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THE REDUCTION IN CHOLESTEROL AND TRIGLYCERIDE SERUM LEVELS FOLLOWING LOW-LEVEL LASER IRRADIATION: A NON-CONTROLLED, NON-RANDOMIZED PILOT STUDY

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Background: The modulation of transcription factors has become a common therapeutic strategy to prevent the expression of specific genes. Recent studies have identified that laser irradiation has the ability to modulate the intra-cellular redox state therefore altering the function of certain transcription factors. With the biosynthetic process of cholesterol synthesis highly regulated by specific transcription factors the possibility to alter cholesterol serum levels may exist. The objective of this non-randomized, non-controlled study was to evaluate the efficacy of laser therapy in the reduction of cholesterol and triglyceride serum levels.

Study: Twenty volunteers between 18 to 65 years participated in a non-controlled, non-randomized study. Participants received low-level laser treatments (LipoLaser, 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.

Results: Seventy-five percent of study participants demonstrated an overall reduction in cholesterol serum levels. The reduction ranged from -1.0 to -31.0 mg/dL with an average reduction of -16.1 points. For those participants demonstrating an overall

reduction in cholesterol serum levels, 93% experienced a reduction in LDL levels, with 47% revealing a reduction in LDL levels without experiencing a reduction in HDL levels. Of the 20 participants, 60% demonstrated a reduction in triglyceride levels.

Conclusion: These data suggest that laser therapy may serve as a subtle, non-invasive instrument for the reduction of cholesterol and triglyceride serum levels. Further scientific exploration is highly warranted.