Abstracts

#189

THE REDUCTION IN SERUM LOW-DENSITY LIPOPROTEIN LEVELS FOLLOWING LOW-LEVEL LASER THERAPY: A NON-CONTROLLED, NON-RANDOMIZED PILOT STUDY

Ryan Maloney, Steven Shanks, Jillian Maloney, Edward Zimmerman

Erchonia Medical, McKinney, TX; University of Arizona, Tucson, AZ; Private Practice, Las Vegas, Nevada

Background: The application of low-level laser therapy has been recognized as a viable means to treat a wide-assortment of medical conditions and disorders. Numerous studies have revealed the modulatory capabilities of laser therapy at the cellular level, impacting transcription factor activation and gene expression. Low-density lipoproteins (LDL's), when elevated, have been identified as a direct contributor to the onset of cardiovascular disease. With a significant percentage of LDL produced in the body via specific transcription activated biochemical pathways, LLLT may have the potential to impact cholesterologenesis. The objective of this non-randomized, non-controlled study was to evaluate the efficacy of laser therapy in the reduction of LDL's.

Study: Forty-one patients between 18 to 65 years participated in a non-controlled, non-randomized study. Participants received low-level laser treatments (Zerona, manufactured by Erchonia Medical Inc.) 3 times per week for two weeks. Standard fasting lipid panels were performed pre-procedure and at the two week post-procedure endpoint. Patients were asked to maintain normal eating and exercise habits throughout the entire investigation; further patients were not using any cholesterol lowering medications or supplements.

Results: Compared with baseline, participants demonstrated a statistically significant mean reduction in low-density lipoprotein levels of 12.05 points, a 13% reduction at study endpoint ($p < 0.005$). The mean baseline measurement of 103.88 mg/dL was reduced to 91.83 mg/dL.

Conclusion: Based on the FDA Guidance Document: *Guidelines for the Clinical Evaluation of Lipid-Altering Agents in Adults and Children, September 1990, Division of Metabolic and Endocrine Drug Products, Food and Drug Administration*, a change in LDL from baseline to study end point evaluation is considered both statistically significant and clinically meaningful if it is a 15% or greater decrease. These data suggest that laser therapy may serve as a subtle, non-invasive instrument for the reduction of LDL levels in just two weeks.