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Research article

Extremely Low Electromagnetic Frequency Modulation in Skin Rejuvenation and Regeneration

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Abstract

This clinical pilot study aims to show the effectiveness of homeopathic concentrations of the Colloidal Silver Solution (CSS) embedded with Extremely Low Electromagnetic Frequency (ELEMF) in skin rejuvenation and regeneration as well as a therapy of dyschromia. In this clinical observational pilot study, we utilized structured water infused with homeopathic concentrations of CSS and embedded with ELEMF to apply it to the dorsal part of the left hand, while the dorsal part of the right hand was used as a control. Ten subjects with Solar Lentigines were treated with the CSS for three weeks. The results are highly encouraging that CSS is successful in achieving this study's objective.

Introduction

The skin represents 10% of the body weight. It transmits and receives signaling from the surrounding and protects against environmental stressors. It significantly contributes to the transmission of electromagnetic frequencies. It acts as a capacitor. It regulates body temperature, electrolyte, and water homeostasis. In addition, the skin produces endocrine functions essential to its regeneration and repair. The skin has contributions from all embryonic layers. The outer layer or epidermis and the inner layer dermis originates from the mesenchyme. Both layers are continuously involved in molecular interactions giving the skin ability to signal with the environment. Keratin, Collagen, and Growth Factors are among the most important in providing skin integrity, regeneration, and rejuvenation.

At the end of the last century System Biology described the method of cellular signaling and epigenetic modulation of tissues' cellular behavior. That opened the door for a new paradigm in pathophysiology and therapeutic modalities.

With the development of Quantum Physics, Quantum Biophysics appeared, which allowed the development of Quantum Evidence-Based Medicine and Nanobiotechnology. This approach concentrates on nonbiological changes that occur on a quantum level in the human body before any biochemical changes. In the last decade, a new class of medical devices has been developed that uses Extremely Low Electromagnetic Frequencies (ELEMF). The frequencies in these Extremely Low Electromagnetic Frequencies Products (ELEMFP). are imprinted with an energetic message, passively transmitted through skin contact and interreacting with the body tissues through Resonant Recognition Model (RRM) [1]. ELEMFP are non-invasive and permanently attuned to ELEMF. These products have frequencies to support body functions [2]. ELEMFP uses no medications, herbals, or supplements. They do not need an electrical supply. A human biofield activates the products, and the skin acts as a capacitor. They should be considered passive energy products. They have no side effects.

Materials and Methods

This non-invasive, no-risk research pilot study is qualified for the exemption from the Institution Review Board (IRB) review. The nature of the study was explained to the subject. There were no charges nor financial gains to the participants or researchers. Informed Consent was obtained. The study was observational. Solar Lentigines (dyschromia) "Liver Spots = Age Spots." Seen in 50% by the age of 64yo. It is considered benign. Manifests with brown macules on chronically exposed skin such as the dorsum of the hands, forearms, and face. No seasonal color discoloration as seen in the freckles [3]. Ten volunteer subjects with prominent skin disorder of Solar Lentigines (dyschromia) of the dorsum of the hands aged seventy and older were selected (five men and five women).

The CSS was applied to the dorsum of the left hand (L), while the right hand (R) was used as a control. The CSS used for the skin application was the Tuning Element product supplied free of charge. That is a homeopathic dilution of a proprietary blend of ELEMF-tuned CSS placed in the tuned glass spray bottle. The solution was applied as a spray to the skin of the left hand of the subjects in AM and PM prior to sleep. The subjects were asked not to wash their hands for two hours after the application. The subjects were reassessed after three weeks. Observations of the skin were recorded, and a photograph was obtained. Thickness and turgor were measured by physical examination and graded on a scale of 0 to 10, and dyschromia was measured by observation and subjectively assigned scores of 0 to 10 (Table 1).

Table 1: Thickness and turgor measured by physical examination and graded on a scale of 0 to 10, and dyschromia measured by observation and subjectively assigned scores of 0 to 10.

	Age/ Gen.	Skin Thickness L /R	Skin Turgor L /R	Dyschromia L / R
1	75/M	Improved L: 8/ R: 0	Improved L. 9/ R: 0	Improved L. 9 / R 0
2	78/M	Improved L: 9/ R: 0	Improved L. 9/ R: 0	Improved L. 9 / R 0
3	84/M	Improved L: 9/ R: 0	Improved L. 9/ R: 0	Improved L. 9/ R 0
4	72/ M	Improved L: 8/ R: 0	Improved L. 8/ R: 0	Improved L. 8 / R 0
5	87/M	Improved L: 9/ R: 0	Improved L. 9/ R: 0	Improved L. 9 / R 0
6	70/F	Improved L: 8/ R: 0	Improved L. 8/ R: 0	Improved L. 8/ R 0
7	84/F	Improved L: 9/ R: 0	Improved L. 8/ R: 0	Improved L. 9 / R 0
8	76/F	Improved L: 8/ R: 0	Improved L. 9/ R: 0	Improved L. 9 / R 0
9	83/F	Improved L: 9/ R: 0	Improved L. 9/ R: 0	Improved L. 9 / R 0
10	77/F	Improved L: 9/ R: 0	Improved L. 9/ R: 0	Improved L. 9 / R 0

All the subjects had similar results. There were no gender differences. The subjects reported no adverse effects. As shown in the following photograph, the difference in the appearance of the skin of the left hand was significant (Figure 1A). The dorsum of the left-hand skin appeared on the observation much younger. The thickness and turgor were much better than the control, and dyschromia lesions almost disappeared. (Figure 1B).

The control's skin (the right hand's dorsum) showed no improvement (Figure 1C).

Figure 1: A) appearance of the skin of the left hand, B) dyschromia lesions almost disappeared, C) The control's skin (the right hand's dorsum) showed no improvement.

Discussion

Tuning Element Products (TEP) technology was developed in 2010. They are two products used as a medical line. First, TEP is a silicon patch infused with a harmless homeopathic amount of metallic salts, and the second is a CSS. They are both embedded with ELEMF. There are no differences in any of the patches or CSS in the product's safety or the mode of action. They all use the same technology and the same range of ELEMF. Therefore, all previous studies on the patches can cross reference for the CSS and vice versa. The Tuning Element products are FDA registered.

Missouri State University (MSU) Center for Biomedical and Life Science under Director, Professor of Cell and Developmental Biology, Paul. L. Durham, Ph.D., completed phase 1, a double-blind study on the post-surgical wound healing experimental hairless rats. This study concluded in 2016 that TERP is harmless and may enhance surgical wound healing [4]. As side findings at the time were noted, there was an increase in the production of fibroblast and collagen in naïve (not injured) rats when the skin was exposed to the tuned product (Figures 2 & 3). That observation led to this study.

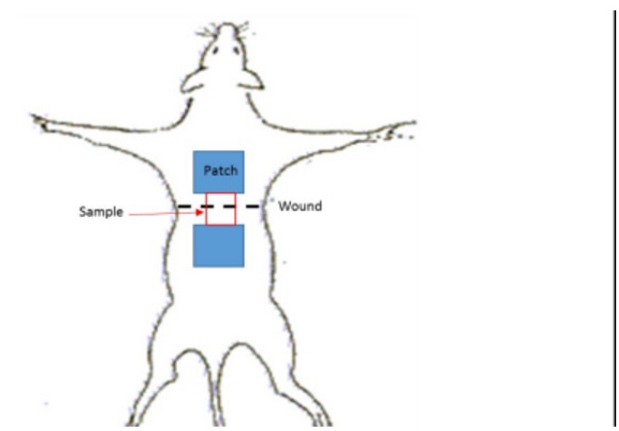

Figure 2: Rats when the skin was exposed to the tuned product.

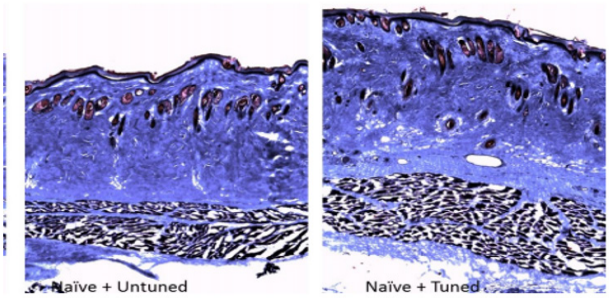

Figure 3: Increase in the production of fibroblast and collagen in naïve (not injured).

Collagen deposition was observed through Masson's Trichrome using the Masson's Trichrome staining kit and procedure (American Master Tech) Photograph by MSU. Mode of action was completed in a research project studying Tuning Element products using Resonance Recognition Model (RRM) in 2017 [5,6]. The phase 2 multicenter study for assessing the efficacy of TEP was completed [7-9]. Over 10,000 patients were treated worldwide with the adjunct, supportive treatment of post-surgical pain, menstrual cramps, and a cascade of painful, behavioral, skin, and hormonal disorders, with remarkable success using TEP.

What Thomas Huxley stated about 150 years ago rings true today: "every living cell consists of protoplasm, which is the physical basis of life [10]. The supportive Extremely Low Electromagnetic Frequencies (ELEMF) emitted by TEP provide the correct frequency information and promote healthy protoplasm with high energy and low entropy in the cell resting living state [11]. Biophoton-induced energy is coherent and nonlinear [12]. Internally this electromagnetism is created by quantum fields of atomic action in the protoplasm caused by the piezoelectric ability of connective tissue [13]. Specific frequency-generating devices such as TEP produce electromagnetic resonance within cellular structures and water molecules [14]. This was scientifically measured using the RRM [15]. Resonant Recognition Model can be used as a universal tool in predicting protein, RNA, and DNA electromagnetic resonances in a wide frequency range. Keeping in mind that earlier predictions with tubulin molecules have been experimentally proved, the RRM could be used as a powerful universal method for predicting the electromagnetic resonances in biological macromolecules that could be used in experimental planning and in conjunction with experiments to minimize time and expenditure in exploring such complex macromolecular systems [16].

This molecular communication takes place through structured water molecules that surround all biomolecules. It appears from the latest research that water has an amplifying role. Some data imply that signals are emitted by biomolecules but finally conveyed by water molecules.

Conclusion

In this article, we showed the efficacy of ELEMF as a nuevo therapeutic mode for skin rejuvenation and regeneration. CSS should be applied to the skin. TEP is charged with different ELEMFs to act on related cellular receptors, ion channels, and peptides. RRM was used for the calculation of the mode of action. TEP is affordable, without side effects, free of medication, and harmless. We believe that technology using ELEMF and the principle of RRM action is opening doors to a wide variety of new products, with different frequencies and applications, in promoting health [17,18]. Although results are highly encouraging, a larger-scale investigation is warranted.

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