BIOPHOTONTHERAPY

in Natural and Traditional Medicine

Ángela Gandaria Marsillí, MD
Juan de Armas Valdés, MsC

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1th Part

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Compilación / Compilated by:
Ángela Gandaria Marsillí
Edición / Edited by:
Marta Elizabet Ferrer Cutie
Diseño / Design:
Jenner Barreto González
Composición electrónica / Electronic composition:
Yaima González González
Traducción del Inglés:
Alejandro Miguel Martín Dunn

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Elfos Scientiae
Apartado Postal 6072
La Habana 10600, Cuba.
Teléfonos: (53-7) 273 1917, 271 8466, 271 8164
Fax: (53-7) 273 1917, 271 8070, 271 6008
E-mail:elfos.scientiae@cigb.edu.cu
Web:http://elfosscientiae.cigb.edu.cu

Lázara Pérez García, BSc.

Ana María Vizcaíno Torres, Eng.

Silvia Pellón Alonso, MD

Alberto Aguilera Fiel, MD

Lázaro H. Quevedo Armas, MD

Niurka Hernández Bermúdez, MD

Natacha Lidia Salazar Acosta, MD

Reina Lourdes Morejón Vega, MD

Haydé Sosa Saez, Nurse

Yasmina Leyva Santín, Nurse

Fidelina Sánchez Díaz, Nurse

To our sons Yahania, Yohangel and Yohandy; for their patience, understanding and unconditional support for the long hours it took us to finish this book.

We would like to thank, in a very special way, our dear teacher and friend Jacques Henry Mula for placing this wonderful therapy in our hands, and for making us aware of an alternative for the treatment of the most disparate diseases with a simple, practical, but very effective method.

Bioluminis® represents a new dimension in medicine, opening a glowing path for maintaining, preserving and healing thousands of persons throughout the world that will discover this new branch of medical sciences with each passing day.

This book, born from a labor of love, commitment and professional ethics by a group of Cuban researchers that found in the Bioluminis® method a novel alternative therapy, has sprung right from his teachings.

Our deepest acknowledgement goes to all the individuals who selflessly helped in the completion of this work. We are sure it will become an additional tool available to those professionally dedicated to deal with the ailments of the human being.

We would also specially like to express our gratitude to Eng. Ana María Vizcaíno Torres, head of the Natural and Traditional Medicine program, who has been in charge of the selection, organization and execution of the research project that today has become a reference book that introduces the reader to the subject of Biophotontherapy.

To Dr. Domingo Campos Duquesne, for his unlimited commitment to the defense of the researchers and his support, from the very beginning, to the development of Biophotontherapy in the Bioenergetic and Natural Plastic Surgery Clinic.

Ángela Gandaria Marsillí, MD
Juan de Armas Valdés, MsC

This investigation, promoted by the tireless Dr. Ángela Gandaria, places itself among the latest and most promising alternative methods of bioenergetic medicine. Dr. Gandaria, whose incisive search for the latest and most precise information is nevertheless always based on legitimate support and advising, considers that imbalances are the cause of diseases, and needs the regulatory use of a filter in the so-called Biophotontherapy.

This book deals with holistic concepts and global visions of principist relationships as active components of life. It also acknowledges the language of the emitter and the receptor, together with its interpretation.

Tissue receptors identify and transmit their corresponding site for the drug or procedure to act and restore natural defenses.

The active principles with electromagnetic activity are those that interact biologically.

It is the cellular receptors for the electromagnetic waves that resonate and react with active substances.

As reported in the literature, there is a correlation between the emitter waves from the filter and the receptor waves from the organic cell, which is optimal when the effect of mutual attraction and effective reaction against the pathogen is produced. Otherwise, the defenses do not regain their dynamics and the disease follows its course. It is understandable that phase coherence in their respective magnetic fields is a prerequisite for an adequate interaction and reaction.

A human cell can emit and receive light through its biophotons. The weaker a cell is, the more light it can receive.

The balance of light (electromagnetic waves) keeps the cell at the peak of its health. It is this way that pathogenic unbalances are eliminated.

The potential medical and aesthetic applications for this bioenergetic treatment are immense, ranging from Reconstructive and Esthetic Surgery to Natural and Traditional Medicine, with an array of therapeutic means that offer hopes for many patients.

The authors of this book have emphasized the positive results they have found, and their experience in the treatment of undesirable scars, wrinkles, acne, cervicofacial flaccidity and other consequences of aging, as well as burns and other lesions.

The main author and her supporting team, in their endless optimism, have written this book for those related to our specialties, as an expression of something they can take into account as a new and creative practice.

Dr. Henry Vásquez Montpellier

Biophotontherapy is a new therapeutic alternative based on the use of Bioluminis® filters for medical and aesthetic treatments. Already in use in Europe for a quarter century, it was introduced in Cuba in 2001 through Professor Jacques H. Mula, head of the Bioluminis® Laboratory in Spain. A multi-center research project was carried out in 5 health institutions of the city of Havana after encouraging results from preliminary testing, in order to assess its therapeutic potential in our environment. The first part of this book illustrates the basics of the Bioluminis® method, going through its theoretical principles, the specificties of the filters, and an explanation of its methodology as part of the therapeutic arsenal of Natural and Traditional Medicine. In the second part the authors describe the Cuban clinical experience with Biophotontherapy, gathered from the treatment of 835 patients for pain relief from disorders of the osteomyoarticular system, pathological scarring, facial aging, acne sequelae, chronic venous insufficiencies and acute lymphangitis. This includes the successful treatment of the so far intractable problem of keloid and hypertrophic scars on pediatric and adult patients, who have found in this therapy a solution to their deforming or disabling-or just plain unaesthetic-sequelae from burns or accidents. The benefits of electronic publishing will let this book become a part of the activities developed by Bioluminis® in Cuba, ranging from meetings and exhibitions to the materialization of collaboration agreements, national and international courses, and will increase the awareness of the results of the Natural and Bioenergetic Plastic Surgery Clinic -coordinating center for the Bioluminis® project in Cuba- and the activities of the Cuban delegation of the International Association for the Development of Light-based Therapies.

FIRST PART

Overview

BIOPHOTONTHERAPY

in Natural and Traditional Medicine

An Introduction to Biophotontherapy in Cuba

Ángela Gandaria Marsillí, MD
Juan de Armas Valdés, MsC.

Natural and Traditional Medicine, also known as Alternative or Bioenergetic Medicine, has been the main target of our research for the last 12 years, due to its widely acknowledged safety, acceptance levels and to the demand for its methods in our modern world, which has reached a saturation point in relation to the use of chemicals and other sophisticated medical technologies.

After learning of our work through two papers published in the "Revista de Medicina Complementaria" [1, 2], professor Jacques H. Mula, Director of the Bioluminis® laboratory of Valencia, Spain, sent us, in 1998, an initial information on Biophotontherapy, while also explicitly expressing his interest in introducing this new technique into the Cuban Natural and Traditional medical practice. In June 1999 we were finally able to meet personally with professor Mula, who traveled from Valencia to Madrid to give us the Bioluminis® method. After a few hours of conversation and demonstrations of changes in arterial pulse triggered by simply approaching a filter to the skin, we became interested in the subject.

Nobody foresaw at thee time that years later we would achieve the clinical results we have today. These results are based on the effectiveness of the filters, that can be used to treat diverse aesthetic deformities that range from the most complex, like keloids, hypertrophic or unaesthetic scarring [3], which can be found in different parts of the body, us to the common periorbital wrinkles, a sign of aging located around the eyes. Our experience is not limited to the latter, but also includes a group of the most important and frequent aesthetic alterations from a cosmetic point of view, distributed in different facial areas such as peribucal and periorbital (around the eyes) wrinkles, nasogenian crease (a fold going down from the nose to both sides of the mouth), wrinkles and folds in the neck, double chin, and the treatment of acne.

In both cases a complete response has been achieved through the use of a small disc with a diameter of 4 cm that works without electrical energy. This disc does not damage or produce pain in the patient, it is long-lasting, and can be used in many persons with aesthetical deformities associated with pathological scars, be they keloids, hypertrophic or unaesthetic scars. This is a new alternative method for the therapy of these disorders for which the available treatments, such as local medication (steroidal creams or infiltrates, contractubex, heparin), physical treatment (ultrasound, soft laser, cryotherapy, radiotherapy), surgery (resection and plasty of the scar, CO_2 laser, cryosurgery) have a very variable effectiveness, with partial results and a marked tendency to recidivate [4-6].

It is within this landscape marked by the high resistance of keloids to the conventional treatments described so far that Biophotontherapy has, given the specialists a solution to a historical problem for the plastic and reconstructive surgeon [7].

We are pleased to offer a novel alternative that can solve in a long-lasting, immediate and effective manner the aesthetical problems and the unavoidable signs of aging, that sometimes appear early and unexpectedly for many persons.

The time of the appearance of the first wrinkles is related to the specific characteristics of the skin and other well-known predisposing factors, together with precursor factors for aging, such

as alcohol consumption, stress, tobacco, the excessive exposure to the sun, unhealthy dietary habits and unbalanced or even a scarce ingestion of water.

Today, the cosmetic industry has reached an impressive development, and can boast of a long list of creams that have been marketed for delaying the effects of aging, showing proven effects on the skin, collagen fibers and even displaying antioxidant effects. In practice, there is a growing dissatisfaction with the results of these products due to the expectations of the customers. Here is where the Bioluminis® filters come in, given their invigorating cellular effect without the help of chemical or biological elements, based solely upon a physical phenomena. After the treatment with Biophotontherapy, the response capacity to cosmetics is increased, that is, cellular activity increases after the stimulation with the Bioluminis® filters, with the result that the action of the active ingredients of creams and lotions is enhanced [8].

With these small devices of only 4 cm in diameter, and after two years of clinical practice once the research protocols were mode, we are sure that we are dealing with a novel therapeutic alternative that opens the doors to a whole new discipline within the medical sciences.

Biophotontherapy has been introduced in Cuba in two stages. The first stage took place at the Bioenergetic and Natural Plastic Surgery Clinic, and developed within the institutional research project "Use of Biophotontherapy in unaesthetic, hypertrophic and keloid scars". The second phase was based on the encouraging results obtained in this study, starting with the preparation of a Multicenter Research Project within the framework of the Territorial Scientific and Technical Health Program "Health and Quality of Life in Havana City", which took place simultaneously in 5 institutions: The "Joaquín Albarrán" Clinical-Surgical Hospital, the "Dr. Salvador Allende" Educational Hospital, the "Juan Manuel Márquez" Pediatric Hospital, the Center for Development of the Traditional and Natural Medicine belonging to the '10 de Octubre' municipality and, finally, the Bioenergetic and Natural Plastic Surgery Clinic as the coordinating and leading institution. The research was centered in the following ailments: acute and chronic pain due to disorders of the osteomyoarticular system, pediatric burns and their sequels, disorders of the lymphatic and venous systems, and aesthetic problems induced by aging, acne and pathological scarring.

Strategy and methodology followed for the development of the research project

1. Writing the project proposal.
2. Selection of the participating institutions.
3. Definition of the medical specialties involved.
4. Selection of the researchers.
5. Request for endorsements to the Scientific Council of the Coordinating Institution, the School of Medical Sciences and the Natural of Traditional Medicine (NTM) National Administrative Level.
6. Training of the specialists, by the Bioluminis® Laboratory, on Biophotontherapy.
7. Delivery of materials and documentation on the Bioluminis® filters (filter folders, booklets, CD) to each institution.
8. Meetings every 3 months.

9. Personalized assistance from the Bioluminis® Laboratory, with the attendance of Prof. Jacques H. Mula to every scientific activity related to the project that took place in Cuba.

10. Constant counseling and cooperation from: Havana Higher Institute for Medical Sciences, Provincial CITMA Delegation, State Center for the Control of Medical Equipment, Donations and Projects Unit from MINSAP, NTM Department from the Provincial Health Administration of Havana City.

11. Organization of courses and workshops on Biophotontherapy.

12. Attendance to national and international scientific meetings.

Results

A prospective, descriptive study took place from September, 2002 to December, 2004 in 835 patients, in order to estimate the effectiveness of Biophotontherapy against different pathologies selected for the project. These pathologies were chosen on the basis of their incidence between the patients attending the NTM Services. The evaluation of pain relief in the OMAS pathologies took place in the NTM Service of the "Dr. Salvador Allende" Hospital and in the Center for Development of NTM of the "10 de Octubre" Municipality, where 93.7% of the cases reported satisfactory results out of a total of 244 patients. Disorders of the lymphatic and venous systems were treated at the "Joaquín Albarrán" Hospital, where Biophotontherapy was 100% effective for the 301 treated patients. Scarring disorders were studied in 44 infants at the "Juan Manuel Márquez" Pediatric Hospital, who also evolved satisfactorily in all cases, and in 69 adults from the Bioenergetic and Natural Plastic Surgery Clinic, where 95.6% of the cases included in the study reported positive results. The same institution treated 177 patients afflicted with facial signs of aging or the sequels from acne, 97.7% of which had cases which were evaluated as satisfactory (tables 1 and 2).

Table 1. Medical uses of Biophotontherapy

Application	No. of patients	Percentage
OMAS	244	29.2
Angiology	301	36.3
Pathological scarring in pediatric patients	44	5.0
Pathological scarring in adults	69	8.3
Aesthetics	177	21.2
Total	835	100

Table 2. Effectiveness of Biophotontherapy in Natural and Traditional Medicine

Medical Applications	Satisfactory		Unsatisfactory		Total
	No. of patients	%	No. of patients	%	
OMAS	227	93.1	17	6.9	244
Angiology	301	100	0	0	301
Scars, Pediatrics	44	100	0		44
Scars, Adults	66	95.6	3	4.4	69
Aesthetics	173	97.7	4	2.3	177
Total	811	97.2%	24	2.8%	835

Due to the characteristics of this study (multicenter, descriptive) we consider that the highly positive treatment outcomes in different pathologies warrant the organization of a controlled, randomized clinical trial in each of the medical specialties involved.

The effectiveness shown so far by Biophotontherapy evidences the presence of a new therapeutic avenue for several different medical specialties, ranging from Orthopedics and Traumatology through Physiotherapy, Rehabilitation, Angiology, Paediatry, Natural and Traditional Medicine, Burns and Reconstructive Surgery, all included in the second phase research project which is staffed with specialists from these medical disciplines.

Conclusions

1. The use of Biophotontherapy was effective for 93.1% of the patients suffering from SOMA pain.
2. The conventional treatments for pain relief are more expensive than Biophotontherapy.
3. The patients show a high degree of satisfaction.
4. The pain totally disappeared in more than 50% of the cases.
5. This method does not have the side effects and adverse reactions usually associated with other therapies for pain relief.
6. The patient rapidly returns to his daily life routine with this method.
7. Biophotontherapy constitutes a novel avenue for the treatment of lymphatic and vascular disorders. All treated patients (100%) experienced pain relief and reduction or complete disappearance of edemas.
8. The use of Biophotontherapy was effective in 95.6% of adult and 100% of infant patients treated for pathological scars.
9. Conventional treatments for keloids and hypertrophic scarring are lengthier, costlier and less effective than Biophotontherapy.
10. The remission of symptoms for keloids is definitive, with a complete disappearance of pain and itching.
11. The functional limitations imposed by retracted scars in articular areas can be eliminated.
12. There is a definite advantage from a purely aesthetic point of view, achieving levels of improvement beyond the reach of the current conventional methods.
13. The Bioluminis® filters are effective against facial aging, both with superficial and deep wrinkles.
14. Acne sequels are responsive to Biophotontherapy, with a reduction in the depth of skin pits.
15. Biophotontherapy constitutes a valid alternative for a long life longevity and the improvement of the quality of life, since it is a non-invasive, innocuous and effective method for increasing our image and self-esteem.

Recommendations

1. Gradually generalize the results achieved so far in the NTM and Integral Rehabilitation Services of the National Health System.

2. Intensify the research on the effectiveness of Biophotontherapy through the implementation of clinical trials for each of the clinical applications that have been studied.

3. Extend the potential applications of Biophotontherapy through research projects involving other disorders and medical specialties.

4. Propose the following projects: “Medical applications of the Bioluminis® filters”, and “Biophotontherapy in the treatment of post burns keloid scars”.

The Bioluminis® filters. Technical Specifications

Juan de Armas Valdés, MsC

Introduction

Biophotontherapy was started a quarter century ago in France. In December, 1994, Bioluminis® develops a new methodology based on biophysical theories valid since life the appeared in our planet, whose basic ingredients are the energetic principles of electromagnetic radiation from natural light [9-11].

Its name, Bioluminis®, comes from the words "Bio" (life) and "lumens" (light). A huge number of persons from Germany, Switzerland, France, Turkey, Mexico, Spain, the United States, Cuba, Colombia and Italy, who have been afflicted with health and aesthetic problems affecting their quality of life, have already benefited from this remarkable method.

Bioluminis® Laboratories assembles and markets the filters. Although there are models like the Confort Filter System, Energy Filter System and the ADAB filters, this work will deal only with the Cosm and Med filters belonging to the Bio Laser Med Cosm Concept model [12, 13].

The Cosm filters and the Med filters are used in cosmetic and medical applications, respectively.

The Bioluminis® device selects, orders and transmits the electromagnetic radiation from natural light to the biological environment through the effect of coherence between the electromagnetic frequencies from natural light and those emitted by the cells. This theory on the mechanism of the action of light on our organism has been proposed and defended by many scientists including Einstein, Burr, Dutheil, Russel, Sheldrake and Gurwitsch [14-16].

The biophoton therapy is simple, and is based on the use of a group of optical devices that have been grouped by their authors under the denomination of "Filters".

These "Filters" are specific devices, devoid of any electronic circuitry, with no biological substance whatsoever, having an approximate diameter of 4 cm. The filters are assembled into a set of 22 pieces, each having a specific denomination consisting of a number and a letter, e.g. Filters 1+/- 1B, 2B, 3B, 202B, etc. which will be described here. A group of differently colored gels has been placed inside the filters, and their denomination depends on the exact combination of gels, so that each group has a specific frequency allowing it to select a unique wavelength, spread and incoherent from the solar spectrum.

The principle underlying the functioning of these devices is the filtering of the electromagnetic waves from natural light and their transmission to the organism through epidermal areas by the simple contact with the skin, with no pain or side effects. The filters allow the development of a broad range of treatments in different medical specialties, which will be detailed later. The balance of natural light coming from the environment (electromagnetic coherence) keeps the cells at the peak of their well being, whereas phase incoherence may potentially lead to disease.

Regarding the topic of the laser effect, we must the spontaneous emission of a thin band of the electromagnetic waves of light, and not its constant induction.

The electromagnetic waves from natural light thus selected and concentrated are transmitted through the biolaser effect from the filter to the receptor cell, which contains molecules, like DNA, that are capable of absorbing this radiation and consequently promote the organization of cellular defenses [13].

Technical-Medical Specifications

Medical applications

General characteristics of the filters:

Every Bioluminis® filter has the same general characteristics, which makes it polyvalent. Filters number 1, 3 and 10 can have the same effect. Take, for example, a case of stress disorder: the filter is chosen solely on the basis of maximizing resonance between the patient and the filter.

Main effects:

Cellular sphere

1. Regulates basal metabolism
2. Regulates the electromagnetic signals from DNA
3. Regulates the electrical metabolism in the cell
4. Regulates the transmission of electromagnetic information inside and outside the cell

Cardiovascular sphere

1. Regulates blood flow rate
2. Regulates the opening of sphincters
3. Regulates oxygen transport
4. Regulates permeability and elasticity of arteries and veins
5. Boosts the power of natural defenses

Lymphatic sphere

1. Regulates lymph circulation
2. Regulates the detoxification of lymph nodes

The complete set of filters is described as follows

Table 1. General Features of the Med Filters

1+/-, 1B General purpose. Used in most treatments
2B Neurovegetative 212B Neurovegetative
230B Pediatrics
3B Detoxifications
303B Stomach
309B Bowels
4B Demineralization- Menstrual pain
419B Urinary system
7B Physiotherapy-Esthetic Surgery
731B Energetics-Immunity
8B Vein constrictor
Immune defenses

82B Pain reliever-Chronic diseases
820B Venous system
9B Arterial system
904B Gynecology-Obstetrics
920B Arterial system
10B Lymphatic system

Table 2. General features of the Cosm filters

1+/-, 1B General purpose. Can be used in most treatments
2B Against stress
3B Detoxifications
4B Mineralization
5B Hydration + Vegetative effects
6B Fibroblast restructuring
7B Movement filter
8B Peripheral venous circulation
9B Peripheral arterial circulation
10B Lymphatic system
11B Lymphatic system
Nº12 Multipurpose filters

Specific parameters

The filters are manufactured under the model denomination “Bio Laser Med Cosm Concept”, and they constitute the instrument used in the biophoton therapy. In order to achieve the desired therapeutic effect, the treatment is conducted taking into account the blood pulse of the patient, which changes on approaching the filter to different parts of the body.

The equipment is composed of a set of 43 devices called filters, grouped as either the Cosm or Med collections and presented using folders as the supporting media.

The complete Cosm collection consists of 11 filter types numbered from 1 to 11 with +/- or B variants for filters 1 and 3 (which makes up a total of 13 types of filters representing 11 frequencies). The Cosm kit is composed of 16 filters (4x +/-, 4x1B, 2x3B, 2x7B, 2x10B and 2x11B).

The complete Med collection consists of 22 filter types with +/- or B variants for filters No. 1-3-303-309 and 904, totaling 27 filters representing 22 types.

Instruction for use

The main guidelines for using the filters are as follows:

1. Place the dark side in the filter for direct contact with the skin.

2. The filters do not need recharging. Proper care of the filters assures a lifetime of trouble-free operation.

3. The filters are held on the skin with medical double-sided adhesive tape. One side of the tapeis in contact with the dark side of the filter, and the filter thus prepared is fixed to the skin.

4. Clean the filter after use with a clean towel to remove residues the adhesive or of make up. Do not wet the filter with any liquid.

5. In the case of filters associated with a concomitant therapy that requires rubbing other products on the skin (like e.g. Phytotherapy, oil massages, and surgical procedures) or in cases of hyperhydrosis (excessive transpiration) it is important to protect the filter with plastic transparent film.

6. The filters can be covered with socks, trousers, long skirts or with covers of any size and color (if the patient is e.g. lying on a stretcher) without impairing their performance.

7. The Bioluminis® filters do not produce any negative side effects. If a feeling of weariness is detected after a session, the filter should be left on for an additional 15 minutes.

8. Biophotontherapy can be used on any person, regardless their age and health.

9. The Bioluminis® filters do not expire and do not break.

Applications of Biophotontherapy. The Bioluminis® method

Ángela Gandaria Marsilli, MD

Introduction

Scientists from all over the world have extended Einstein's theories in recent years, turning a new page dedicated to a highly detailed knowledge of the laws of life using the rules of Quantum Physics.

The term "Quantum" has been used to name the smallest particle, that is, the particle considered as the primary element. "Quantum" was a word normally used to name a luminous particle, or photon [17-19].

Many scientists, with mainly Burr, Dutheil, Russel, Sheldrake and Gurwitsch among them, have participated in the development of the quantum model, setting the bases for this new theory in physics [20-22].

Of course the quantum theory is more than this. It proves the effects of polarization by measuring the E.E.U. (Elementary Energetic Unit, the photons) of each atom. These measurements make it possible to determine the strength of magnetic fields, and thus the reaction and combination capacities of the atom.

Today, there are different scientific groups worldwide specializing in the study of biophotons, which have been grouped in an International Association headed by Prof. F.A. Popp from the Dept. of Cellular Biology of Kaiserslautern University (Germany), who is renowned in scientific circles for his discoveries on "cellular communication" using biophotonic emissions. The International Institute of Biophysics has research plans to determine the cellular activity of biophotons applied to medicine, agriculture, plants, foodstuffs and animals. These studies are getting closer every day to the role of DNA and the activity of biophotons [22-26].

The research group led by Prof. Inaba has studied the transmission, emission and absorption of biophotons in cells and biological tissues [27-29].

Bioluminis® represents a new methodology whose basic elements are the knowledge of the energetic principles of solar radiations and the development of quantum mechanics in relation to Biology [12, 13].

Cells can be viewed as an entity that con absorb and emit light, a phenomenon that should not be confused with luminiscence. DNA is the most important source of ultra thin cellular radiation, and is constituted by giant molecules that can be considered as carriers of very high quality information. This information is propagated in the form of electromagnetic waves decoded as luminous radiation that is 10-14 fold less intense than natural light [30, 32, 33].

Biophotons are the carriers of these electromagnetic signals. These conclusions allow an understanding of the effect of light on our organism.

If cellular associations, that is, the tissues, organs and every vital system, depend on luminous radiations, it is possible to understand that the influence of a correctly chosen external input of light can elicit important and beneficial modifications in our organism.

When the frequency or wavelength of the emitter and the receiver are matched, energy is transmitted optimally. The light produced by biophotons is considerably coherent. Inserting a Bioluminis® filter

device, which is a receiver/emitter of natural light, between the source of light and the receiving biological skin, increases the coherence of biophotons by means of multiple propagation. The sun emits electromagnetic radiation constantly as small, discrete units called photons.

The propagation of this energy in space is incoherent, that is, it does not behave in a logical, orderly manner, which means that it can not be directly used by the biological environment with therapeutic purposes. To this end, it is necessary to use a decoding device to select, organize, and transmit these photons coherently.

The Bioluminis® device selects, orders and transmits the electromagnetic radiations from natural light to the biological environment through the effect of coherence between the electromagnetic frequencies coming from natural light and the frequencies emitted by the cells.

According to the optical components of each filter, the light waves are transmitted by means of the multiple propagation of the biophotons to the biological environment, where they seem to trigger the process of photo-reactivation. This is a biophysical process for self-repairing that needs a very low intensity ultraviolet radiation in the 400-nanometer band [12, 13].

Each cell carries information that is specific for its function and information for communicating with its immediate or distant surroundings. In other words, a liver cell can duplicate only into an identical liver cell, but it is constantly related to every other cell of the organism.

When a cell (or a group of cells) has any kind of malfunction, the liver cell will instantly receive that information, which may in turn imply a modification of its own function.

This information, along with every cellular communication, is transmitted cell to cell via electromagnetic signals originating from the balance or imbalance of the magnetic fields produce by the electrons forming part of the atoms that make up the biological environment.

The light received comes from the natural light that the Bioluminis® filters capture, concentrate and transmit, in order to regenerate weak cells.

Each Bioluminis® filter has a specific frequency allowing it to select a certain wavelength, scattering and incoherence, from the solar spectrum.

Features of the Bioluminis® method

The use of Biophotontherapy for medical or esthetic applications is divided in three stages: [12, 13]

First stage

Polarization: polarization is the basic treatment for every indication of Biophotontherapy, independently of the pathology or system. It is defined as a state of equilibrium due to the interplay of intracellular and extracellular electrical and magnetic exchanges. Filters type 1+/- are used in both arms, approximately 6-7 cm above the wrists. The +/- signs indicate the direction of polarization, which should be upwards in the left arm and downwards in the right hand. In the legs, the filters are placed approximately 6-7 cm above the internal malleolus, upwards in the left leg and downwards in the right leg.

Polarization treatment is performed as of the first session, and at least 2 or 3 polarization sessions should be carried out before the beginning of a specific treatment, although the clinical state of the patient and the ailment may warrant combining both.

The time of polarization ranges between 30 to 45 minutes for pretreatment or combined treatment, and up to 1 h in the case of complete polarization treatments for the energetic recovery of weakened patients. The sessions should be carried out weekly or twice a month, up to a maximum of 10 sessions in these cases.

Second Stage

Specific treatment: Selection of the appropriate filter for the patient is done by measuring the arterial pulse and localization of the receptor zone for the Bioluminis® on the surface of the skin. Once the filters have been selected for every indication and treatment scheme, they are fixed on the skin with an adhesive. The length of the sessions at this stage goes from 30 to 60 minutes. The number and frequency of sessions depends on the specific clinical case and the disorder being treated.

Third stage

Rubbing: The rubbing technique is performed by sliding the filter over the surface of the skin of the afflicted zone. An appropriate proper filter is selected beforehand by following the fluctuations of the arterial pulse, in a manner analogous to the first stage. Rubbing time ranges from 5 to 15 minutes according to the pathology and its state (acute vs. chronic).

Number of sessions: As in any other therapy, the length of biophotontherapeutic treatment depends on the clinical status of the patient. Usually, from 10 to 20 sessions are carried out.

Frequency: The Bioluminis® treatment can be applied daily, in alternating days, or 2-3 times a week.

Pulse technique

The alteration of arterial pulse as a filter gets closer to the skin surface is the most important evidence proving the existence of electromagnetic exchanges between the filters and the body. The Bioluminis® method is based in the pulse technique, and pulse alteration will depend on the receptor zone on the skin, as well as the selected filter. These magnetic variations physically evidence the role of the filter, even when the filter is a few centimeters away from the skin.

The alteration in arterial pulse can be:

Fast and strong: Upon observing this response, the receptor zone must be found by slowly moving the filter just a few millimeters in the perimeter of the treatment zone. If the intensity of the pulse does not decrease, the filter should be changed, performing the same technique on the selected region until a decrease in pulse rate occurs.

Normal: If the presence of a filter has no effect on the pulse, proceed in the same manner described above, locate the receptor zone specifically or switch filters.

Slow, and deep: This is the optimal reaction between the organism and the filter. The Bioluminis® method decreases pulse intensity by means of the electromagnetic influence on the receptor zone, this being precisely the place where the filter is held during the first or second stages, and where the filter for the third stage (rubbing) is selected.

Applications of Biophotontherapy

Biophotontherapy can be classified in four large groups of applications, described as follows:

· Bio Selective Medicine: Treatment in Bioenergetic Medicine.

· Bio Foton Cosmetics: Aesthetic applications of Biophotontherapy.

· Confort Filter System: Treatment for Jet Lag, and deep venous thrombosis in the Tourist Class Syndrome.

· Energy Filter System: Treatments for Ayurvedic Medicine, through harmonization of the Chakras.

The filters from Bioluminis® Laboratories encompass a broad range of clinical, surgical and aesthetic medical specialties, and deal with the most disparate indications for a large number of ailments and alternative methods. The present text will only describe applications that are directly related to the treatments developed by the group of researchers of the project described in this book.

Bioselective Medicine

The treatments with the Bioluminis® Bioenergetic Medicine can be broadly classified by two different criteria: By system or by medical specialty.

Treatments according to system

General treatments:

1. Polarization
2. Anti-stress
3. Detoxification
4. Cellular degeneration

Osteomyoarticular system:

1. Joints
2. Arthritis-Arthrosis
3. Contusions
4. Decalcifications
5. Vertebral discs
6. Torn ligaments
7. Rheumatism

Respiratory system:

1. Asthma
2. Bronchitis
3. Infections and inflammations
4. Flu

Digestive system:

1. Digestive atony
2. Constipation
3. Gastralgia
4. Ulcers

Urinary system:

1. Cystitis
2. Weak kidneys
3. Kidney stones
4. Prostate

Circulatory system:

1. Arterial circulation
2. Cerebral circulation
3. Venous circulation
4. Varicose veins

Nervous system:

1. Cyatic pain
2. Depression
3. Insomnia
4. Spasmophilia

Lymphatic system:

1. Detoxification
2. Basic lymphatic drainage

Treatments according to medical specialty

Aesthetic surgery:

1. Face:

a) Blepharoplasty (eyelift)
b) Facial aging (facelifts)
c) Lips (enlargement - fillers)
d) Otoplasty (Ear reduction)
e) Rhinoplasty (nose correction)

2. Breasts:

a) Breast ablation
b) Breast augmentation
c) Breast reduction

3. Abdomen:

a) Abdominoplasty
b) Scars

4. Buttocks-thighs-hips-legs:

a) Cellulitis surgery
b) Liposuction

Dermatology:

a) Scars
b) Itching
c) Acne
d) Sunburn
e) Herpes zoster

Physiotherapy:

a) Creeps
b) Cramps and muscle pain
c) Sports
d) Pain in the back and joints

Geriatrics:

a) General well being
b) Memory

Gynecology-obstetrics:

a) Amenorrhea-dysmenorrhea
b) Uterine fibroma

c) Mastosis
d) Menstrual pain
e) Premenstrual syndrome
f) Vaginal secretions
g) Menopause treatment
h) Treatments during pregnancy
i) Post-delivery therapy
j) Treatment for serious diseases
k) Correction treatment for cesarean delivery

Pediatrics:

a) General treatments for infants 0 to 7 years old

Dentistry:

a) Anesthesia
b) Herpes (+ Sores – Oral candidiasis)
c) Gum swelling
d) Throat (pain)

Biophoton cosmetics

General purpose treatments:

1. Polarization
2. Anti-stress
3. Basic lymphatic drainage
4. Against depilatory pain
5. Treatments after sun exposure
6. Problems with peripheral circulation
7. General harmony

Facial treatments:

1. Face detoxification
2. Facial lymphatic drainage
3. Lymphatic detoxification
4. *Lifting* for eye wrinkles
5. *Lifting* of upper lip wrinkling
6. Nasolabial fold *lifting*
7. Congested face
8. Micro pigmentation
9. Pigmented spots

Breast treatments:

1. Breast Lifting
2. Breast scars
3. Stretch marks

Abdominal treatments:

1. Abdominal tonification

Treatments for buttocks:

1. Buttock lifting

Treatments for legs:

1. Sluggish legs (I)
2. Sluggish legs (II)

Corporal treatments:

1. Silhouette-cellulitis
2. Thigh fat
3. Abductor atony
4. Triceps atony
5. Dorsal atony-Firmness of breasts
6. Breast atony
7. Double chin
8. Red-blue capillaries
9. Tummy tuck treatment for men
10. Abdominal stretch marks

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SECOND PART

Clinical Experiences

BIOPHOTONTHERAPY

in Natural and Traditional Medicine

Use of Biophotontherapy for unaesthetic, hypertrophic and keloid scars

Juan de Armas Valdés, MsC
Ángela Gandaria Marsillí, MD
Lázara Pérez García, BSc.
Haydé Sosa Saez, Nurse
Yasmina Leyva Santin, Nurse
Fidelina Sánchez Díaz, Nurse

Abstract

A prospective, longitudinal monocenter study was carried out for the first time in Cuba from January, 2001 to September, 2004 at the Bioenergetic and Natural Plastic Surgery Clinic of the "Luis de la Puente Uceda" Hospital, of the "10 de Octubre" Municipality. Patients were selected out of those attending the clinic, which had unaesthetic, hypertrophic or keloid scars in any anatomical region, regaidless of their age or the cause, extension, and time of evolution of the scarring. The informed consent was always requested and obtained before their inclusion in the study. The subjects received a total of 20 sessions each, with a frequency of 2 sessions per week; each session was 40 minutes long.

This study shows the results of the treatment for 69 patients, where the Cuban experience has proven the remission of keloids and hypertrophic scars, as well as the disappearance of articular retractions in different anatomical regions. The first positive signs of remission are seen in the patients generally from the fifth session onward, when pigmentation changes, pain is relieved and itching disappears. After the eighth session there are changes in the consistency of keloids, with a further decrease in their pigmentation, thickness and consistency after 15 to 20 sessions. By that time there is also a clear recovery from the functional limitations of patients with articular retracted scars. Out of the 69 patients treated, the response to Biophotontherapy was evaluated as good in 48 subjects, satisfactory in 18 subjects, and as null in only 3 patients.

Introduction

The disorders of the scarring process alter the texture and visual appearance of the skin, producing aesthetic alterations wherever they occur. Sometimes the sole presence of a facial scar can have psychological consequences for the subject due in the changes to the harmony of facial lines and contours; it is then understandable that when the scarring is pathological (be it hypertrophic or keloid), the aesthetic, physical and psychological consequences tend to be much more severe.

Facial scars are compounded by their permanent visibility, and if this were not enough, they can potentially produce deformities of the mouth, nose, eyes and ears that not only break facial harmony, but also limit their normal function. For example, depending upon their localization, facial scars may limit opening and closing the mouth and eyelids, and can frequently affect facial expression and gestures.

Scars in other anatomical regions, although less visible, often present a series of symptoms and signs that qualify as pathologic, depending on their thickness, pigmentation, consistency, invasion of surrounding healthy skin and the functional limitations they may impose. Emphasizing this last point is important, since pathological scars can completely prevent the movement of a joint.

Common examples are the problems in extending or flexing an arm if there is pathological scarring at the elbow, or in raising or lowering an arm when it is located at an armpit, and the affected movement of the head typical of post burn scars at the neck. In other words, the presence of scars, wherever they are, may constitute, depending on their size, shape and projection, an aesthetic and functional problem.

Keloids are benign dermal tumors which occur secondarily during an abnormal scarring process, that typically invade the surrounding tissues and are characterized by the excessive deposition of collagen. They may appear up to a year after the primary damage, and the size of the lesion is not correlated with the size of the initial wound. The edges of the lesion extend beyond the borders of the initial wound, and have a high percentage of recurrence.

Some keloids are presented spontaneously. Surgical lesions, trauma, inflammations and infections are possible triggers for their occurrence. Among the symptoms associated with keloids are itching, pain, hyperpigmentation, loss of contractibility and mobility, and an increase in size [1, 2].

Keloids tend to appear during periods of physical growth, which determines their higher frequency in ages between 10 to 30 and the fact that they seldom appear in elderly persons. They occur in persons from all races; although they are 15-fold more frequent in persons with very pigmented skin when compared to Caucasians. There are no reports of the existence of keloids in albinos [3-5].

The etiology of keloids is said to be multifactorial. Traumas, increases in skin tension and hormonal imbalances are included among the most common causes, although the cause can also be genetic, due to biochemical differences, or to the presence of immunological and growth factors [6-13].

Trauma seems to be the factor most frequently associated with the development of keloids. Both random (lacerations, burns, vaccines, insect bites) or expected (surgery, tattooing, piercing of ear lobes) traumatic events have been reported as causes of keloids.

An excessive tension of the skin increases the probability of the appearance of keloids due to the intense dermal remodeling of collagen. If possible, scars should always be oriented along the lines of cutaneous tension to lower the risk of the formation of keloids [14, 15].

The role of endocrine factors in the development of keloids is widely documented. Hormone excess has been associated to the growth of keloids, including high levels of estrogens, of parathyroid hormone, adrenocortical abnormalities, and changes in the Melanocyte-Stimulating Hormone. Keloids often appear during puberty and may grow or develop during pregnancy. They may also suffer atrophy during menopause.

Among the physiopathogenic factors described in the development of keloids it is possible to find an abnormal activity of fibroblasts, increases in the synthesis of hyaluronic acid, increases in the levels of growth factors and other cytokines, a decrease in apoptosis, an increase in the levels of tissue plasminogen activator 1 (tPA-1), abnormal immune reactivity, and histic hypoxia [16, 17].

Currently there are several therapeutic alternatives for keloids, such as surgery, radiotherapy, physical pressure (elastic compressive bandage), silicone (gel), laser, corticosteroids, cryotherapy, interferon and other pharmacological agents, infiltration, and/or the use of a combination of any of the former therapies. Good results are obtained with surgery for hypertrophic scars; for

keloids, the frequency of recurrence is about 50-80%. The use of radiotherapy remains controversial, with a frequency of recurrence from 50 to 100% and a potential long-term carcinogenicity [3, 7, 8, 12, 18, 19].

In the case of physical pressure, this therapy demands the active collaboration of the patient, since a capillary pressure of over 24 mm Hg must be maintained 24 h a day for 6-12 months. Silicone does not act directly on the keloid; on the other hand, laser therapy seems to be effective for both types of scars, perhaps due to the elimination of neovascularization [9-11]. In the case of corticosteroids, there are reports of skin atrophy, depigmentation and telangiectasias, together with the pain associated to the intralesional route of administration. Cryosurgery may end up in necrosis due to the formation of thrombi and the associated anoxia; and the mechanism of action of Interferon seems to be the inhibition of collagen synthesis through different pathways.

Due to the paramount importance of the quality of scars in the specialties of Plastic Surgery, Reconstructive Surgery and Burns, we decided to start the study on the treatment of unaesthetic, hypertrophic and keloid scars since the very first time that Prof. Jacques Henry Mula delivered the Bioluminis® filters. Such an early decision was based on the fact that the current therapeutic alternatives do not offer a definitive answer to the problems of keloid scarring and therefore, keloids continue to be a tragedy both for the patient and for the plastic surgeon, since the individual with a tendency or predisposition to keloid scarring did not have access to an effective method guaranteeing his remission.

In this paper you will be able to corroborate that there is a total response to the application of Biophotontherapy in the treatment of pathological scarring, measured in relationship to symptoms, pain, itching, functional limitations, thickness, consistency and pigmentation of keloids and hypertrophic scars.

In addition to this, the Bioluminis® filters have the benefits of being innocuous, having no counterindications, side effects or adverse reactions, with a long-lasting effect and no recidivations in the patients under treatment. To top if off, the method is not painful or invasive, and can be used in children of all ages.

This paper describes the results of the use of Biophotontherapy in 69 patients afflicted from unaesthetic, hypertrophic or keloid scars, showing the photographic sequences of the evolution of the most representative clinical cases and the largest lesions.

Materials and methods

An experimental, longitudinal and prospective study was carried out with patients from the Bioenergetic and Natural Plastic Surgery Clinic that were looking for a solution for their scarring problems, in the period comprising January, 2001 to September, 2004.

Patients were selected according to the inclusion criteria and after signing an informed consent. The first step takes place in the Plastic Surgery consultation room, where the pathologic scar is diagnosed as either unaesthetic, hypertrophic or keloid.

Inclusion criteria

1. Patients with unaesthetic, hypertrophic or keloid scars in any anatomical region and time of evolution.

2. Patients from either gender, aged 5 to 90 years old.
3. Use of Biophotontherapy as sole method for the treatment of the scars.
4. Patient acceptance by means of a written informed consent.

Exclusion criteria

1. Pregnancy.
2. Concurrent application of any other therapy (infiltration, steroidal cream, elastic compressive bandage, laser therapy, etc.) for the treatment of the scars.
3. Patients with mental disabilities.

The patients at the Plastic Surgery consultation room were informed about the new alternative of Biophotontherapy, and the treatment was indicated if they agreed, complied with the inclusion criteria, and gave their informed consent.

The Biophotontherapy method with Bioluminis® filters was performed as the sole therapy for all the patients, twice a week with a session of 40 minutes. The filters were positioned on the pathological scar after polarization, followed by rubbing for 5 to 10 minutes across the whole area of the scar. The filters were selected individually according to the variations in the arterial pulse of each patient, both before the 40 min treatment and before the rubbing sessions. The arterial pulse technique was carried out according to the previously described criteria. The Bioluminis® filters used for the Biophotontherapy of scars were 1 +/- filters for polarization, multipurpose bandages and 1B, 3B, 6B, 7B, 10B or 11B for their application on the affected areas or rubbing.

Evaluation of results

The evaluation of the results of the treatment by Biophotontherapy was based on the main variable of the study, that is, the physical signs of the pathological scars in each patient according to the color, appearance, consistency and thickness of the scar. The secondary variable used to evaluate the efficacy of the method was determined by the symptoms and clinical manifestations of pain, itching and functional limitations for the patients bearing scars in joint areas; and the treatment was evaluated after the tenth and twentieth session as follows:

Unaesthetic and hypertrophic scars

Good: Decrease in consistency, color, appearance and thickness of the scar from 80 to 95%. The patient is satisfied.

Satisfactory: Decrease in consistency, color, appearance and thickness of the scar from 50 to 80%. The level of patient satisfaction is low.

Null: Decrease in consistency, color, appearance and thickness of the scar not higher than 50%. The patient is not satisfied.

Keloid scars

Good: Decrease in pain and itching from 80 to 95%, decrease in consistency, pigmentation, appearance and thickness from 60 to 80%. The patient is satisfied.

Satisfactory: Decrease in pain and itching from 50 to 80%, decrease in consistency, pigmentation, appearance and thickness from 40 to 60%. Low levels of satisfaction in the patient.

Null: Decrease in pain and itching lower than 50%, decrease in consistency, pigmentation, appearance and thickness lower than 40%. The patient is not satisfied.

Results and Discussion

We present the result of 69 patients treated by Biophotontherapy as the sole method for the treatment of unaesthetic, hypertrophic and keloid scars, during the 20 treatment sessions. The most highly represented age group was 15-29 years old, followed by the group of 15-29 years old totaling 39 and 23 patients in each group, respectively. Both groups were predominantly females (table 1).

Table 1. Age and gender distribution

Age distribution	Female	Male	Total
6 - 14	2%	1	3
15 - 29	15	8	23
30 - 59	37	2	39
60 - 70	3	-	3
+ 70	1	-	1
Total	58	11	69

A correlation was noted between the sites of the appearance of the scars and their diagnosis, regaidless the type of scar (unaesthetic, hypertrophic or keloid), with a higher prevalence for scars in the anterior thorax with 29 patients, and the abdomen with 27. It should be pointed out that more than 50% of the patients had scars in different anatomical regions (table 2).

Table 2. Listing, diagnosis and location ot the scars

Anatomical location	Unaesthetic scars	Hypertrophic scars	Keloid scars	Total
Face	2	1	5	7
Neck	-	1	5	6
Anterior thorax	-	8	21	29
Posterior thorax	-	-	4	4
Upper limbs	-	4	7	11
Lower limbs	-	1	2	3
Abdomen	5	6	16	27

The etiology of pathological scarring in this study comprised burns, surgery, trauma and unknown (spontaneous). It is interesting that 3 out of 5 patients with spontaneous lesions belong to the same family, which corroborates the influence of hereditary factors in this pathology.

The causes of the scars are described in table 3, where it can be observed that post-surgical scars represent 46.3% (32 patients) of the total, 41.4% of which (17 patients) have keloids. The next most frequent cause in this study was burns with 23 patients, of which 15 (36%) had keloids, proving that the level of trauma caused by burns, with its resulting necrotic lesions and independently of its extension, predisposes the patient to the occurrence of pathological scarring and, specifically, post-burns keloids.

Table 3. Etiology of pathological scarring

Etiology	Unaesthetic scars	Hypertrophic scars	Keloid scars	Total
Post-burns	3 (27.3)	5 (29.4)	15 (36.5)	23 (33.3)
Post-surgical	5 (45.5)	10 (58.9)	17 (41.4)	32 (46.4)
Post-trauma	3 (27.2)	2 (11. 7)	4 (9.7)	9 (13.0)
Spontaneous	0	0	5 (12.4)	5 (7.3)
Total (%)	11 (100)	17 (100)	41 (100)	69 (100)

In order to evaluate the efficacy of Biophotontherapy in our study, 3 evaluations were carried out for each patient. An initial evaluation was performed to determine the diagnosis and selection criteria, as well as clinical signs and symptoms; a second one was performed after 10 treatment sessions, and the last was performed after the completion of the treatment at 20 sessions. According to the evaluation criteria described above, and taking into account the main and secondary pre-established variables, we find that at the end of the treatment, 48 (69.5%) out of the 69 patients included in the study showed a Good response to Biophotontherapy (table 4).

Table 4. Effectiveness of Biophotontherapy for the treatment of pathological scarring

Effectiveness	Unaesthetic scars	Hypertrophic scars	Keloid scars	Total
Good	7	13	28	48
Satisfactory	4	4	10	18
Null	0	0	3	3
Total	11	17	41	69

The evolution of unaesthetic scars was Good for 7 patients and Satisfactory for 4, achieving a modification of the characteristics of the scar as defined by the consistency, thickness, pigmentation and appearance that can be considered as aesthetically acceptable, given that the appearance of the scar is similar to that of the surrounding skin.

Out of the 17 patients afflicted with hypertrophic scars, 13 were evaluated as Good and 4 as Satisfactory, taking into account decreases in pigmentation, consistency, thickness and appearance ranging from 80 to 95% in the former, and 50 to 80% in the latter. It is worth noting that the use of Biophotontherapy enabled the achievement of an aesthetic improvement, reflected in the high degree of satisfaction displayed by the patients.

Keloid scars, due to their clinical features, are frequently accompanied by pain and intense itching that can sometime be generalized. In this study, we found that after only 3 to 4 treatment sessions of Biophotontherapy there is a noticeable decrease in both symptoms, with a complete disappearance between the sixth and eighth session. This means that there is a 100% definitive remission rate for the symptoms of keloid scars between our patients. Regarding the consistency and thickness of the scars, a progressive reduction is found at between sessions 4 and 5, accompanied by changes from the aesthetic point of view in pigmentation and appearance. Of

the 41 patients with keloid scars treated by Biophotontherapy, 28 were evaluated as Good taking into account that a reduction of pain and itching was achieved in 100% of the cases, with an improvement in consistency, thickness, pigmentation and appearance for more than 80% of the patients. The therapeutic result was evaluated as only Satisfactory for 10 patients, which only had improvement ratings of 80% for the symptoms and 60% in relation to consistency, thickness and pigmentation. The treatment result was evaluated as Null for 3 patients (4.3%) out of the 69 subjects included in this study.

Analyzing the results from a purely aesthetic point of view, a significant improvement was achieved in all the patients. This alone is very valuable psychologically for the patients suffering from unaesthetic scars, and is usually beyond the reach of the conventional therapies for hypertrophic and keloid scarring.

Benefits of Biophotontherapy

1. The method is not invasive, painless, and does not harm the patient.
2. It does not have side effects or the adverse reactions which are so typical of modern drugs.
3. It does not require electric energy or a supply of any other kind of energy for its functioning.
4. It has a proven high rate of effectiveness.
5. It is long-lasting, does not require operational expenses and does not deteriorate.
6. It substitutes a broad range of drugs and devices that are necessary for the treatment of pathological scarring.

Conclusions.

1. Biophotontherapy is effective for the treatment of pathological scarring.
2. The conventional treatments for keloids and hypertrophic scars are long-termed, costly, and are less effective than Biophotontherapy.
3. A high degree of patient satisfaction is achieved.
4. The remission of symptoms for keloids is definitive, with total disappearance of pain and itching.
5. It is possible to eliminate the functional limitations imposed by retracted scars in joints.
6. There is a clear improvement from the aesthetic point of view, which is higher than that achieved by conventional methods thus far.

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Clinical cases of unaesthetic, hypertrophic and keloid scarring

Bioenergetic and Natural Plastic Surgery Clinic
Case report, Biophotontherapy

Case 1

Patient: G. B. R.

Age: 7. Race: Caucasian.

Gender: Female. Occupation: Student.

Diagnosis: Keloid scars.

Cause of the keloid: Post burns.

Location: Anterior thorax and lower back (lumbar and pelvic regions).

Time of Evolution: 1 year.

Filters used: Filters 1 +/-, 1B, 3B and multipurpose bandages.

Description of the treatment

· Polarization: 3 sessions.

· Specific treatment: Filters 3B, 1B and multipurpose bandages, affixed for 40 minutes.

· Rubbing: Filter 3B over the surface of the keloid for 10 minutes.

· No. of sessions: 20.

Results

· Thickness: 80% reduction.

· Consistency: Decrease in hardness, recovery of elasticity.

· Pigmentation: Disappeared (similar to normal skin).

· Pain: Absent.

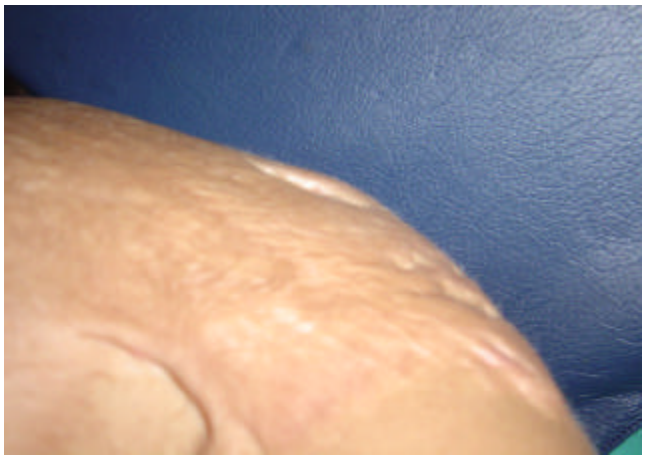
· Itching: Disappeared.

Observations

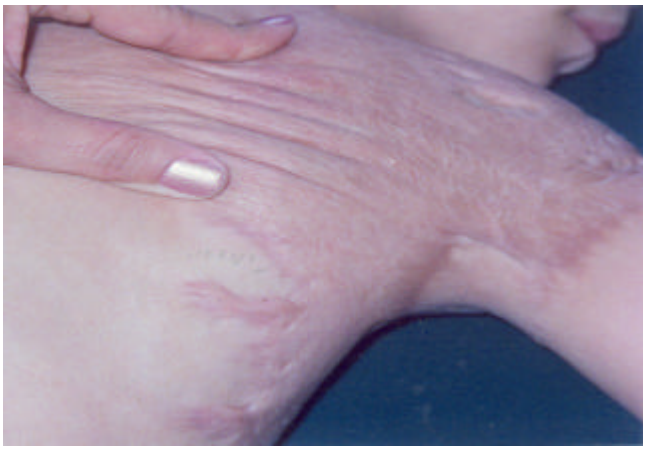
There was a detectable response from the sixth session onwards, with a decrease in the intensity of pigmentation and itching. From session 10 on, there was a progressive decrease in the thickness of the keloid, and by session 20 the patient was evaluated as healed, since there was a decrease in thickness of over 80% and the keloid had become a hypertrophic scar. After another 20 treatment sessions, this hypertrophic scar had turned into an unaesthetic scar, with a total recovery of texture, elasticity and hair growth similar to normal skin.

Picture 1 and 2. Six year old patient, before treatment with Biophotontherapy. Keloid post-burns scars.

Picture 3. Result after 20 sessions. Decrease in thickness, consistency and pigmentation.



Picture 4. Hair growth over the surface of the scar after Biophotontherapy.



Picture 5. The scar regains a degree of elasticity similar to that of normal skin.

Case 2

Patient: A. N. L.

Age: 22. Race: Caucasian.

Gender: Male. Occupation: Student.

Diagnosis: Keloid scars.

Cause of the keloid: Post-burns.

Location: Both upper limbs (Arm and forearm including the elbow). Functional limitation for extending both forearms.

Time of Evolution: 6 months.

Filters used: Multipurpose bandages, filters 1B and 1 +/-.

Description of the treatment

· Polarization 3 sessions.

· Multipurpose bandages for 17 sessions, 40 minutes long.

· Rubbing performed with Filter 1B all over the surface of the keloid for 10 minutes, progressively to each anatomic region.

· No. of sessions: 20.

Results

· Thickness: 80% decrease.

· Consistency: Decrease in hardness and total recovery of elasticity.

· Pigmentation: Disappeared (similar to normal skin).

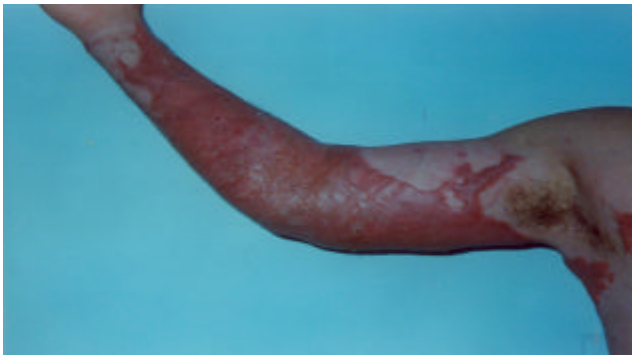
· Pain: Absent.

· Itching: Decrease.

· Functional limitation: Total recovery from articular retraction in both arms.

Observations

The improvement was detected at the fourth treatment session with a clear decrease in itching and pigmentation. The thickness of the scar began to decrease progressively between the sixth and seventh session. This patient healed from keloid scars using Biophotontherapy as the only treatment.



Picture 1. Keloid scars in right arm. Functional limitation for straightening and flexing.

Picture 2. Keloid scars in right arm. Results after 10 sessions.

Picture 3. Keloid scars in left arm. Functional limitation for straightening and flexing.

Picture 4. Keloid scars in left arm. Results after 10 sessions.

Picture 5. Keloid scars in right arm. Results after 20 sessions. The ability straighten the arm is totally recovered.

Picture 6. Keloid scars in left arm. Results after 20 sessions. The ability to straighten the arm is totally recovered.

Picture 7. Keloid scars in right arm. Results after 20 sessions. The ability to bend the arm is totally recovered.

Picture 8. Keloid scars in left arm. Results after 20 sessions. The ability to bend the arm is totally recovered.

Bioenergetic and Natural Plastic Surgery Clinic
Case report, Biophotontherapy

Case 3

Patient: D.L. P.
Age: 19. Race: Mulatto.
Gender: Male. Occupation: Student.
Diagnosis: Hypertrophic scars.
Cause of the keloid: Post burns.
Location: Face, neck and chest.
Time of Evolution: 4 years.
Filters used: Filters 1 +/-, 1B and multipurpose bandages.

Description of the treatment

· Polarization 3 sessions.
· Specific treatment: Filters 1B and multipurpose, affixed for 40 minutes.
· Rubbing with filter 1B all over the surface of the keloid for 10 minutes.
· No. of sessions: 20.

Results

· Thickness: 90% decrease.
· Consistency: Decrease in hardness.
· Pigmentation: Partial decrease.
· Pain: Absent.
· Itching: Absent

Picture 1. Before the treatment. Post-burn hypertrophic scars in face and neck. Retraction from chin to chest, functional limitation in neck extensibility.

Picture 2. After treatment. Disappearance of chin-to-chest retraction. Total lateral mobility.

Picture 3. Hypertrophic scars in face and neck. Before treatment.

Picture 4. Hypertrophic scars after treatment. Decrease in thickness, consistency and pigmentation.

Picture 5. Total neck extensibility after 20 sessions.

Bioenergetic and Natural Plastic Surgery Clinic

Case report, Biophotontherapy

Case 4

Patient: M.P.M.

Age: 41. Race: Negroid.

Gender: Female. Occupation: Technician.

Diagnosis: Keloid scars.

Cause of the keloid: Post-burns.

Location: Face, neck and chest (sternal region).

Time of Evolution: 3 years.

Filters used: Multipurpose bandages, filters 1B and 1 +/-.

Description of the treatment

· Polarization 3 sessions.

· Specific treatment: Filters 1B and multipurpose, affixed for 40 minutes.

· Rubbing with filter 1B all over the surface of the keloid for 10 minutes.

· No. of sessions: 20.

Results

· Thickness: 80% decrease.

· Consistency: Decrease in hardness.

· Pigmentation: Partial decrease.

· Pain: Absent.

· Itching: Decrease.

Picture 1. Keloid scar in left cheek, before treatment.

Picture 2. Keloid scar in left cheek, after 20 treatment sessions.

Picture 3. Pre-sternal keloid scar before Biophotontherapy.

Picture 4. Pre-sternal keloid scar after Biophotontherapy.

Bioenergetic and Natural Plastic Surgery Clinic

Case report, Biophotontherapy

Case 5

Patient: M. P. C.

Age: 56. Race: Negroid.

Gender: Female. Occupation: Technician.

Diagnosis: Keloid scars.

Cause of the keloid: Spontaneous.

Location: Anterior thorax, both breasts.

Time of Evolution: 17 years.

Filters used: Multipurpose bandages, filters 1B, 7B and 1 +/-.

Description of the treatment

· Polarization 3 sessions.

· Specific treatment: Filters 1B and multipurpose, affixed for minutes.

· Rubbing with Filter 1B, 7B all around the surface of the keloid for 10 minutes.

· No. of sessions: 20.

Results

· Thickness: 60% decrease.

· Consistency: Decrease in hardness.

· Pigmentation: Partial decrease.

· Pain: Total disappearance.

· Itching: Completely disappeared.

Picture 1. Butterfly-shaped spontaneous keloid, before treatment.

Picture 2. Butterfly-shaped spontaneous keloid after 10 treatment sessions. Clinical improvement in pain and itching. Slight decrease in thickness and consistency.

Picture 3. Decrease in thickness and shift in position over healthy skin of the keloid after 10 treatment sessions. Upper left quadrant.

Picture 4. Butterfly-shaped spontaneous keloid. Lower quadrants.

Picture 5. After 10 treatment sessions. Decrease in thickness and pigmentation in the left quadrant, smaller decrease in right quadrant.

Picture 6. Evolution after 20 Biophotontherapy sessions.

Picture 7. Flattening of the edges and positional shift of healthy skin.

Picture 8. Decrease in thickness of the edges in the lower quadrants, after 20 treatment sessions.

Bioenergetic and Natural Plastic Surgery Clinic

Case report, Biophotontherapy

Case 6

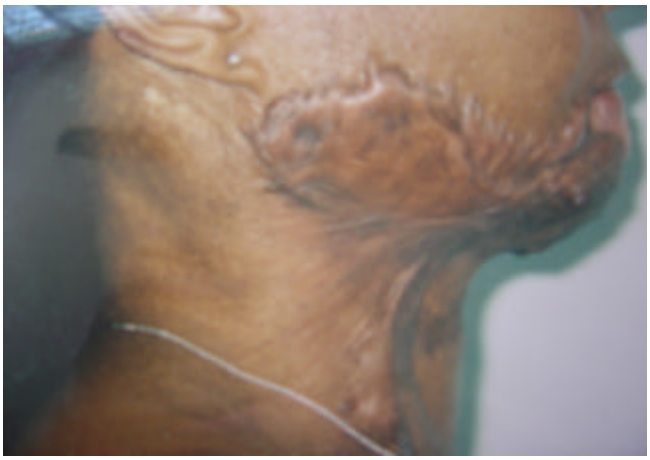
Patient: M. L. M. B.
Age: 37. Race: Mulatto.
Gender: Female. Occupation: BSc. in Pharmaceutics.
Diagnosis: Keloid scars.
Cause of the keloid: Post-burns.
Location: Face, neck, upper chest and upper limbs.
Time of Evolution: 4 years.
Filters used: Multipurpose bandages, filters 1B and 1 +/-.

Description of the treatment

· Polarization 3 sessions.
· Specific treatment: Filters 1B and multipurpose, affixed for 40 minutes.
· Rubbing with filter 1B all over the surface of the keloid for 10 minutes.
· No. of sessions: 20.

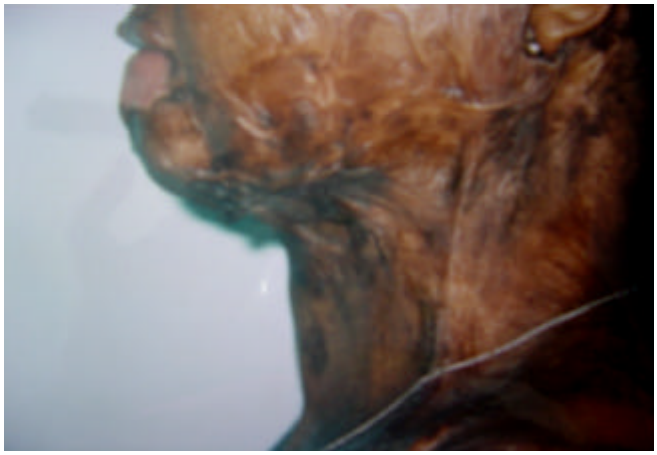
Results

· Thickness: 60% decrease.
· Consistency: Decrease in hardness.
· Pigmentation: Partial decrease.
· Pain: Absent.
· Itching: Disappeared.



Picture 1. Keloid scars in face and neck, before treatment.

Picture 2. 60% decrease in keloid scarring after treatment.



Picture 3. Left lateral view, before treatment.

Picture 4. Left lateral view, after treatment. Improvement in thickness, pigmentation, texture and consistency of post-burns scarring.

Picture 5. Appearance of the scarring before treatment.

Picture 6. Improved appearance of the scarring after treatment.

Picture 7. Reduction of functional limitations after treatment. Movement to the left.

Picture 8. Reduction in functional limitations after treatment. Movement to the right.

Bioenergetic and Natural Plastic Surgery Clinic

Case report, Biophotontherapy

Case 7

Patient: Y. C. A.

Age: 22. Race: Caucasoid.

Gender: Female. Occupation: Social worker.

Diagnosis: Hypertrophic scars.

Cause of the keloid: Post-burns.

Location: Neck, chest and upper limbs.

Time of Evolution: 11 months.

Filters used: Multipurpose bandages, filters 1B, 8B and 1 +/-.

Description of the treatment

· Polarization 2 sessions.

· Specific treatment: Filters 1B, 8B and multipurpose, affixed for 40 minutes.

· Rubbing with filter 1B all over the surface of the keloid for 10 minutes.

· No. of sessions: 20.

Results

· Thickness: 80% decrease.

· Consistency: Decrease in hardness.

· Pigmentation: Total decrease (Return to the color or normal skin).

· Pain: Absent.

· Itching: Disappeared.

Picture 1. Post-burn hypertrophic scars before treatment.

Picture 2. Post-burn hypertrophic scars after treatment.

Picture 3. Functional limitations to the extensibility of the arms before treatment.

Picture 4. Decrease of the functional limitations to the extensibility of the arms after treatment.

Picture 5. Functional limitations to the extensibility of the left arm before treatment.

Picture 6. Decrease of the functional limitations to the extensibility of the left arm after treatment.

Picture 7. Post-burn hypertrophic scars in the neck, before treatment. Right lateral view.

Picture 8. Post-burn hypertrophic scars in the neck, after treatment. Right lateral view.

Picture 9. Post-burn hypertrophic scars in the neck, before treatment. Left lateral view.

Picture 10. Post-burn hypertrophic scars in the neck, after treatment. Left lateral view.

Picture 11. Post-burn hypertrophic scars in the neck, before treatment. Right lateral view.

Picture 12. Post-burn hypertrophic scars in the neck, after treatment. Right lateral view.

Picture 13. Post-burn hypertrophic scars in the neck, before treatment. Anterior view.

Picture 14. Post-burn hypertrophic scars in the neck, after treatment. Anterior view.

Picture 16. Decrease in consistency and thickness of the scar in the chest.

Picture 17. Decrease in consistency and thickness of the scar in the arm.

Picture 18. Decrease in consistency and thickness of the scar in the neck.

Biophotontherapy applied to children with hypertrophic scars and keloids

Natacha Lidia Salazar Acosta, MD

Abstract

This paper presents the results of a prospective therapeutic study with Bioluminis® filters in children with hypertrophic and keloid scars. A total of 44 cases were included, with ages ranging from 0 to 14 years, all of which evolved satisfactorily with the Biophotontherapy treatment.

Our study proved that Biophotontherapy is innocuous, painless and non-invasive, inducing sensations of well-being and eradicating fear. Therapeutic improvements are achieved in a short period without side effects or contraindications; this makes it a very useful method in Pediatrics.

Out of the 44 infants treated during the 3 years of the study, 17 (38.6%) had hypertrophic scars, whereas 27 (61.4%) had keloids; of which 20.5% were classified as post-surgical, and 79.5% as post-burn scars.

Regarding the evolution of the scars with therapy, all patients showed improvements in pigmentation and itching after the 4th session, and there was a noticeable flattening of hypertrophic scars by the 10th session. The keloids of 20 patients had flattened by session number 20, and by session 40 the keloids of an additional 7 children had also flattened.

These results are unattainable with other methods, which leads us to conclude that Biophotontherapy is an effective alternative for the treatment of pathological scarring in children.

Introduction

Biophotontherapy is a new therapeutic method in Cuba. It was first used in January, 2001 by Dr. Ángela Gandaria and her team at the Bioenergetic and Natural Plastic Surgery Clinic, of the "Luis de la Puente Uceda" Hospital, after receiving the methodology and the Bioluminis® filters from Prof. Jacques H. Mula, their creator. This research started in February, 2002, with the involvement of 5 centers (one of them a pediatric institution) and under the guidance of Dr. Ángela Gandaria. The results showed here are related to the use of Biophotontherapy in children with hypertrophic and keloid scars.

A large number of methods have traditionally been used for the treatment of pathological scarring, including infiltrations, steroidal creams, Sodium Heparin creams, laser therapy, massages, radiotherapy, surgery and elastic compressive bandages, but they all have had very low success rate, high costs, and are very long and unpleasant therapies, specially for children [5-10].

Biophotontherapy is a short-term, effective inexpensive therapy that produces pleasant sensations, and since it is a non-invasive method it does not produce fear in pediatric patients.

Materials and Methods

A prospective therapeutic study with Bioluminis® filters was carried out in children with hypertrophic and keloid scars, at the Reconstructive Surgery and Burns consultation room in the Educational Pediatric Hospital "Juan Manuel Márquez". A total of 44 cases were included, with ages ranging from 0 to 14.

Exposure to the filters in infants has its own characteristics when compared to that for adults. Specifically, filter number 230 is the only one used in children under 7 yearsof of age; for older children a polarization is performed and filters 1B, 3B, and 10B are used, in a similar manner to that of adults. The sessions are 20 or 30 minutes long, given twice a week.

The procedure, as in adults, has 3 stages, starting with polarization and anti-stress treatment, local filters, and then rubbing.

Results and discussion

During this 3-year study (2002 to 2005) 59 patients were included, although 15 dropped out of the therapy in spite of achieving clinical improvement. The main causes for this were that they lived too for from the hospital, and conflicts with school attendance. However, in all cases of diop-outs the patients were relieved and satisfied (tables 1 and 2).

Table 1. Distribution by pathology

Pathology	No. of patients	Percentage
Hypertrophic scars	17	38.6
Keloid scars	27	61.4
Total	44	100

Table 2. Distribution of pathologies by age group

Age group	Hypertrophic scars	Keloid scars	Total	Percentage
0-7	10	16	26	59.1
8-14	4	8	12	27.3
15-19	3	3	6	13.6
Total	17	27	44	100

Of all the patientsstudied, 17 (38.6%) had hypertrophic scars and 27 (61.4%) had keloids, distributed in different anatomical regions with a predominance of the face, followed by the chest, abdomen and limbs (table 3).

Table 3. Distribution according to the afflicted areazone

Afflicted zone	No. of patients	Percentage
Face	16	36.4
Thorax and abdomen	15	34.1
Limbs	13	29.5
Total	44	100

The most frequent cause for scars was burns, with 35 patients (79.5%) and surgery for 9 (20.5%) (table 4).

Table 4. Distribution ot associated pathologies

Associated pathologies	No. of patients	Percentage
Present	30	68.2
Absent	14	31.8
Total	44	100

Thirty five (79.5%) patients had previously received other treatments without achieving any improvement.

Of all the patients, 79.5% had scars that had evolved for, year or less, and 20.5% had 2 years of evolution.

The following scoring system was used to evaluate the results: Null, if there were no changes; Satisfactory, when pain and itching were relieved but there were no changes in pigmentation, consistency and volume; Good, if there were, in addition to the former, improvements in pigmentation, consistency and volume, and, finally, High if the scar flattened to the level of the surrounding skin and the patient became asymptomatic, without retraction, and satisfied. The decrease in the volume of the scars was measured with a compass and a ruler.

A subjective evaluations of the patient, the family and the therapist were carried out, together with objective assessments by physical examination and plots of evolutionary charts and photographs. The evaluations were carried out in sessions 4, 10, 20 and 40.

We observed that by the fourth session 100% of the patients had been relieved from pain and itching.

At the time of the tenth session the hypertrophic scars had been flattened to the level of the surrounding skin, and their consistency and pigmentation similarly matched those of normal skin. Keloids showed lower levels of pigmentation and had evolved to become hypertrophic scars. By the twentieth session, keloids were eliminated in 20 patients (74.1%), and with session number 40, 7 of the remaining patients (in which keloids were associated with joint retraction) had been relieved (table 5).

Table 5. Number of treatment sessions and days taken for of clinical achievements

No. of treatment sessions	Days	Clinical achievement	No. of patients	Percentage
4	14	Pain relief	44	100
10	35	Measurable reduction in height, width and pigmentation	44	100
20	70	High HS	17	39
40	140	High KS	20	45.4
+ 40		High KS and retractions	7	16

It can be observed that the edges and height of the scars receded 1 mm and 0.5 mm, respectively, every 2 sessions.

The predominant age group was of children from 0 to 7 years old with 30 subjects, constituting 68.2% of the patients. At the end of the study, all the patients were in total remission (table 6).

Table 6. Effectiveness of Biophotontherapy

Effectiveness	No. of patients	Percentage
Worse	0	0
Null	0	0
Better and High	44	100
Total	44	100

The results obtained with this therapy in Cuba match those obtained by Prof. Mula. Biophotontherapy was effective and pleasant for pediatric patients, and noticeable improvements were observed from the first session, such the as relied from pain and itching, as informed by the patients themselves or their relatives. The flattening of the edges of the scars and pigmentation changes, manifested as a pattern of pale spots within the hyperchronic coloration of the scar, were observed from the 4th session onwards.

The changes became more conspicuous by the 10th session, with a decrease in the width and height of the scars above skin level, and changes in consistency. For the largest keloids, associated with retractions, it took from 20 to 40 sessions for a total recovery of the elasticity of the skin and articular movement.

Benefits of Biophotontherapy

Biophotontherapy is an innocuous, painless method that induces pleasant sensations and achieves improvements which are noticeable within a short time. It acts on the whole organism, decreases the sensations of fear frequently associated with visits to the doctor in pediatric patients and demands an active involvement of the patient, therefore improving the patient-therapist relationship. It does not have contraindications or adverse reactions. The Bioluminis® filters do not need an energy source other than natural light, do not deteriorate, they do not need to be reactivated and are long-lasting.

Conclusions

Biophotontherapy is an effective method for the treatment of hypertrophic and keloid scars. It has advantages over other therapeutic alternatives in its the ease of application and the short time needed to improve the symptoms and signs typical of pathological scars. The state of well being is recovered and functional limitations are improved for all patients, and it is well received by patients and relatives alike.

Clinical cases of hypertrophic and keloid scars in pediatric patients

Case 1. Patient with keloid scars in the neck, chest and right arm.

Case 1. Evolution after 10 sessions of Biophotontherapy.

Case 2. Recovery from functional limitation through Biophotontherapy. Total extensibility.

Case 2. Recovery from functional limitation through Biophotontherapy. Flexing of the arm.

Case 2. Retractile bridle, post-burns sequel.

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Biophotontherapy in the treatment of aesthetic alterations

Lázara Pérez García, BSc.
Ángela Gandaria Marsillí, MD
Juan de Armas Valdés, MsC
Haydé Sosa Saez, Nurse
Yasmina Leyva Santín, Nurse
Fidelida Sánchez Díaz, Nurse

Abstract

Biophotontherapy is introduced for the first time in Cuba at the Bioenergetic and Natural Plastic Surgery Clinic, as an alternative for the treatment of acne sequelae and against facial aging.

An experimental, longitudinal prospective study was carried out with 177 patients attending the Bioenergetic and Natural Plastic Surgery Clinic that were trying to find a solution for their aesthetic alterations. This study took place from January, 2002 to December, 2004.

Samples were selected according to the inclusion criteria of the study and after signing the informed consent. The first step takes place in the Plastic Surgery consultation room, where the aesthetic alteration is diagnosed.

Each patient underwent 10 sessions twice a week, including polarization.

Bioluminis® filters afford the possibility of aesthetic treatments for a large number of patients within the scope of Natural and Traditional Medicine. Out of the 177 patients treated, 74.5% were evaluated as Good (the top score) and only 2.3% (4 patients) as Satisfactory.

Introduction

Aesthetics has always been a source of great human concern. Social groups and tribal communities took physical beauty into account for the projection and position of an individual in the social scale. It is undisputable that purely physical matters have been definitive for mankind since prehistoric times, and the need to solve aesthetic problems (whether to correct alterations and deformities or to enhance the beauty on a face or a well-formed contour) has moved together with its aesthetic values [1, 2].

The number of cosmetics, devices for beauty enhancement and methods to solve aesthetic problems encompasses a broad range of technologies, with new ones being marketed every day. This has propelled the cosmetic industry, armed with the newest technologies to achieve high quality products, to the development of new product lines of proven effectiveness chemical or natural origin. However, this search for a solution to aesthetic problems and aging is never ending, given that modern man, with an increasing life span, is forever more concerned for the signs of aging.

Having a long and a high quality life is not a chimera, but a pressing need for senior citizens to reach a physical and mental balance. Although aging is unavoidable, mankind insists on concealing its visible effects, thus generating feelings of anguish and depression in a growing number of persons. Consequently, there is a progressive increase in the requests for corrections of corporal

deformities or facial signs of aging at the Aesthetics and Plastic Surgery centers, together with a rising demand for cosmetics [3].

There are many published papers on aesthetics, and a large number of persons and professionally engaged in beauty-related treatments. The Aesthetics Associations, and an important number of institutions try to meet the growing aesthetic demands of modern life. All of these persons and institutions deal, in the end, with an organ that constitutes one of the central tenets of Aesthetics, the largest organ in the human body, one of whose role is to separate the macrocosm (the environment) from the microcosm (the internal medium); this organ is the skin. It is not possible to talk about aesthetics without mentioning the importance, anatomy and physiology of the skin as an organ that wraps the body, extending like a cover of varying thickness.

The skin is a complex gland with internal secretions, formed by antibodies, enzymes, hormones and vitamins synthesized within, and external secretions synthesized by its organelles like keratin, melanocytes, and sebaceous and sweat glands. The skin protects the body from aggressions, limiting its structures and keeping in the internal fluids, while controlling body temperature by regulating blood flow (The amount of blood circulating in the skin amounts to 30% of the total blood volume). The skin also has a sensory role, implemented through more than 5000 sensitive corpuscles per square centimeter [4].

Every skin is unique and determined by genetic factors, accompanying the individual throughout the entire lifetime and constantly changing: soft, delicate and tender in childhood, affected by acne during puberty, until finally reaching adulthood, where its definitive characteristics are shown, shaped by the interplay of genetics and environment, feeding habits, working environment and skin care practices. Later, during the climacteric period, some changes like dryness, wrinkles and atrophies start to appear, due to a loss of elasticity, fullness and hydration with old age. Even though this process is well known, persons do not easily accept this unavoidable stage of life and try to camouflage it through different means.

Biophotontherapy is a new technique that uses natural light to achieve its aesthetic purposes. Unlike other therapies, it is devoid of adverse reactions and can be used on any kind of skin for different aesthetic diagnoses. It has the additional advantage that even though its mechanistic principles may be considered complex, in practice its application and use are very simple compared to its large potential benefits.

Interpreting the above paragraph requires an understanding of the mechanisms that form the basis for this new alternative in beauty treatments, and this understanding can only be found in quantum physics. Since years ago, there has been a growing interest in the scientific world in the effects produced by the use of photoelectromagnetic frequencies from natural or artificial light in the spheres of health, welfare and beauty [5-8].

Biophotontherapy is based on electromagnetic exchanges between natural light and the light emitted by cells. The photoelectromagnetic information corresponds with the influences originated from natural light as packs of photons that reinforce the biophotons stored within every cell, which have the ability of defining where, how and when a biochemical reaction has to be activated or stopped. If this process is altered, different disorders arise, such as cellulitis, premature aging, skin flaccidity, wrinkles, etc.

In order to correct these disorders, many persons find a solution in Biophotontherapy to their aesthetic problems. This therapy is performed through the use of a device called a Bioluminis® filter. The Bioluminis® filters are high definition optical devices that absorb solar radiation and transmit it to the boby through receptor zones disseminated on the surface of the skin. The contact and interaction with the skin are the operational form of implementing the treatment, which uses, as the energy source, natural light within an electromagnetic field, invisible to the naked eye and functional day and night.

The number of potential treatments in bioenergetic cosmetics is huge, from face detoxification to the treatment of wrinkles. After reaching surprising results on the treatment of unaesthetic, hypertrophic and keloid scars, we decided to start studying the use of Biophotontherapy in aesthetics; selecting the most frequent afflictions among the patients visiting our Plastic Surgery consultation room.

Materials and Methods

A descriptive study was carried out in 162 patients visiting the Bioenergetic and Natural Plastic Surgery Clinic with the aim of evaluating the effect of the Bioluminis® filters on facial aesthetic alterations: wrinkles and acne sequelae. Every patient followed the scheme proposed by Prof. Jacques. H Mula for the corresponding anatomical region, associated with a general treatment related to the localization and characteristics of each case which was chosen after an initial evaluation in the consultation room.

Description of the treatment

The treatment with Biophotontherapy in Aesthetics was carried out following the schemes proposed by the Bioluminis® Laboratory for the facial region:

General treatments: Polarization, anti-stress, basic lymphatic drainage and general harmony.

Facial treatments and treatments for acne: Detoxification, face lymphatic drainage, lymphatic detoxification, lifting of eye and upper lip wrinkles, lifting of the nasogenian crease and congestive face.

Evaluation of the results

The effect of the Bioluminis® filters on the facial signs of aging and the sequelae from acne was evaluated at the start and end of the treatment as follows:

Facial wrinkles:

Total response: decrease in deep wrinkles, disappearance of superficial wrinkles, decrease in skin atony, reduction of double chins, and improvement of skin quality: brightness, freshness and hydration.

Partial response: slight decrease in deep wrinkles, decrease in superficial wrinkles, small reduction in skin atony and double chins, scarce improvements in skin quality.

No response: No change in the above parameters.

Acne sequelae:

Total response: decrease in the depth of skin pits, improvement in skin quality: brightness, homogeneity, freshness and hydration.

Partial response: slight decrease in the depth of skin pits, scarce improvements in skin quality.

No response: no change in any of the above parameters.

Results and discussion

A total of 162 patients attending the Bioenergetic and Natural Plastic Surgery Clinic looking for an alternative solution for facial signs of aging were selection. The predominant age group was from 40 to 59 years old, as shown in table 1. The typical signs of aging appear around the age of 40, depending on predisposing factors such as stress, toxic habits, exposure to the sun and skin care practices.

Table 1. Facial aging. Age distribution

Age group	No. of patients	Percentage
30-39	7	4.4
40-49	67	41.6
50-59	68	41.7
+ 60	20	12.3
Total	162	100

These 162 patients were exhaustively evaluated in relation to the location and depth of facial wrinkles, with a predominance of the nasogenian crease and periorbital wrinkles, followed by wrinkles on the neck and chin. There was a clear prevalence of medium and deep wrinkles, which in some cases were very pronounced and left a background of very thin, dehydrated skin. The periorbital wrinkles were spread around the corner of the eyes, at both the upper and lower levels (table 2).

Table 2. Listing, location and depth ot wrinkles in facial aging

Location	Superficial	Median depth	Deep	Total
Nasogenian crease	7	47	94	148
Periorbital	24	32	90	146
Upper lip	4	50	64	118
Forehead	-	13	47	60
Between the eyes	3	44	50	97
Chin and neck	6	18	120	144
Lower eyelid	-	17	38	55

Mostly filters 1 B and 11 B were used for the rubbing technique in 40 and 57 patients respectively, who presented a selective decrease in cardiac frequency observed though the arterial pulse (table 3).

Table 3. Filters used for the rubbing technique

Filter number	No. of patients	Percentage
1+/-	5	3.0
1 B	57	35.2
3 B	11	6.8
7 B	15	9.3
10 B	24	14.8
11 B	40	24.7
1 B/ 7 B	10	6.2
Total	162	100

The amazing results obtained in the field of aesthetics with the Bioluminis® filters went beyond our own expectations, taking into account that there was an immediate response from the first session in more than 50% of the patients. These pages describe the changes documented for the most representative subjects, and is not intended to be a list of results, but an attempt to open doors to a therapy so effective, that in our case more than 95% of the patients showed partial or total responses, with only 4 out of 162 patients (2.5%) being unresponsive to the treatment (table 4).

Table 4. Evaluation of the results of the treatment against facial aging

Evaluation	No. of patients	Percentage
Total response	123	75.9
Partial response	35	21.6
No response	4	2.5
Total	162	100

The behavior of the face treatments during therapy is interesting, since from the first sessions the cheeks are mobilized towards the zygomatic arch, rounding out the face and giving it a young expression. This also produces a concomitant reduction of the nasogenian crease, first in its lower third and later the upper third, at the level of the nostrils. It is also impressive to witness the disappearance of all the superficial periorbital and peribucal wrinkles between the 3rd and the 5th session, together with the change from deep folds to superficial wrinkles.

Regarding the quality of the skin, a significant improvement is noticeable since the beginning of the treatment with the Bioluminis® filters, expressed as a brighter, fresher, and smoother skin that confers facial harmony and softness.

The reduction of deep periorbital wrinkles masks the presence of the most predominant sign of aging. The neck, a region we initially regarded as potentially troublesome, showed a decrease in its folds and both deep and surface wrinkles, with the result that in two patients, originally scheduled for surgical treatment, the surgery was deferred. In all cases, the improvement in cervical flaccidity was very evident.

In relation to the patients at the Plastic Surgery consultation room for the treatment of acne sequelae, 15 patients were included in the study, of which 9 fall into the age group of 20 to 30 years (table 5).

Table 5. Age distribution for patients with acne sequelae

Age group	No. of patients	Percentage
20-30	9	60
31-40	4	26.6
+ 40	2	13.4
Total	15	100

During the initial evaluation we found that patients had much uneven and rough skin as a consequence of acne, with pits spread around the cheeks, forehead, chin and nose. In some cases there was even a tendency to flaccidity and a pronounced nasogenian fold, revealingan early skin aging process.

The filters used for the treatment of acne sequelae were also selected using the pulse technique, both for the treatment and the rubbing. The most commonly used filters were 1+/-, 1B, 10B, 11B and multipurpose bandages, as observed in table 6.

Table 6. Filters used for the rubbing technique

Filter number	No. of patients	Percentage
1+/-	15	100
1 B	15	100
3 B	7	46.6
7 B	1	6.6
10 B	15	100
11 B	15	100
4 B	4	26.6
8 B	2	13.3
Bandages	13	86.6

The improvements in patients with acne sequelae were observed in the decrease in the depth of skin pits, and the enhancement of skin quality related to to brightness, homogeneity, freshness and hydration for 9 out of the 15 patients included in the study, and the disappearance of the premature aging signs for all cases. There was a response to the treatment with Biophotontherapy in 100% of the cases, with only 6 subjects showing partial responses at the end of the treatment (table 7).

Table 7. Evaluation ot the results ot the treatment tor acne sequelae

Evaluation	No. of patients	Percentage
Total response	9	60
Partial response	6	40
No response	-	-
Total	15	100

Conclusions

1. The Bioluminis® filters can modify both the deep and surface wrinkles of facial aging.
2. The treatment manages to change facial expression since the first sessions, mobilizing the cheeks and lowering the depth of the nasogenian crease.
3. The sequelae from acne respond to the Biophotontherapy treatment, with a decrease in the depth of skin pits.
4. Biophotontherapy is an alternative for to achieve a long life span with a high quality of life, since it improves, our image through a non-invasive, innocuous and effective method.

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Treatment of pain in disorders of the osteomyoarticular system

Silvia Pellon Alonso, MD
Alberto Aguilera Fiel, MD

Abstract

A prospective study was conducted in patients with pain as the basic symptom, visiting the Center for Natural and Traditional Medicine "10 de Octubre". To be able to evaluate our work, the patients were chosen randomly and with defined inclusion and exclusion criteria, using an analogical table of behavioral ranks modified for the evaluation of pain. Final evaluation of the results was also carried out according to the defined criteria. All patients were treated with Biophotontherapy, focused on the relief of pain as the main symptom in disorders of the osteomyoarticular system. We present our considerations on the use of this method.

Introduction

A defining trait of human nature is its optimism in the quest for new methods to solve problems from every field of life. This is especially true in the field of human health, where our country spares no resources. Pain, as the basic symptom for a number of disorders, is frequently accountable for the deterioration of the quality of life and is a recurrent cause for many disabilities. In turn, the disorders of the osteomyoarticular system (OMAS) are the most prevalent cause of pain [1, 9-12].

Pain is an unpleasant sensorial and emotional experience, generally associated to real or closer-than-desired potential lesions, and to a number of diseases. Pain can be acute, like that produced by traumatism, or chronic, characterized by medical researchers as a behavioral status triggered by a real lesion, where pain lasts long enough to become a disorder than can even lead to disabilities and clinical depression [2, 7, 8, 13, 14].

In surveys conducted in Cuba is the year 2001, it was found that pain is the second most frequent cause of distress among our patients. This fact has driven our search for new therapeutic alternatives to relieve pain, since it is the symptom with the highest prevalence in patients attending our Natural and Traditional Medicine institutions [3-6].

Biophotontherapy is a novel method based on the energetic principles of solar radiation and the relationship between Biology and the development of Quantum Mechanics. The biophotontherapeutical devices (filters) select, organize and transmit electromagnetic radiations from natural light to the biological environment, for cellular restoration and the regeneration of the electromagnetic potential of the cells through a process of photoreactivation and cellular self-repair that ultimately leads to pain relieve.

For these reasons, we decided to focus our work on the relief of pain through the use of Biophotontherapy filters as a therapeutic avenue.

Materials and methods

An analytical, prospective study was carried out from February, 2002 to December, 2004 on a total of 126 cases afflicted with OMAS disorders having pain as main symptom. The subjects were chosen randomly, using previously established inclusion and exclusion criteria.

Clinical reports were prepared for data collection, and a modified analogical table of behavioral ranks was used to evaluate the evolution of pain. Evaluations were conducted before and after concluding the treatment, which consisted of the application of a set of filters (Bioluminis® devices) on each patient.

Inclusion criteria

1. Age from 15 to 70 years.
2. Pain as the main symptom.
3. Pain affecting the OMAS, either acute or chronic, from traumatism or otherwise.

Exclusion criteria

1. Patients that are not being treated with other therapies.
2. Presence of psychiatric disorders or mental disabilities.
3. Cancer as the cause for pain.
4. Pregnancy.
5. Pacientes que al comienzo de esta terapéutica no hallan recibido al menos en 7 días ningún otro tipo de tratamiento para el dolor.

Modified analogical table of behavioral ranks

1. Asymptomatic.
2. Presence of slight pain, that does not interfere with mental or motor activities and can be ignored.
3. Presence of slight pain, that can not be ignored but it does not interfere with mental or motor activities.
4. Presence of moderate pain, that can not be ignored and does interfere with mental activities (concentration and uninterrupted sleep).
5. Presence of moderate pain, that can not be ignored and interferes with both mental and motor activities, except the most basic needs.
6. Presence of severe pain that can not be ignored and interferes with mental and motor activities.

Evaluation of results :

Good: Pain disappears, together with other mental and motor alterations.

Satisfactory: Pain is reduced to some degree, and mental and motor alterations are improved.

Poor: Pain is unaltered; mental and motor alterations persist.

Treatment outline:

Every patient received 2 polarization sessions together with anti-stress treatment, followed by as many localized pain treatment sessions as required for pain relief, up to a maximum of ten sessions. The sessions were conducted twice a week. The selection of filters and the treatment

sequence followed the procedures devised by Prof. Jacques H. Mula, who developed this method, and are described below:

General treatment:

Polarization and anti-stress treatments are applied to every subject, independently from the location of pain.

Polarization: Filters 1+/- are used in the upper and lower limbs, whether it is associated or not to anti-stress or a specific treatment.

Anti-stress: Filters 1B and 1+/- are used. Filter 1B is placed in the center of the forehead, and filters 1 +/- are placed on both cheeks. If the patient is being concurrently treated by polarization, filters 1B are substituted for 1 +/-, since no more than four 1+/- filters can be used per session. Session length is from 30 to 40 minutes, although it can be extended for up to 1 hour.

Specific treatment:

The scheme for the specific treatment depends on the location of the pain symptoms.

Arthritis o Arthrosis: Multipurpose bandages are fixed on the afflicted joint region for 30 to 60 minutes, after which the rubbing technique is performed with filters 1B, 3B or 1B/7B for 5 to 10 minutes (the specific filter to be used must be previously selected with the arterial pulse technique).

Concluding treatment

Rubbing is performed with filters 1B, 3B or 7B on any body region for 15 to 25 minutes. In severe contusions, the treatment is repeated every 2 hours.

Intervertebral discs: Four 7B filters are placed on both sides of the location of the afflicted disc, and filters 3B are placed over this area in the shape of a triangle, in so that the 7 filters form a pyramid-like pattern. The treatment time varies from 45 minutes to 2 hours, according to the clinical status. The rubbing technique is practiced by sliding a 1B filter along the spine.

Torn ligaments: Affix filters 1+/- on the external malleolus, filters 1B in the internal malleolus, and filters 7B on the upper surface of the foot for 45 minutes. The rubbing technique will be performed with a 7B filter, over the afflicted area.

Rheumatism: Use polarization, concurrently with bandages fixed on the afflicted areas. Later, use the rubbing technique by sliding a 1B filter along the spine.

Results and discussion

Since we started treating patients with Bioluminis® filters for pain relief, we have concluded a total of 126 cases, with a predominance of female, Caucasians, of 30 to 59 years of age (tables 1 and 2).

Table 1. Age groups by gender

G/Ag	15-29	30-59	60 or more	Total
F	3	55	39	97
M	-	20	9	29
Total	3	75	48	126

Table 2. Distribution by race and gender

G/R	C	M	B	Total
F	73	12	12	97
M	19	5	5	29
Total	92	17	17	126

To be able to dissect the characteristics of the pain, we regionalized its location and classified the cases by the originating disorder. The most frequently affected region was the spine, with most cases involving cervical, middle and lower back pain (tables 3 and 4).

Table 3. Regional location ot pain

Location	Total	Percentage
Spine	66	52.38
Upper limbs	34	26.98
Lower limbs	17	13.49
Others	9	7.15
Total	126	100

Table 4. Most trequent pathologies

Pathology	Total	Percentage
Lower back pain	31	24.6
Cervicalgia	21	16.66
Dorsalgia	16	12.69
Bursitis	29	23.03
Gonarthrosis	9	7.15
Others	20	15.87
Total	126	100

After evaluating the evolution of pain, it was found that at the end of the treatment 70 (55.6%) cases had become asymptomatic, with only 5 (3.9%) subjects having a response evaluated as Poor (tables 5 y 6).

Table 5. Final evaluation of results

Result	Total	Porcentage
Good	70	55.6
Satisfactory	51	40.5
Poor	5	3.9
Total	126	100

Table 6. Final evolution of treatment

Evolution	Total	Porcentage
Satisfactory	121	96.1
Unsatisfactory	5	3.9
Total	126	100

Conclusions

1. The use of Biophotontherapy is effective for pain relief.
2. Conventional treatments for pain relief are more expensive and longer than Biophotontherapy.
3. There is a high degree of patient satisfaction after Biophotontherapy.
4. There was a complete disappearance of pain in more than 50% of the cases.
5. This method does not have the side effects and adverse reactions commonly associated with drugs for pain reliefe.
6. The patient has a fast recovery, allowing an early return to the daily routine.

Recommendations

Since this method is non-invasive, painless, does not harm the patient and is effective for a high percentage of the cases, we recommend that Biophotontherapy be included as a treatment for pain relief in Natural Medicine.

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Biophotontherapy in Orthopedics and Traumatology

Lázaro H. Quevedo Armas, MD
Niurka del P. Hernández Bermúdez, MD

Abstract

This paper is the result of a prospective study related to the use of Biophotontherapy in 118 patients afflicted with pain from disorders of the osteomyoarticular system, conducted at the "Dr. Salvador Allende" Educational Clinical Surgical Hospital. The results obtained are encouraging, and the therapy is well accepted by the patients due to its non-invasive nature, lack of complications, and the fact that it does not cause addictions.

Introduction

One of the main goals of medical practice is pain relief, and that the patient can endure the treatment of a large number of disorders.

Pain is the predominant symptom of the pathologies affecting the osteomyoarticular system (OMAS), and the primary cause for visits to medical institutions in these cases. It is described as an unpleasant sensorial and emotional experience associated to an real or potential lesion; it is perceived differently in each individual, and constitutes a main source of human suffering [1-5]. The pain associated to osteomyoarticular disorders, traumatic lesions and their sequelae can frequently lead to functional limitations that can in turn lead to muscular atrophy and rigidity if the condition persists for a long time. This reduct the quality of life and levels to medical-related expenses that affect the social and occupational life of the patient [5-10].

The advantages of Biophotontherapy is that it the relieves or reductes pain and its associated psychological sequelae, restoring the well heing of the afflicted patients. This is the purpose of the present paper.

Biophotontherapy is a non-invasive procedure, consisting of the use of different devices called "Bioluminis® filters" which are receptors and emitters of electromagnetic waves from natural light, by placing them in contact with certain areas of the skin (receptor or basal antennae). It is understood that this type of treatment is based on the physical principles of photoreactivation and cellular self-repair; that the filters select, organize and transmit electromagnetic waves to the biological environment by means of the effect of coherence or resonance, and that biophotons are responsible for biochemical reactions at a cellular level [11-13].

Before starting the treatment, a general evaluation of the patient is performed that includes their physical and mental status, an etiological assessment consisting of a detailed interview and several surveys, and an intensive physical examination with special movements and laboratory tests, radiography, CAT scans, EMG, US, etc. This evaluation is required to dismiss the possibility of cancer as the origin of pain, and to steer the patients to emergency surgical treatment if so required due to the seriousness of the lesions or the disorder (Although this therapy was also used for the treatment of post-surgery pain).

In general, the patients had acute or "benign" chronic pain associated with states of anxiety and sleeping disorders that had been refractory to previous treatments like analgesics, physiotherapy

(or physical therapies), infiltrations, blockings and acupuncture. For these patients their condition had led to economic and occupational limitations, suffering, unhappiness, and in general to a low quality of life.

The following were detected to be the most frequent causes of pain:

1. Degenerative processes such as
a)Spondylosis b)Coxarthrosis
c)Gonarthrosis
2. Inflammatory processes, such as
a) Bursitis b)Epicondylitis
c)Epitrocleitis d)Tendinitis
3. Osteoarthritis
4. Osteoporosis
5. Intervertebral disc herniation
6. Sequelae from trauma
a)Contusions b)Torn ligaments
c)Fractures

This study was simultaneously carried out in other highly professional health centers of the Cuban capital, also obtaining encouraging results, and always focused on the restoration of human health. An informed consent was obtained from every patient, and medical treatment with other therapeutic variants was guaranteed those that did not respond satisfactorily to Biophotontherapy.

Our study was carried out from March, 2002 to July, 2004, and had a sample size of 118 patients, selected after their compliance with the inclusion criteria and obtaining their informed consent.

Objetivos

General:

1. To suppress or reduce the pain in patients suffering from OMAS disorders.
2. To reincorporate the patients to an active and fulfilling social life.

Specific:

1. To improve the patients quality of life.
2. To measure the effectiveness of this new therapeutic method.
3. To identify the most frequent OMAS disorders that produce pain among our patients.
4. To evaluate the intensity of pain in at the beginning and the end of treatment, by means of a visual analogical scale.
5. To analyze the incidence of pain according to its regional localization.
6. To identify the most frequent age and gender among the studied patients.

Materials and Methods

This paper shows the results from a prospective analytical study conducted by the department of Natural and Traditional Medicine of the “Dr. Salvador Allende” Educational Hospital, from

March, 2002 to July, 2004. This study consisted of the use of the Biophotontherapy treatment with Bioluminis® filters in a group of patients selected after the assessment of inclusion and exclusion criteria.

The sample was formed by 118 patients with pain associated to OMAS disorders. This was a prospective study, and all the patients were previously examined by specialists in Orthopedics and Traumatology. The data obtained from the patients was recorded in the clinical report, including different variables such as age, gender, race, height, body weight, body weight index, occupation, characteristics of the pain (location, intensity, time of evolution) and emotional status as determined with the visual analogical scale for pain. These data were collected at the beginning of the treatment, at the start and end of every session, and at the end of the treatment. The results of detailed are also contained within the clinical report interview, the personal and family pathological histories, and a physical exam, including specialized orthopedic maneuvers, reflexes and pulses an recorded. These include the use of any diagnostic means (Laboratory tests, X-rays, CAT, US, EMG) necessary for each patient. The results of the inquiries on the previous therapies before the start of the treatment with Biophotontherapy were recorded as well.

Every patient was thoroughly informed on Biophotontherapy, and their informed consent was obtained before starting the treatment. Records were kept in the clinical report of each patient for the number and date of every session, their evolution, the pain intensity according to the analogical visual scale, and the results of the physical examinations and psychological evaluations. The existence of adverse reactions or complications, if any, were recorded as well. No analgesic drugs or Non-Steroidal Anti-Inflammatory Drugs (NSAIDs), block age, infiltrations or any kind of physical therapies were used during the extent of the study.

The pain was evaluated with an analogical scale before and after treatment. According to this scale, the possible treatment outcomes used for the evaluation of the results of the therapy are described as follows:

· Good: The patient becomes asymptomatic at the end of treatment. Pain disappears completely.

· Satisfactory: In spite of achieving a significant improvement, light pain persists or appears during the movement of the physical examination.

· Poor: There is no significant relief of pain, or the symptoms relapsed.

How is the Biophotontherapy treatment performed?

Each patient undergoes 10 treatment sessions consisting of:

1. The start the of treatment: 2 sessions of polarization, to achieve a general balance of all the functions, or as an a basic common treatment that also doubles as anti-stress therapy for patients requiring it.

2. After the first 2 sessions, 8 sessions for pain relief are carried out. The specific treatment given to the patient takes into account variables such as the anatomical location of pain, its etiology, and the specific functionality of each filter, following a predetermined scheme for each case according to the characteristics of pain and the diagnosis.

The characteristics of pain are evaluated by means of an Analogical Visual Scale:

· 0: Absence or disappearance of pain.

· 01: Presence of slight pain, that does not interfere with daily activities such as sleep and concentration and can be ignored.

· 02: Presence of slight pain, that can not be ignored but does not interfere with mental or motor activities.

· 03: Presence of moderate pain that interferes with activities such as sleep and concentration.

· 04: Presence of moderate pain that interferes with a large number of physical and motor activities, except for the basic needs.

· 05: Presence of severe pain that interferes with both mental and motor activities.

For patients who have not evolved at the end of treatment and therefore have a response evaluated as Poor, cases are discussed again, with a more through analysis of the results of the research and the physical exam, and a change of therapy is considered.

Advantages of Biophotontherapy

· It is a technique which is simple and easy to perform.
· It is painless.
· The filters do not expire; and can therefore, be used throughout their lifetime.
· Its application does not require consumables.
· It does not need electricity, and can therefore, be used at any time of day.

Results and Discussion

The present paper shows our experience in the treatment of the pathologies of the osteomyoarticular system through Biophotontherapy. It was carried out in the department of Natural and Traditional Medicine from the Educational Hospital "Dr. Salvador Allende", in the period comprised from March, 2002 to July, 2004. A sample size of 118 subjects was used, after their compliance with the inclusion criteria and obtaining their informed consent.

After the final evaluation of the results, it was found that 106 (89.8%) patients out of a total of 118 cases evolved satisfactorily, with only 12 (10.2%) showing an unsatisfactory evolution. The results are shown in the tables below.

Tables 1 and 2 show a predominance of the female gender in our sample, with 77 (65.3%) patients. The most frequent age group was from 60 to 70 years (63 patients), and the prevalent race was Caucasian, with 64 patients (54.2%).

Table 1. Age and gender distribution

Age	Gender		Total
	Male	Female	
15-29	1	4	5
30-59	19	31	50
60-70	21	42	63
Total	41	77	118
Percentage	34.7%	65.3%	100 %

Source: Clinical reports, "Dr. Salvador Allende" Hospital

Table 2. Distribution by gender and race

Gender/ Race	Caucasian	Mulatto	Black	Total	Percentage
Male	22	7	12	41	34.7
Female	42	12	23	77	65.3
Total	64	19	35	118	100
Percentage	54.2	16.1	29.7	100	-

Source: Clinical reports, "Dr. Salvador Allende" Hospital

It can be observed in table 3 that 64 patients out of 118 (54.2%) were asymptomatic at the end of the treatment; but it should be pointed out that for another 42 patients (35.6%) only a slight pain persists, which implies that this therapeutic method is effective for pain relief. At the beginning of the treatment, 116 out of the 118 subjects (98.3%) suffered from pain with an intensity evaluated as 04 or 05 by our scale, whereas after 10 treatment sessions 106 patients (89.8%) had a pain intensity value of only 0 or 01, which is undoubtedly a satisfactory result.

Table 3. Pain measurement scale

Scale	Beginning of the treatment	End of the treatment
05	66	4
04	50	6
03	2	2
02	---	---
01	---	42
Asymptomatic	---	64
Total	118	118

Source: Clinical reports, "Dr. Salvador Allende" Hospital

Table 4 shows that the pain among our subjects is located mainly on the lower limbs, for 43 patients (36.4%), or in the spinal column, for 40 patients (33.9%).

Table 4. Regional location of pain

Location	Number of patients	Percentage
Spinal column	40	33.9
Upper limbs	27	22.9
Lower limbs	43	36.4
Other	8	6.8
Total	118	100

Source: Clinical reports, "Dr. Salvador Allende" Hospital

Table 5 lists in detail the symptoms of the patients and their pathology as diagnosed. It shows that pain in the lower limbs was prevalent between our subjects, with 43 patients (36.4%). There was a predominance of degenerative processes.

Table 5. Most frequent pathologies and symptoms

Symptom	Pathology	Patients		Percentage	
Lower back pain	Lumbar disc herniation	6	19	5.1%	16.1%
	Lumbar spondyloarthrosis	10		8.5%	
	Lumbosacral sprain	1		0.84%	
	Spina Bifida	1		0.84%	
	Sacralization	1		0.84%	
Dorsalgia	Dorsal spondyloarthrosis	6	10	5.1%	8.5%
	T-11 vertebral fracture	1		0.84%	
	Osteoporosis	2		1.69%	
	Scoliosis	1		0.84%	
Cervicalgia	Cervical disc herniation	1	11	0.84%	9.3%
	Torticollis	2		1.69%	
	Cervical spondyloarthrosis	8		6.8%	
Pain in lower limb	Achilles' heel tendonitis	2	43	1.69%	36.4%
	Gonarthrosis	9		7.6%	
	Bursitis on the knee	3		2.54%	
	Synovitis on the knee	4		3.4%	
	Traumatic patellar luxation	1		0.84%	
	Calcaneous spur	3		2.54%	
	Plantar fasciitis	4		3.4%	
	Hallux Valgus	2		1.69%	
	Femur fracture	1		0.84%	
	March fracture	1		0.84%	
	Sprained ankle	6		5.1%	
	Tibial fracture	3		2.54%	
	Coxarthrosis	4		3.4%	
Pain in upper limb	Bursitis on the shoulder	9	27	7.6%	22.9%
	Olecranon bursitis	2		1.69%	
	Epicondylitis	5		4.24%	
	Fracture of radius and ulnar	2		1.69%	
	Colles fracture	4		3.4%	
	Epitrochleitis	2		1.69%	
	De Quervein's tenosinovitis	3		2.54%	
Pain in other locations	Sternocostal osteochondritis	5	8	4.24%	6.8%
	Coccygodynia	3		2.54%	
Total		118		100%	

Source: Clinical reports, "Dr. Salvador Allende" Hospital

Tables 6 and 7 show the final results of our study. Only 12 patients out of 118 (10.2%) had a response evaluated as Poor, and 106 patients (89.8%) had a response evaluated as either Good or Satisfactory. This allows us to conclude that this therapy is effective in the treatment for pain relief in pathologies of the osteomyoarticular system.

Table 6. Scores ot treatment response

Evaluation	No. of patients	Percentage
G	64	54.2
S	42	35.6
P	12	10.2
Total	118	100

Source: Clinical Reports, "Dr. Salvador Allende" Hospital

Table 7. Final evaluation of treatment results

Evaluation	No. of patients	Percentage
Satisfactory	106	89.8
Unsatisfactory	12	10.2
Total	118	100%

Source: Clinical reports, "Dr. Salvador Allende" Hospital

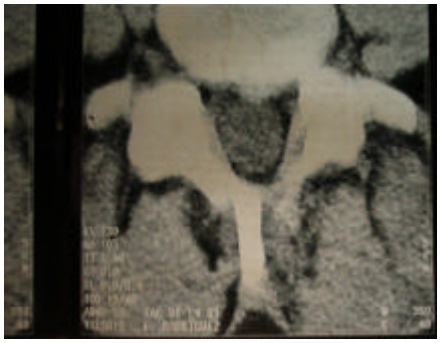
Conclusions

1. This natural technique can be used for pain relief in the pathologies of the osteomyoarticular system, as shown by 89.8% of the patients having improved after Biophotontherapy.
2. The method is non-invasive and well accepted by the patients.
3. It is a low-cost technique, since the filters do not expire and do not need artificial energy sources for their use.
4. Within our patients, there was a predominance of females and the Caucasian race.
5. The most commonly affected anatomical locations were the lower limbs (43 patients) and the spinal cord (40 patients).
6. Gonarthrosis was the most frequent pathology in the lower limbs.
7. Spondyloarthrosis was the most frequent pathology on the spinal cord.
8. Of the 106 patients (89.8%) whose evolution was classified as satisfactory at the end of the treatment, 42 (35.6%) are included in category 01 of the analogical pain scale, and the pain disappeared for 64 (54.2%) patients.
9. Our patients were able to resume their social life, due to the improvements achieved with our treatment.

Recommendations

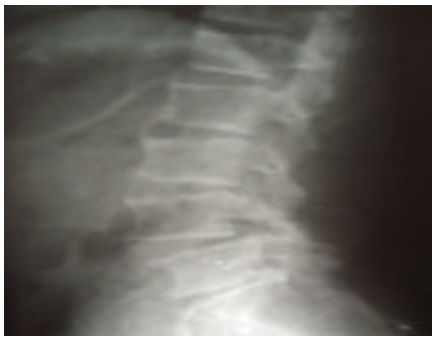
1. We recommend the use of this novel technique in every Natural and Traditional Medicine department, and every Integral Rehabilitation Service of our country, due to its non-invasive nature, and the fact that it is painless, effective, and easy to use.

Case 1. Patient with treatment scheme for intervertebral disc herniation.

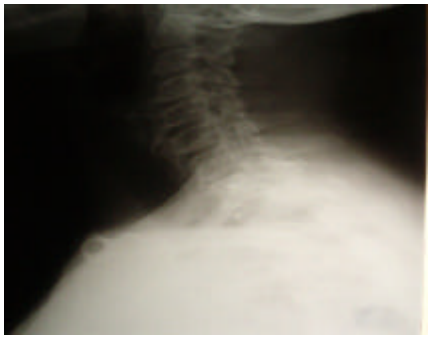


Case 1. Diagnostic Computerized Axial Tomography for intervertebral disc herniation.

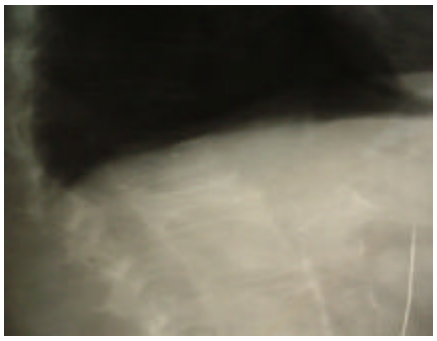
Case 2. CAT. Intervertebral disc herniation with osteophyte.



Case 3. Lumbar spondyloarthrosis.



Case 4. X-rays cervical region of the spinal column. Cervical spondy-loarthrosis.

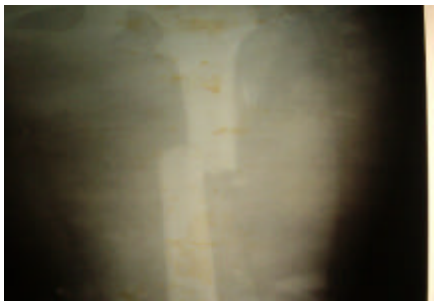


Case 5. Vertebral D 10 fracture by crushing.

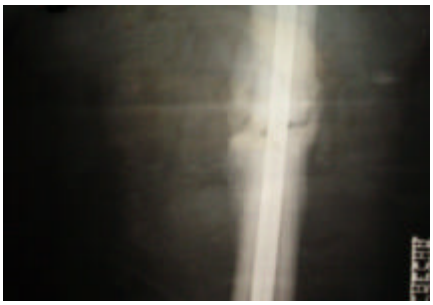
Case 6. Gonarthrosis. Anteroposterior view.

Case 6. Gonarthrosis. Lateral view.

Case 7. Calcaneus spur.



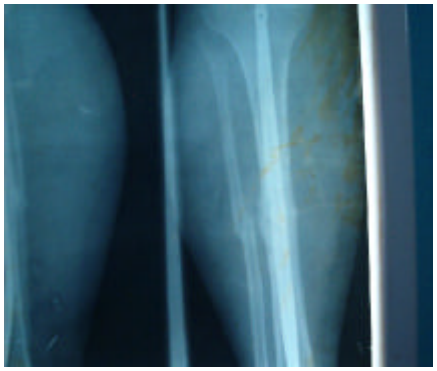
Case 8. Femur fracture, 4 months of evolution.



Case 8. Consolidated femur fracture after 10 sessions of Biophotontherapy.

Case 9. Torn ligament, right ankle.

Case 10. Fracture of the tibia.

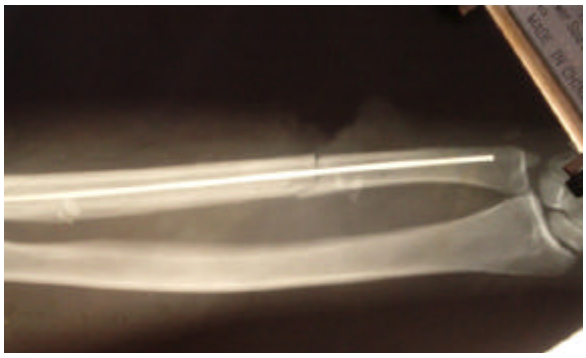


Case 10. Fracture of the tibia.

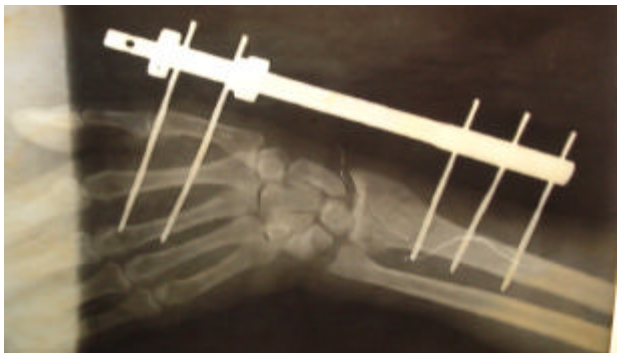
Case 11. Femur fracture.

Case 12. Coxarthrosis.

Case 13. Calcified bursa.



Case 14. Ulnar fracture.



Case 15. Fracture at the distal end of the ulna.

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Application of Biophotontherapy to the treatment of peripheral vascular pathologies

Reina Lourdes Morejon Vega, MD

Abstract

The results of our experience with Biophotontherapy are presented in 301 patients with peripheral vascular pathologies, who attended the Angiology and Vascular Surgery Service of the "Joaquín Albarrán" Clinical-Surgical Hospital, at the city of Havana. This study was carried out as part of a local, multi-center project sponsored by CITMA, and took place from April, 2002 to December, 2004. Bioluminis® filters were used, following the guidelines established by the manufacturer and evaluating the symptoms of pain and edema, together with the clinical signs of reddening and hyper-pigmentation, among the subjects included in the study.

Ten treatment sessions were used to treat each patient, with a length of 40 to 60 minutes each. Every case was evaluated before and after the 10th session, obtaining a satisfactory result for 100% of the patients when using the pre-established evolution criteria.

Our study corroborates that Biophotontherapy offers benefits for the treatment of patients with peripheral vascular pathologies, it is innocuous and has a high acceptance rate among the patients.

Introduction

Vascular insufficiency and phlebopathies in general, are disorders which have long been known. There are references of varicose veins being represented in sculptures of the IV century BC; it is said that in 1550 BC Aurelius Cornelius was already using surgical techniques similar to modern procedures, and there are even references ulcers in the year 25 BC in the Bible [1].

On the other hand, it seems probable that modern life or feeding habits will decrease insufficiency the incidence of these diseases in the near future, which constitute, by their frequency alone, a significant health problem.

From a topographical point of view, phlebopathies can be classified as either Superficial or Deep Venous Insufficiency [2]. Superficial venous fractures are observed as varicose veins, defined as engrossed or twisted portions of the superficial veins on the lower limbs. It is estimated that from 10 to 25% of the population is afflicted from this disorder. According to their etiology, varicose veins can be classified as either essential, or primary and secondary, with the latter mainly categorized into post-thrombotic, pregnancy-related, post-traumatic or due to arterial-venous fistulae [3, 4, 6].

There is no clear pathological origin for essential varicose veins, although certain risk factors have been identified such as a family history of varicose veins, constipation, multiple pregnancies, and professional occupations that require long hours in a standing posture [7, 8]. In any case, at the appearance of varicose veins is due to an increase in venous pressure or a weakening of venous walls or both, which ultimately lead to dilations that cause valve insufficiency. These fractures may even exist before the appearance of varicose veins and be their originae cause [9, 10].

What is Biophotontherapy or the Bioluminis® filter?

Biophotontherapy is a method based on photon theory. This technique was created in France only 25 years ago, but in this quarter of a century it has achieved a large experimental groups of data that justifies its existence as an independent discipline. One of the main persons responsible for evidencing the healing properties of Biophotontherapy in clinical practice has been the French naturalist Jacques H. Mula, who heads the Bioluminis Laboratory. Bioluminis® is the name of the filters or devices used for channeling solar light [5].

We undertook a Multi-center Project for a Clinical Trial starting April, 2002, using Biophotontherapy for the treatment of different symptoms produced by diverse peripheral vascular pathologies. The results we obtained so far, after a period of 3 years, have not only been very encouraging, but they lay the foundation for future studies addressing current needs.

Most persons know, without understanding why, that the exposure to the sun produces a clear feeling of well-being. The reason behind this is that solar light increases the energy levels of human beings up to 86%, due to the fact that cells recharge by the absorption of the sun´s electromagnetic energy through the use of light photon-capturing bioreceptors, thus promoting a process known as photoreactivation. Obviously, this energy can not be directly absorbed by our boby, which makes necessary the use of filters that decode solar radiation.

The principles above were used 25 years ago for the development of Biophotontherapy, a discipline that studies the therapeutic properties of biophotons and their application to human health, and that ultimately led to the production of a very unique filter that enables this energy to be used [11-13].

Materials and methods

This study was carried out from April, 2002 to December, 2004 with patients visiting the Angiology and Vascular Surgery Service of the Clinical-Surgical Hospital “Joaquín Albarrán”, afflicted with peripheral vascular insufficiencies that produced pain, edematous lower limbs, sensation of heaviness in the legs, weariness, trophic skin alterations and hyperpigmentation as the main symptoms. These patients received Biophotontherapy as the sole treatment, which is a non-invasive, innocuous and 100% effective technique for the therapy of serious diseases with different sequelae that have long-term social and economic consequences. These, in turn, represent a serious problem for these patients.

Description of the treatment

All patients received polarization combined with other treatments for symptoms including lymph detoxification, anti-stress, varicose veins, venous circulation, arterial circulation, lymphatic drainage and, finally, rubbing on the afflicted area.

Detoxification

Filters 11B were used in both superciliary regions, and filters 10B were used at the lower lateral level of the labial commisure, on both sides of the lower jaw for a period of 60 minutes to 2 hours.

Anti-stress

Filters 1B were used. One was placed in the middle of the forehead, and 2 on both sides of the upper jaw at the cheeks. This treatment was always associated with polarization and took from 2 to 6 sessions; each session usually taking 30 to 40 minutes but occasionally extending to a maximum of 1 hour.

Varicose veins

Filter 1B is used in the outer part of the leg or in the inner third of the thigh, being left there for a period of 45 minutes. Afterwards, a very gentle vertical rubbing is done following the venous sinuosities up to the groins, while moving the filter clockwise in circles. The rubbing is performed for 5 to 10 minutes.

Venous circulation and heaviness in the legs

In a manner similar to that used for varicose veins, the filters are applied on both legs, together with the use of 10B filters placed on the sole of both feet at the level of the base of the metatarsals and towards the external edge. The rubbing is performed on the inner side of the legs using filter 1B.

Arterial circulation

Filters 1B are used on the outer side of the leg, in its middle third, whereas filters 9B are applied in the internal malleolus. Filters 10B are, placed in the inner side of the thighs, next to the knees. Multipurpose bandages can be used, either on the anterior or on the posterior region of the leg. This treatment always takes at least 6 sessions, performed from 1 to 3 times a week. The length of each session varies from 1 to 2 hours.

Lymph drainage

Two areas on the soles of the feet can be used for this method, always locating them beforehand through the arterial pulse technique. These are zone A, on the external edge at the middle third of the foot, and zone B, at the center of the foot. Filters 10B or 11B can be used on either area, but never simultaneously. This treatment takes at least 10 sessions, with a frequency from 1 to 3 times a week. Each session lasts from 1 to 2 hours.

Lymph detoxification

Filters 11B are used on both sides of the upper jaw at the cheeks, together with 10B filters at the lower lateral level of the labial commisure on both sides of the upper jaw. This treatment takes 3 sessions a week, for 1 to 2 hours.

Enhancement of the immune system

Filters 731B are used in the anterior region of the hand, at the level of the first metacarpal.

The results of our study were analyzed by comparing the evaluations before the treatment and after the 10th session with Biophotontherapy, classifying the outcomes as either Satisfactory or Unsatisfactory according to the symptoms and clinical signs of each patient. Data collection forms were used to record variables such as the presence of pain, edema, reddening, heaviness in the legs, hyper-pigmentation, indurated cellulitis and the presence of varicose veins.

Satisfactory evaluation: The pain disappears or decreases, the edema has a reduction of over 50%, the feeling of heaviness in the legs is decreased, and hyper-pigmentation is reduced at least 50%.

Unsatisfactory evaluation: Pain is not reduced, the reductions in edema is under 50%, there are no variations in the sensations of heaviness in the legs and the reduction in hyperpigmentation is under 50%.

Results and discussion

Upon tabulating the symptoms of the subjects enrolled for the study between April, 2002 to December, 2004 (table 1), it is observed that at the start of the treatment, out of the 301 patients analyzed, 65.11% (196 patients) had chronic venous insufficiency, and 19.97% (60 patients) had lymphatic insufficiency. The rest of the subjects had arterial insufficiency or other pathologies or traumatisms of the lower limbs with vascular compromise and lymphedema of the upper limbs.

Table 1. Characteristics of the sample

Pathology	No. of patients	Percentage
Chronic venous insufficiency	196	65.11
Lymphatic insufficiency	60	19.97
Arterial insufficiency	25	8.30
Other pathologies	20	6.64
Total	301	100

The age and gender distribution shows that most patients are from 56 to 65 years old (102 subjects, 33.8% of the sample), followed by the age group of 41 to 55 years (75 patients). There is a clear predominance of the female gender, with 258 patients (tables 2 and 3).

Table 2. Age distribution

Age	No. patients	Percentage
Under 10 years	1	0,3
20-40 years	58	19.4
41-55 years	75	24.9
56-65 years	102	33.8
66-85 years	65	21.6
Total	301	100

Table 3. Distribution by gender

Gender	No. of patients	Percentage
Female	258	85.7
Male	43	14.3
Total	301	100

The most frequent symptom in vascular pathologies is pain, which was present in 196 patients afflicted from chronic venous insufficiency. In our specialty, another frequent symptom is edema of the lower limbs, present in 126 patients with different etiologies; and another very prevalent symptom in the clinical manifestation of vascular disorders is the sensation of heaviness in the legs, found in 45 subjects of our sample (table 4).

Table 4. Distribution of symptoms for Peripheral Vascular Pathologies among the study subjects

Symptoms	Cases	Patients that improved	Percentage
Pain	196	196	100
Edema + Pain	126	126	64.2
Hyper-pigmentation	12	12	6.12
Indurated Cellulitis	10	10	3.32
Ulcers	3	3	1.53
Heaviness in legs + Pain	45	45	22.9

The number of treatment sessions with the Bioluminis® method, as well as their length, depended on the pathology and the clinical characteristics of each case, ranging from 10 to 20 sessions. Only 10 to 15 sessions, each from 45 to 60 minutes long, were needed for 205 out of the 301 patients enrolled in our study (tables 5 and 6).

Table 5. Number ot treatment sessions

Sessions	No. of patients	Percentage
5-10 sessions	71	23.6
10-15 sessions	205	68.17
More than 15 sessions	25	8.30
Total	301	100

Table 6. Session length

Session length (minutes)	No. of patients	Percentage
45 minutes	71	23.6
45 minutes to 1 hour	205	68.17
1- 2 hours	25	8.30

Edematous pain was the main symptom for 126 patients (64.2%), followed by the sensation of heaviness in the legs, combined with pain, in 45 patients (29.2%).

Arterial insufficiency was present and treated in 25 patients (8.30%); there was a relief from pain which appears during intermittent claudication.

Lymphatic insufficiency was present and treated in 60 patients (19.95%). There were other unrelated (non-vascular) pathologies treated during our study in 20 patients (6.64%) including severe traumatism in one hand for an 8 years old pediatric patient, cases of severe ischemia, and pain.

The analysis of the results of this study proves that there was a significant response to the treatment with Bioluminis® filters. All of the 301 patients included in the study had a clinical improvement which was evaluated as satisfactory when taking into account their symptoms and the original vascular pathology, either venous, arterial or lymphatic. The degree of effectiveness of the Bioluminis® method is out standing, since the clinical symptoms improved since the first treatment sessions with the final disappearance or reduction of pain, reduction of edemas in over 50%, decrease in the sensation of leg heaviness and over 50% reductions in hyper-pigmentation (table 7).

We consider that this technique is innocuous, with a high acceptance among the patients because of the relief and sense of well being it confers, since Biophotontherapy is based on

physical principles of the use of the magnetic fields from natural light through a natural effect of bioresonance between cosmic waves and the boby in the affected zone. In other words, this is the principle of restoring the natural potential for biological exchange, applied at all levels.

Table 7. Response to the Bioluminis® treatment

Response	No. of patients	Percentage
Satisfactory	301	100
Unsatisfactory	0	0
Total	301	100

It is important to underline that this technique, that is easy to use and highly accepted by the patients, can confer immediate pain relief from the beginning of the first sessions until total disappearance of pain is achieved, together with a reduction in other symptoms such as edema, sensations of leg heaviness, cramps, and hyper-pigmentation that is so unpleasant for the patient from an aesthetical point of view.

Conclusions

Biophotontherapy is a novel therapeutic method for disorders that are typically refractory to other treatments due to their chronicity, the complexity of their symptoms, and their incapacitating nature.

Pain is relieved in 100% of the patients.

There are no visible economic expenses associated with the treatment.

Patient with hyper-pigmentation in both legs due to chronic venous insufficiency, before the Bioluminis® treatment.

Patient with hyperpigmentation in both legs due to chronic venous insufficiency, after the Bioluminis® treatment.

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Application of Biophotontherapy in acute lymphangitis of the lower limbs

Reina Lourdes Morejon Vega, MD

Abstract

This paper presents, for the first time, the remarkable results of the treatment of acute lymphangitis of the lower limbs using Biophotontherapy. The study was carried out at the Angiology and Vascular Surgery service of the "Joaquín Albarrán" Educational Clinical-Surgical Hospital and enrolled 60 patients, regardless of the type of lymphangitis diagnosed or the time of evolution of the disease. A daily treatment was used for the first 5 sessions and 3 times ar week for the remaining sessions; each session took from 1 to 2 hours and the number of sessions depended on the clinical manifestations of each case. Using this novel technique as the sole therapy, we successfully treated acute lymphangitis with a method that is innocuous, effective, with long-lasting effects, and capable of substituting antibiotics, which is the conventional therapy for lymphangitis.

Introduction

Acute lymphangitis is the result of an exogenous infection that enters the body through the dermal lymph vessels using microtrauma or small scratches as points of entry, or as a complication from other lesions like ulcers, epidermophytosis or osteomyelitis. Exceptionally, the infection can reach the lymphatic network via the bloodstream, frequently as a complication of distant septic foci in tonsils, perinasal sinuses, etc.

This inflammation of the lymphatic vessels, of infectious origin, is usually accompanied by an inflammatory process of the regional lymph nodes (adenitis, lymphadenitis).

Acute lymphangitis is frequent in the limbs due to the abundance of lymphatic vessels in the skin of hands and feet; when located near a joint, any small excoriation, puncture or surface wound can trigger a crisis of lymphangitis more readily than an open, deep and severe cut.

Pathogenesis

In most cases, lymphangitis is caused by streptococci, although some authors have found other germs such as staphylococci, colibacilli and pneumococci in cases of lymphangitis [1, 2-10]. These germs are normally saprophytie gwests of the skin and mucosae that reach pathogenic status only if favorable conditions are found on the host.

There is an evident relationship between epidermophytosis and recurrent chronic lymphangitis. A secondary streptococcal infection seems to the direct cause of lymphangitis, but an epidermophytosis largely contributes to its appearance. It should be pointed out that the determining cause for a chronic recurrent lymphangitis may well be located out side the limbs, in anatomical locations where streptococci multiply as septic foci in the pharynx, tonsils, teeth, perinasal sinuses, etc.

Additionally, after a first streptococcal infection there is a sensitization of the tissues to the toxins and metabolic byproducts of the germ and, therefore, a higher predisposition for a new infection [3-9].

Clinical symptoms

Acute lymphangitis is usually associated with the typical symptoms of every acute sepsis: Headaches, chills, high fever (from 38 ºC onwards), nausea, vomiting, lower back pain, insomnia and general discomfort.

Clinical forms

According to local signs, lymphangitis has been classified in the following clinical forms: [11]

1. Reticular Superficial Lymphangitis

This is the most frequent clinical form. It typically starts with: high fever from 38 ºC to 40 ºC, chills, anorexia and prostration. The skin of the limb reddens following a diffuse pattern while getting tight, swollen and hot. The reddened area becomes edematous and feels painful both spontaneously and upon contact, leaving a white zone when compressed and blushing back when pressure is relieved.

Regional adenitis is always accompanied by acute lymphangitis: the inguinal, and sometimes, popliteal nodes in the lower limb get tumescent and painful, both spontaneously and when pressing.

2. Superficial Troncular Lymphangitis

This clinical form is not frequent. Its main symptoms are fever and linear reddening, characterized by the appearance of one or more reddish-pink strings leading to the local lymph nodes. These strings, or streaks, feel tender but have a certain firmness to touch, and connect the infected wound or its nearby regions to the lymph node near to the base of the limb. The skin between the lines looks normal or very slightly edematous. The streaks can run parallel, or form bands which are not very prominent, but more consistent. Occasionally, the streaks form hard strings that should not be confused with thrombophlebitis of superficial veins.

3. Phlyctenular Lymphangitis

This is the second most frequent clinical form. If the process aggravates, both general and local symptoms worsen and some blisters appear on the affected zone, that is, the red zones can be covered by blisters with a yellowish serous content which later break, leaving behind a patch of healthy skin. The content of the blisters is sterile.

4. Necrotizing Lymphangitis

This occurs the process is intense enough the for blisters to have a pink-colored content and, after bursting, it leaves behind a patch of dermis covered by a whitish or yellowish false membrane. When that membrane falls off it uncovers a necrotized tissue that will later evolve into a superficial scar that disappears with time. Necrotizing lymphangitis (sometimes known as gangrene) is not usual, and generally appear in diabetic or weakened, undernourished subjects. Although it usually evolves positively, it can get complicated with a more severe infection like a diffuse abscess or septicemia.

This clinical form has symptoms which are truly alarming: Intense headache, delirium, restlessness, dryness of the tongue, anorexia, nausea and vomiting.

Antibiotics are conventionally used to treat acute lymphangitis, and the elective therapy is penicillin for 10 days with an administration route and dose depending on the clinical form. For example, patients with phlyctenular or necrotizing lymphangitis are treated initially with crystalline penicillin delivered intravenously during the first 48 or 72 hours, continuing with intramuscular benzylpenicillin, whereas for patients afflicted with acute moderate lymphangitis the oral route is preferred and not only penicillin, but also cephalexins and even sulphonamides can be used. Aminoglycosides and cephalosporins, generally in conjunction with intravenous metronidazole, are substituted for penicillin in allergic patients.

Additionally, acute lymphangitis should be treated locally with moist compresses, their frequency and time of application being dependent on the clinical manifestations. For phlyctenular and necrotizing lymphangitis this local treatment also includes cleaning the lesions with different antiseptic solutions and antibiotic creams.

The lymphangitis symptoms disappear after of several days. Lymphangitis starts abruptly and disappears gradually: pain, reddening, fever, swelling and adenopathies all attenuate day by day, until they finally fade away. The skin acquires a slightly cyanotic tone and is covered with dermal scales, which later fall off. The symptoms can resolve completely, although a chronic temporal edema or a permanent lymphedema may persist.

Most patients affected from a lymphangitis will have recurring episodes later. In this state, known as Recurring Chronic Lymphangitis, the first bouts are spaced by months or years, but the interval between episodes is shortened progressively, turning lymphangitis into a very heavy burden for the patient. Another consequence of this status is that the volume of the afflicted limb increases progressively, becoming what is known as Post-Lymphangitis Lymphedema,

All the above implies that although lymphangitis may not disturb significantly the social and occupational life of the patient during its first stages, its recurrence quickly becomes a problem from a social, economic, aesthetic and psychological point of view.

Materials and methods

This study was conducted from April, 2002 to December, 2004 at the “Joaquín Albarrán” Clinical-Surgical Hospital, with the goal of determining the usefulness of Biophotontherapy as a novel alternative for the treatment of lymphangitis. It enrolled all the patients attending the Angiology and Vascular Surgery service of this hospital during this period that were afflicted from acute lymphangitis.

Description of the treatment

The Biophotontherapy treatment has the following three stages:

First stage

This stage is known as polarization, which is a state of balance due to the interplay of both intra- and extracellular electrical and magnetic exchanges. It uses filters 1 +/-.

The polarization treatment is always performed at the beginning of therapy, from 5 to 8 sessions and is applied concurrently with the specific treatment. Sessions take from 40 minutes to 1 hour.

Second stage

The second stage, also known as specific treatment, consists of the use of Lymph Detoxification, Anti-Stress, Lymph Drainage and Multipurpose Bandage treatments. In our practice, these were applied for periods of 60 minutes, sometimes extended to 2 hours.

Lymph Detoxification: Filters 11B are used in the maxillary regions, and filters 10B on both sides of the lower jaw.

Anti-Stress: Filters 1B are used, one in the middle of the forehead and two placed on each side of the upper jaw. They are occasionally used together with filters 10B on the lower jaw.

Lymph Drainage: This is one of the most important treatments for the clinical condition of our patients. Filters 10B are placed on the external edge at the level of the medial third of the foot (Zone A), or on the center of the foot (Zone B). Only one of the 2 zones is used at a time, and the treatment is always combined with polarization.

Multipurpose Bandages: These bandages are placed longitudinally on the afflicted part of the limb.

Third stage

The third stage is that of rubbing, or sliding, the filter over the affected area. The way this is done is directly related to the clinical form of the acute lymphangitis: For reticular lymphangitis, the filter is gently rubbed over the reddened areas, whereas for phlyctenular and necrotizing lymphangitis, the filter is actually moved a few millimeters above the affected skin.

Frequency: The first 5 sessions are conducted daily, and the remaining sessions take place 3 times a week, lasting from 1 to 2 hours each.

Number of sessions: 5 to 15 sessions are programmed, the actual number depends on the response to the treatment and the clinical form of each case.

Evaluation of the results

During this study, the patients underwent an initial evaluation at the Angiology consultation room where variables such as age, gender, race, characteristics of the lesions and definition of the clinical form of lymphangitis were recorded in their Clinical Record. Afterwards, at each treatment session and after the end of the treatment, the response to Biophotontherapy was evaluated as either satisfactory or unsatisfactory.

Satisfactory: A total disappearance or a reduction of over 80% of the pain, reddening and edema is achieved. Acute lymphangitis can be considered a cured.

Unsatisfactory: A total disappearance or a reduction of over 80% of the pain, reddening and edema is not achieved. Acute lymphangitis can be considered as still present.

Results and Discussion

The study had a sample size of 60 subjects, selected from those attending the Angiology and Vascular Surgery consultation room of the "Joaquín Albarrán" Clinical-Surgical Hospital afflicted from acute lymphangitis. The inclusion of the patients in the study did not depend on the clinical

form or time of evolution, and required that an informed consent be obtained from the prospective subject after being briefed about the characteristics of the study and the details of the therapy. The distribution of the clinical forms among the patients is shown in table 1.

Table 1. Distribution of the clinical forms of lymphangitis among our patients

Clinical form	No. of patients	Percentage
Reticular Superficial Lymphangitis	34	56.6
Troncular Superficial Lymphangitis	20	33.4
Phlyctenular Lymphangitis	4	6.6
Necrotizing Lymphangitis	2	3.4
Total	60	100

Females prevailed among the subjects with 48 patients (80%); only 12 patients were males (20%). Age ranged basically from 56 to 65 years, and the associated diseases, were Diabetes Mellitus and arterial hypertension, among others (table 2 and 3).

Table 2. Distribution by gender

Gender	No. of patients	Percentage
Female	48	80
Male	12	20
Total	60	100

Table 3. Age distribution

Age	No. of patients	Percentage
20-40 years	4	6.6
41-55 years	3	5
56-65 years	35	58.3
66-85 years	8	28.5
Total	60	100

The main symptoms for acute lymphangitis among our patients were pain, reddening and edema. These symptoms were solved for 100% of the patients (table 4).

Table 4. Distribution of the symptoms for lymphangitis

Symptom	Patients	Percentage
Pain	60	100
Reddening	60	100
Edema	60	100

Most of the patients (30), corresponding to 50% of the sample, received up to 10 sessions, followed by 33.3% who received all 15 sessions (table 5).

Table 5. Treatment sessions

Variables	Patients	Percentage
Up to 5 sessions	10	16.6
Up to 10 sessions	30	50
15 sessions	20	33.3
Total	60	100

In acute lymphangitis of the lower limbs, pain is the main symptom and was solved for 100% of the 60 patients. Edema a as significantly reduced during the first 48 hours for all patients, as well as the reddening of the affected limb.

The 60 patients of our study had a response evaluated as Satisfactory, taking into account the disappearance, or a decrease of over 80%, of the pain, reddening and edema. Thus, the symptoms of acute lymphangitis were solved using Bioluminis® filters as the sole treatment (table 6).

Table 6. Results of Biophotontherapy

Response	No. of patients	Percentage
Satisfactory	60	100
Unsatisfactory	0	0
Total	60	100

Pain, a symptom that is very unpleasant for the patients, is 100% relieved in all cases since the first treatment sessions up until the end of the therapy; as well as edema, reddening, and, in more invasive stages of the disease, the vesicles that affect the skin and can become necrotic patches. Fortunately, with this therapy the sequelae, and therefore the aesthetic alterations, are diminished or eliminated, depending on the type of lymphangitis according to its clinical classification and the point at which therapy was started within the course of inflammation. Therefore, taking into account the burden that this disease represents for the patients, its social and economic consequences, its sequelae, and the high amounts of antibiotics needed for its treatment by conventional therapies, we encourage the use of this technique that has the additional benefit of being highly accepted by the patients. The treatment is very effective and its results are systematically stable on the long term, thus considerably improving the quality of life.

The use of antibiotics during this therapy is almost nil. During the course of the study, they were used in only one patient, for whom we decided not to stop a treatment with oral antibiotics that was already in course due to the highly complex nature of the case. However, it must be stressed that in this particular case the appropriate conventional procedure would have been the use of high doses of systemic antibiotics, and we would have however managed to cure the disease without the need for hospitalization and the use of penicillin -the elective drug-through a treatment procedure of 1 hour-long daily Biophotontherapy sessions.

Conclusions

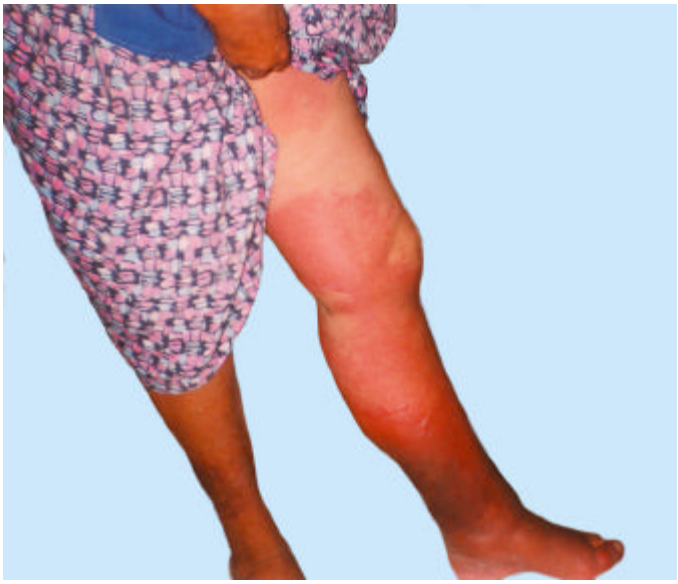
1. Biophotontherapy as the sole treatment is able to solve the acute stage of lymphangitis of the lower limbs in all its clinical forms.
2. The response to the treatment in patients afflicted from reticular lymphangitis is fast, needing only 5 sessions.
3. The optimal number of sessions depends on the clinical form of the lymphangitis.
4. Pain and reddening decrease since the first treatment sessions for all clinical forms of lymphangitis.
5. The therapy with antibiotics can be deferred through the use of the Bioluminis® filters.

6. This method is easy to use, non-invasive, innocuous, and is not unpleasant for the patients.

Recommendations

1. A comparative study should be carried out, performing a risk and efficacy analysis of the Bioluminis® method for the treatment of acute lymphangitis.
2. The results from this study should be extended to the Angiology and Vascular Surgery Services of the country.

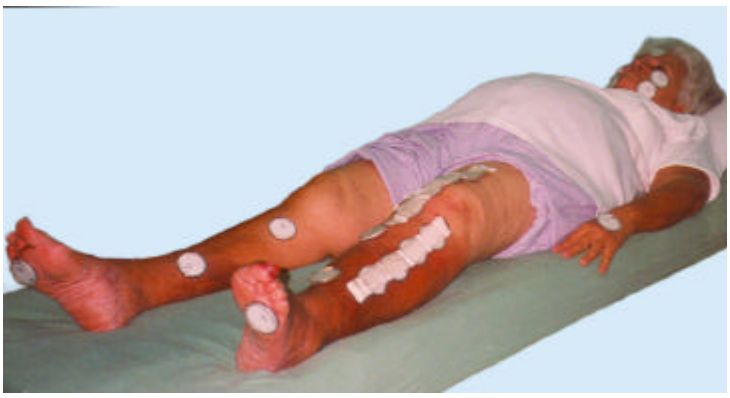
Clinical cases of lower limb acute lymphangitis.



Case 1. Phlyctenular and troncular acute lymphangitis, before treatment. Anterior view.

Case 1. Phlyctenular and troncular acute lymphangitis, before treatment. Posterior view.

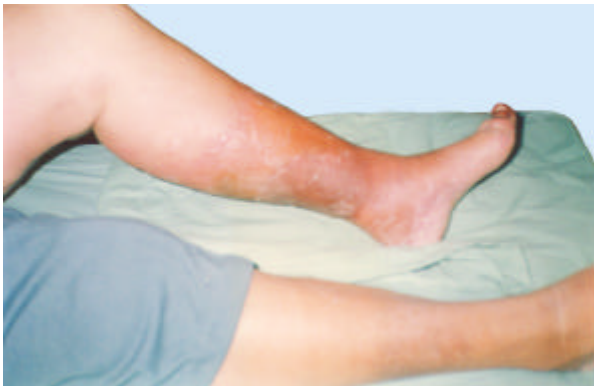
Case 1. Phlyctenular and troncular acute lymphangitis, during treatment.



Case 1. Phlyctenular and troncular acute lymphangitis, during treatment.

Case 1. Phlyctenular and troncular acute lymphangitis, during treatment.

Case 1. Phlyctenular and troncular acute lymphangitis. After 10 sessions.

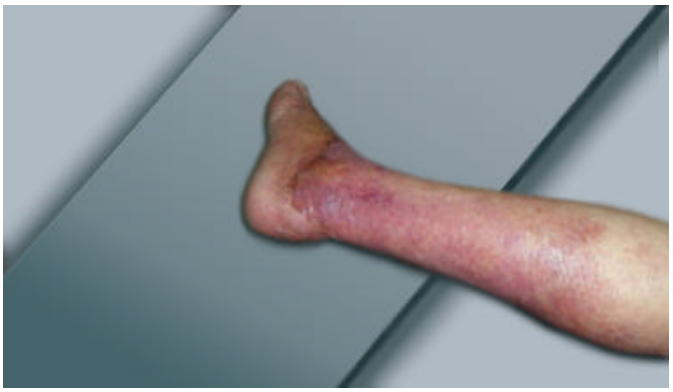


Case 1. Phlyctenular and troncular acute lymphangitis. After 15 sessions.

Case 1. Alter being discharged from the hospital.

Case 2. Untreated phlyctenular lymphangitis after 10 days of evolution.

Case 2. Phlyctenular lymphangitis after 10 Bioluminis® treatment sessions.



Case 2. After 15 sessions of Biophotontherapy.

Case 3. Phlyctenular lymphangitis before treatment.

Case 3. Phlyctenular lymphangitis after 4 treatment sessions. Anterior view.

Case 3. Phlyctenular lymphangitis after 4 treatment sessions. Posterior view.

Case 3. Phlyctenular lymphangitis after 5 treatment sessions.

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