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LIFEWAVE®

Special issue on LifeWave studies

Holistic Health Care & Research Organization

002 / 3, Agarwal Hill View, Evershine City, Near Ram-Rahim Nagar, Vasai (E), Thane – 401208, Maharashtra, India

HOLISTIC HEALTH CARE AND RESEARCH

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HOLISTIC HEALTH CARE AND RESEARCH ORGANIZATION

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002/3, Agarwal Hill View, Near Ram Rahim Nagar, EvershineCity, Vasai (East) 401208, Thane, M.S., India.
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Holistic Health Care and Research

An International Quarterly Journal of Health Sciences

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Research Studies

Case Studies on the Effect of LifeWave Energy Enhancer Patches on Human Energy Field

Thornton Streeter, Kimberly Schipke, Sharique Zafar*, Vaibhav Lunkad, Shivali Dandekar, Anuja Ranade, Aniruddha Gandhi and Bhagyashri Nilkanth

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Introduction:

The research project was undertaken at the Centre for Biofield Sciences, World Peace Centre, MIT College, Pune. The aim of this research project was to prove the efficacy of Energy enhancer patches (Ice wave and Glutathione Patches) on energy fields and chakras. Glutathione and Ice wave patches are used for the mild and temporary stimulation of Acupuncture points that are known to improve the flow of energy through the body. No magnets or needles are used. The devices and parameters used for the assessment of energy levels and physiological changes were viz. Poly-contrast Interference Photography (PIP), Gas Discharge Visualization (GDV), Electro Interstitial Scan (EIS), Electro-Sound level Meter (ESM) and Chakra Temperature scanning; those were carried out according to the protocol and standard norms and conditions.

Materials and Methods:

Total 25 subjects of either sex, belonging to the age group between 21 to 70 years, suffering from any pain for the period of approximately 6 months, were selected for the study. Participants were selected randomly through local newspaper advertisements and university notices. Each participant was booked in for two appointments each lasting around 1 hour. All participants were divided randomly into three groups, i.e. Control group (no treatment) of 5 individuals, Test group (Ice Wave) of 10 individuals and Test group (Glutathione) of 10 individuals. They filled their consultation, consent form and then underwent the first round (baseline) of five scans with PIP, GDV, EIS, ESM and Chakra Temperature.

The LifeWave Energy Enhancer Patches (Ice Wave and Glutathione patches) were applied for 24 hours to the participants. All individuals of control and test groups were then rescanned with the same five devices, again in a random order on second visit. Scans were carried out and analysed by the experts in the specific imaging technology. Most of the results were qualitative and cross comparison was complex.

Results:

Scans were obtained of 25 participants. Each case was individually examined and analyzed. The results obtained support the effectiveness of the Energy Enhancer Patches. In the test groups, the PIP scans showed positive change in 18 participants out of 20. Two of these 20 scans showed no changes. The GDV, EIS, ESM and Chakra temperature scans show results in correlation with PIP. It is clear that the Energy Enhancer Patches (Ice Wave and Glutathione patches) have been effective in pain management. In addition to the analysis part of the data, during experiments changes witnessed in the biofield were strongly positive in the after scans. Maximum changes were seen in the solar plexus and lower back along with significant positive change in the biofield. The harmonious green and pink frequencies increase with the use of the Energy Enhancer Patches. Blocked charkas, especially solar plexus are seen to open up. Red congested energy is replaced by green or violet healing energy. Positive effects are also seen over lung fields in some of the cases.

SOME CASE STUDIES OF ICE WAVE PATCHES

PIP

Before:

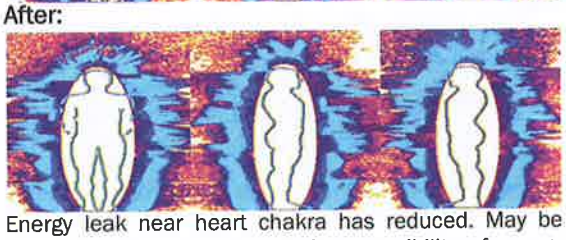
After:

Orange coloured low energy in the biofield is getting replaced by positive green energy and healing blue energy. Congestion in the lower back has reduced after using ICE Wave patch.

GDV

Before:

After:



Energy leak near heart chakra has reduced. May be because of treatment. There is a possibility of energy rearranging.

EIS

Before:

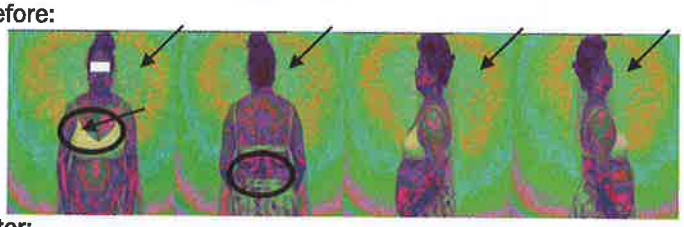
Possibility of muscular weakness : Specificity 80% Sensitivity 75%

After:

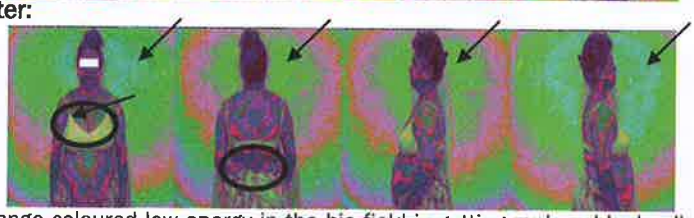
Possibility of muscular weakness : Specificity 73% Sensitivity 67%

PIP

Before:



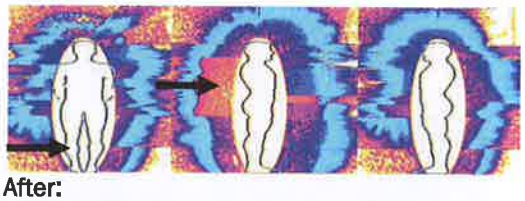
After:



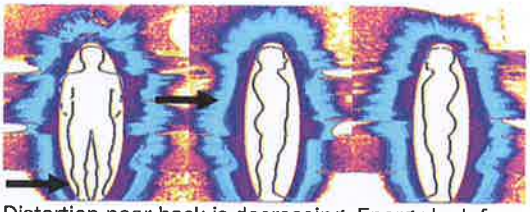
Orange coloured low energy in the bio field is getting replaced by healing blue and positive green. Red coloured congestion near lung field is getting by positive green. Solar plexus is getting more positive energy and opening up. Red coloured congestion in the lower back is decreasing and positive green energy is replacing the congestion.

GDV

Before:



After:



Distortion near back is decreasing. Energy leak from Solar plexus and lower leg is decreasing. Over all distortion of aura is decreasing.

EIS

Before:

Possibility of muscular weakness :
Specificity 80% Sensitivity 75%

After:

Possibility of muscular weakness :
Specificity 73% Sensitivity 67%

PIP

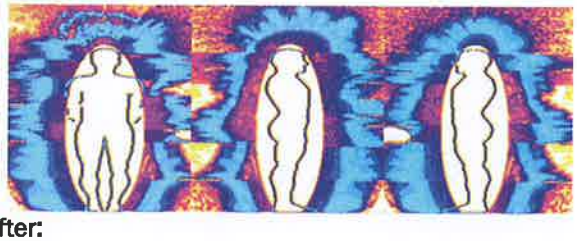
Before:

After:

Red coloured congestion in the solar plexus is decreasing as green coloured positive energy is replacing the congestion. Congestion in the lower back has reduced. Positive green and healing blue energies are increasing after in the biofield after using Ice Wave patch.

GDV

Before:



After:

Overall distortion of aura has reduced. Energy leak from brow chakra and throat chakra has reduced. Energy near lower back is increasing. Energy rearranging is seen.

EIS

Before:

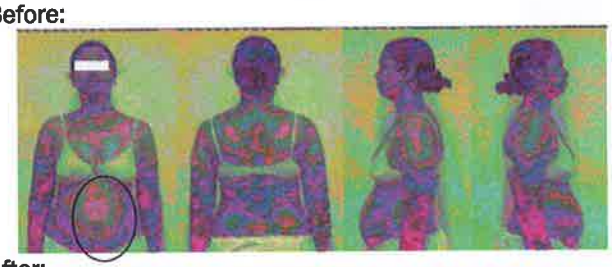
After:

Muscular pain indicated by sea green is replaced after the use of ICE WAVE patch

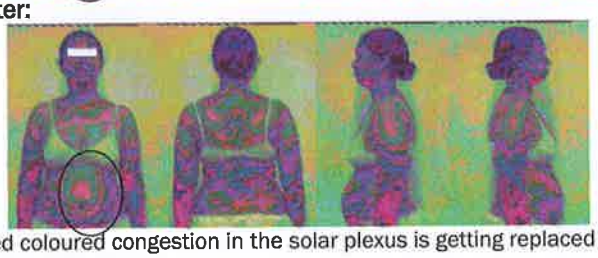
SOME CASE STUDIES OF GLUTATHIONE PATCHES

PIP

Before:



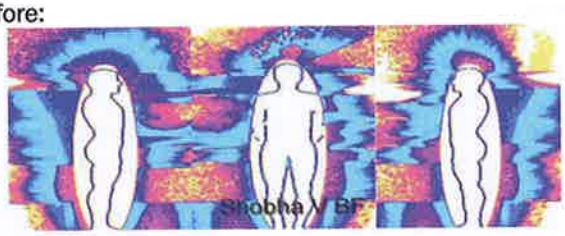
After:



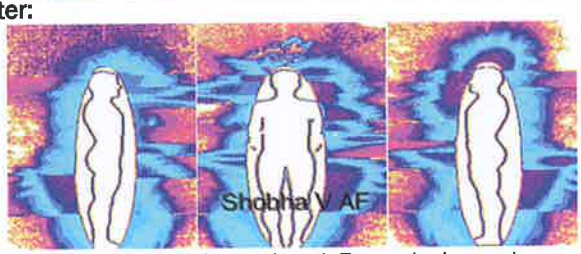
Red coloured congestion in the solar plexus is getting replaced by positive green.

GDV

Before:



After:



Energy leak form neck has reduced. Energy leak near base chakra has reduced.

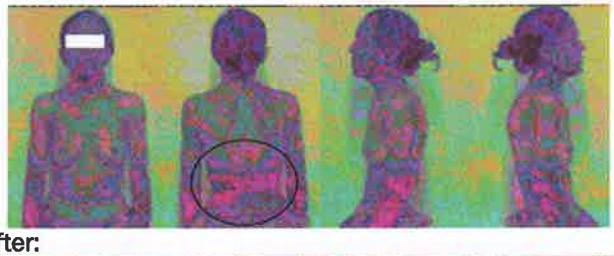
EIS

Before:	After:
	

Lower back ach indicated by sea green has reduced after the use of glutathione patches

PIP

Before:

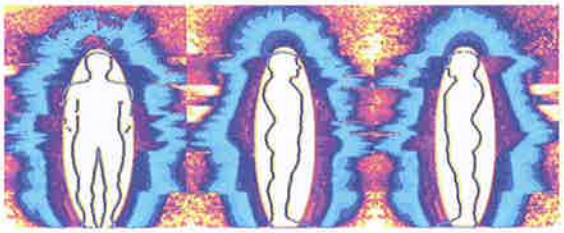


After:

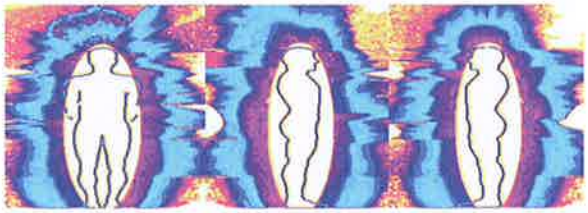
Congestion near lower back has reduced

GDV

Before:



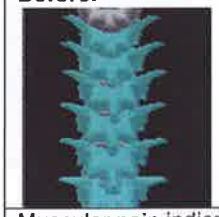
After:



No remarkable changes.

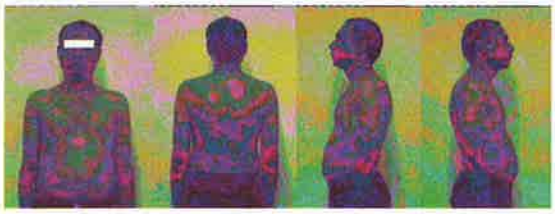
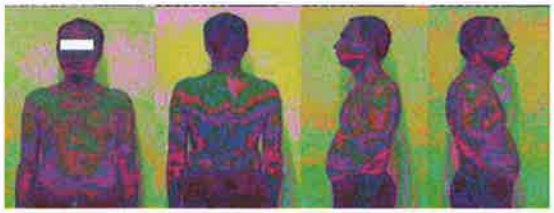
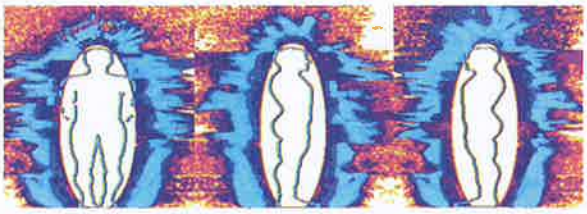
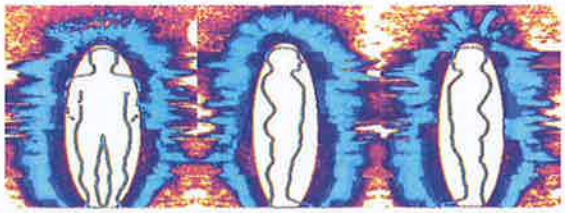
EIS

Before:



After:

Muscular pain indicated by sea green has disappeared after using Glutathione patch

PIP	GDV
Before:  **After:**  Congestion in the solar plexus, lungs field and middle back has reduced.	**Before:**  **After:**  Energy leak near Solar plexus and Throat, and from lower back has reduced.

EIS

Before: 

After: 

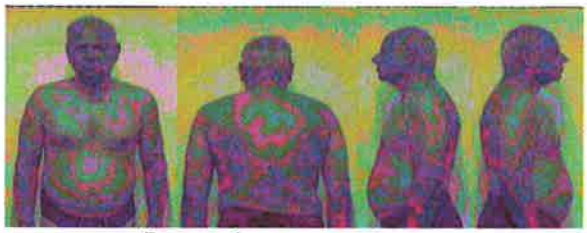
Sea green indicates muscle and bone pain.
In the after scan grey indicates positive changes.

SOME CASE STUDIES OF CONTROL GROUP

PIP

Before:

After:



Rearranging of energy is seen.

GDV

Before:

After:

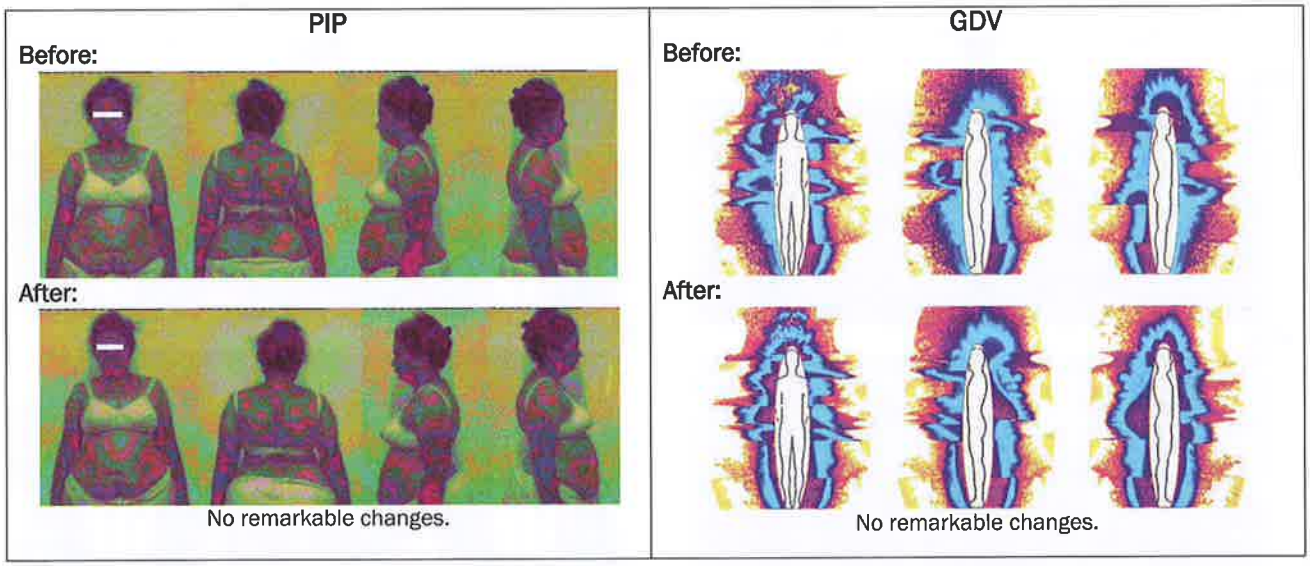
No remarkable changes seen

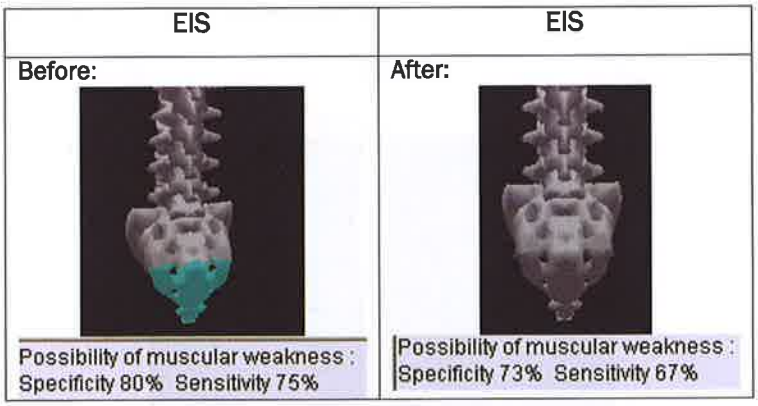
EIS

Before:

After:

Possibility of cervical arthrosis causing migraines


PIP
Before:
After:
No remarkable changes.
GDV
Before:
After:
No remarkable changes.


EIS
Before:
Possibility of muscular weakness :
Specificity 80% Sensitivity 75%
EIS
After:
Possibility of muscular weakness :
Specificity 73% Sensitivity 67%

Effects of LifeWave Ice Wave Patches on Human Biofield

Thornton W.J.A. Streeter, Kimberly Schipke, Sharique Zafar*, Ravi Prayag, Vaibhav Lunkad, Nilkanth Bhagyashri, Aniruddha Gandhi, Anuja Ranade, Shivali Dandekar

Centre for Biofield Sciences (CBS), World Peace Centre's Maharashtra Institute of Technology, Paud Road, Kothrud, Pune – 411038, M.S., India; *Website:* www.biofieldsciences.com

*Holistic Health Care & Research Organization, 002/3, Agarwal Hill View, Evershine City, Near Ram-Rahim Nagar, Vasai (E) – 401208, Thane, M.S., India. Email: drshariquezafar@gmail.com *Website:* www.hhcro.org

Abstract:

The purpose of this study was to validate the efficacy of the IceWave patch as a pain reliever by observing changes in the human biofield. Polycontrast Interference Photography (PIP), Gas Discharge Visualization (Gdv) and Electro-Interstitial Scan (Eis) were the devices used before and after using LifeWave Patches. Results show that the Ice Wave patch has a profound effect on reducing pain in individuals. Icewave patch is an effective means of minimizing muscular spasm and pain. In addition to data analysis, positive changes in the biofield were noted after the use of the ice Wave patch .After the application of the patch, significant and considerable positive changes were seen in the Biofield as well as on the chakra level, predominance of positive green and subtle pink with the subjective feeling of wellness.

Key Words: Ice Wave patches, biofield

Introduction:

Biofield and seven major chakra forms aura. The aura is an oval shaped energy field around the body which emits subtle energy. Chakras are energy centers and which are imagined as flower like structure and they are related to our emotions and organs. The symmetry and the energy pattern of the biofield helps in identifying the areas of health, including psychological, emotional, and physical health. The Centre for Biofield Sciences scans the energy vortices along the spinal cord, commonly known as chakras to show their physiological and psychological connections to the human body.[1]

According to ancient knowledge, these energy centers have petals e.g. Ajana chakra has 2 petals. These chakras receive energy from next chakra forward it to the other chakra. These seven major chakras are also related to glands within the body. The seven centers (Sanskrit names) include the Muladhara chakra, Swadishthan chakra, Manipur chakra.Anahat chakra, Vishuddhi chakra, Ajana chakra and sahastrasa chakra located along the center of the body which is illustrated in Figure 1. Each center spins on its own specific frequency. The slowest spinning center is the base and the frequencies progressively increase to the highest center, the crown.[1,2]

Figure 1: Illustration of the seven major energy centers of the human body

LifeWave products are based on the principles of homeopathy and activate the body's bio-energetic system. The Ice Wave patch is a non-transdermal patch which gently stimulates acupuncture points to improve energy flow in the body to relieve pain and discomfort. Low levels of glutathione in the body have been shown to result in pain.[3,4] LifeWave patches are composed of organic materials recognized as safe by the FDA. Since acupuncture has been proven to alleviate pain, LifeWave patches utilize specific acupuncture points to reduce pain in subjects.[5-9] The IceWave patch has already shown positive results, but this study will validate previous studies.[10] The aim of this research project was to examine the changes in the 7 chakras, in the biofield symmetry and surface area and in the physiology as measured with bio-impedence, as a result of using the LifeWave Ice Wave patch. To evaluate the efficacy of the patch, the Centre for Biofield Sciences used (1) Polycontrast Interference Photography (2) Gas Discharge Visualization (3) Electro Interstitial Scan.

Poly-contrast Interference Photography (PIP) is a non-invasive, light analysis technology invented by Dr. Harry Oldfield. It requires the human body to be exposed to a full spectrum-controlled lighting environment. The absorption and reflection intensities are color coded and analyzed. PIP is most useful when analyzing the body for congestions & leakages that appear above the specific organ or part of the body being investigated. Typically it is understood that body will absorb more light (i.e. reflect less) where it has issues in comparison to the rest of the participant's body. Reduction in red/orange colored low energy, or replacement of low energy with green, pink violet colored positive energy is considered to be a positive change in the body, as well as the reduction in pooling of energy or opening up of charkas. Subtle pink positive energy can be seen along with golden yellow spiritual energy and green positive energy. Digestive issues can be seen in his abdomen which is indicated by red low energy and asymmetrical patterns.[11,12]

Gas Discharge Visualization (GDV) is an advanced form of Kirlian photography, developed by Dr. Korotkov. An electric impulse stimulates a biological subject and generates a response of the subject in the form of photon & electron emission. The glow of the photon radiation owing to the gas discharge generated in electromagnetic field is transformed by optical & charge couple device systems into a computer file. Overall, the aura is asymmetrical showing energy leaks on the left side in the solar plexus and base chakra regions.[13-15]

The Electro Interstitial Scan (EIS) is a programmable electro medical system, which is scientifically proven and clinically validated as an effective diagnostic device. Efficient and non-invasive medical device that measures physiological parameters and produces detail reports with 89 % repeatable accuracy. It measures conductivity of interstitial fluid between the cells. The bio impedance technology is very similar to ECG and EEG, but instead of supplying information for brain or heart only, EIS measures electro physiological properties of 22 different volumes within the body and comes up with 69 different physiological parameters.[16-18]

Materials and Methods:

Participants were randomly selected from solicitation from local newspaper advertisements and university notices. Approximately 150 subjects were reviewed to ensure they met the inclusion/exclusion criteria. In order to participate in this study, subjects were required to be between 18 and 70 years of age and could not participate if pregnant or nursing. Prior to initiating the study, the principal investigator verbally explained the study to the subject and fully answered any questions the subject may have had. The subject was then asked to read and sign the consent form. The subject was allowed to take a copy of the consent form home to discuss study participation with family, friends, and/or general physician. A patient number was then given to the subject to maintain confidentiality and facilitate randomization of the treatment group.

Fifty people were in the Ice Wave patch experimental group and 20 people were in the control group. The control group wore similar looking patches for application, whereby the study could be performed as double blind. Neither participant, nor researcher knew whether they were given a study patch or a placebo. Research subjects were randomly assigned to one of the two groups. The subjects were then scanned using the PIP, GDV, and EIS. Subjects randomized to the Icewave group were asked to adhere the patches on the area of pain as determined by the three scans using the cross method as shown in the LifeWave handout "Patch Instructions" for 12 hours. The same set of scan was repeated after 24 hours.

Figure 2: Placement of Ice Wave patch

Observations and Results:

In the test group, 90% of subjects displayed a positive change after using the IceWave patch. Maximum changes were seen in the muscles of the hand, mid and lower back, and neck along with a significant positive change in the biofield and solar and naval chakras. A testimonial was also recorded from a male participant, age 66, who used the IceWave patch. He complained of severe pain in his lower back and tingling and numbness in his right leg. After using the IceWave patch, he informed us of a significant reduction in the pain in his back, and also the numbness and tingling in his leg was reduced. The area and brightness of gas discharge visualized of participants using Glutathione patch increased by significantly in Test group.

Pixel analysis was performed using the Adobe Photoshop to measure red, green, and blue pixel expression for each centre on the basis that red pixels indicate low pooled, negative energy and green and blue pixels indicate high, positive energy. The subjects in the experimental group showed overall positive changes. The results are illustrated in the Figure 2 and table 1. Positive changes are witnessed in overall all the chakras.

In the control group, 80% of subjects have not shown any change in all the three energetic scans after wearing the Control group patch for 12 hours. During the use of this patch no significant changes were seen biofield as well as at the chakra level.

Table 1: Analysis of scans in Test and Placebo control groups

Parameters of GDV	Ice Wave patch		Placebo patch	
	Baseline	*Visit 2*	*Baseline*	*Visit 2*
GDV Area	29500 ± 505.54	31734 ** ± 539.26	32337 ± 1293.5	32547 ns ± 903.45
GDV Brightness	190.48 ± 0.897	193.30** ± 0.635	187.35 ±1.819	188.81 ns ±0.904
EIS iph	7.32 ±0.003	7.31*** ±0.002	7.32 ±0.003	7.32 ns ±0.002
EIS ihco3	24.28 ±0.35	23.86 ns ± 0.28	23.67 ±0.23	24.12 ns ±0.38
EIS pco2	47.29 ±0.55	47.69 ns ±0.55	48.14 ±0.74	47.56 ns ±0.61
EIS ih	46.85 ±0.31	47.99*** ±0.30	48.54 ±0.47	48.28 ns ±0.48
EIS isbe	0.26 ±0.36	- 0.08 ns ±0.29	- 0.18 ±0.43	- 0.20 ns ±0.24
PIP Red	123.28 ± 2.91	108.64*** ±2.06	118.24 ±2.81	120.16 ns ±2.68
PIP Blue	121.34 ±1.95	123.64 ns ±2.19	122.46 ±1.67	121.69 ns ±2.25
PIP Green	122.78 ±2.41	129.92 * ±2.47	123.47 ±2.81	122.36 ns ±3.65

*p<0.05 significant; ** p<0.001 very significant;
*** p<0.0001 extremely significant; ns: not significant

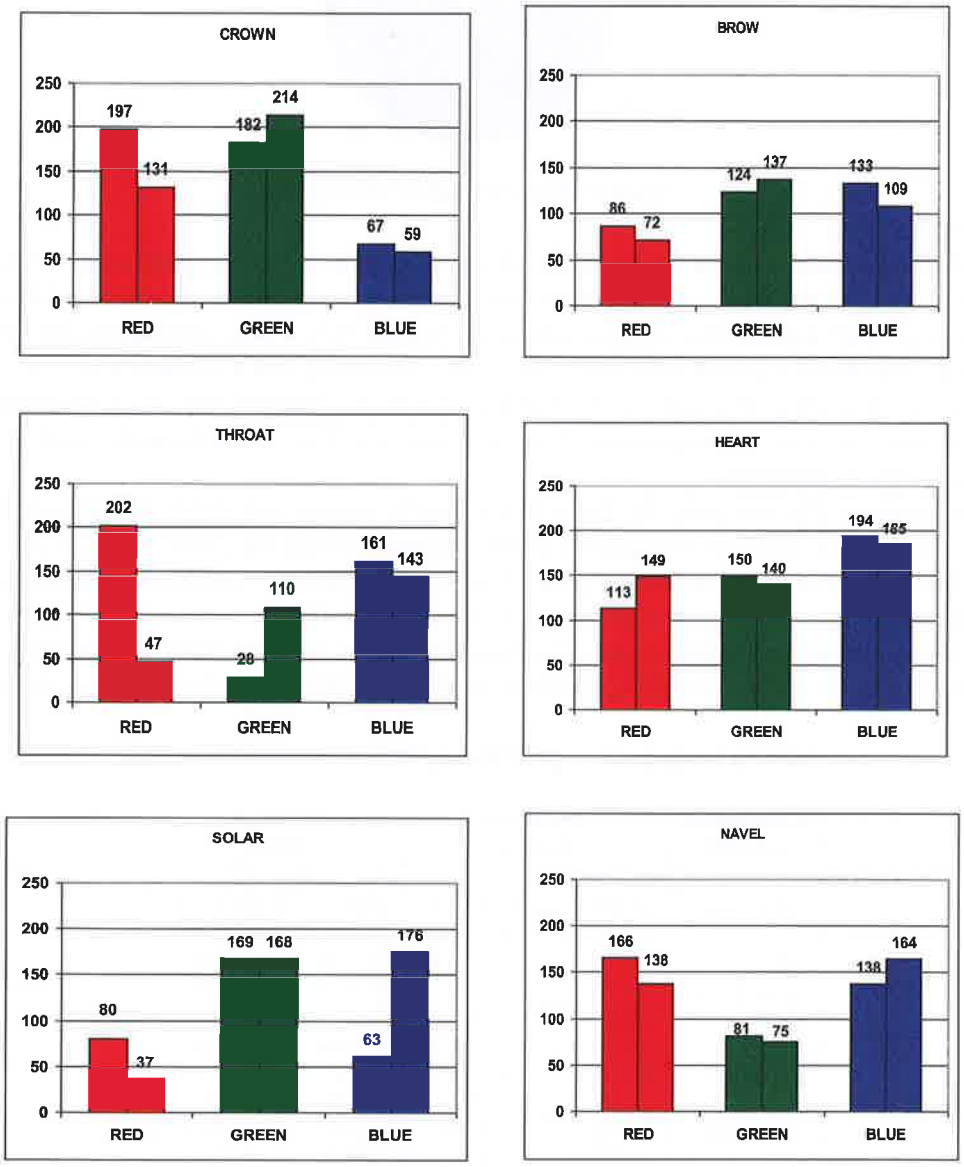


Figure 2: Analysis of RGB colours at seven major chakras

Conclusion:

It can be concluded that the Icewave patch has a profound effect on reducing pain in individuals. In addition to data analysis, positive changes in the biofield were witnessed after the use of the patch. From this research, it can conclude that the Icewave patch is an effective means of minimizing muscular spasm and pain. Maximum changes were seen in the muscles of the hand, back (mid and lower) and neck along with a significant positive change in the Biofield and chakras (Solar and Navel). The immediate response of the clients with pain and inflammation conditions was positive and they felt reduction in the pain after using patch for 12 hours. Clients with pains particularly of Lumbago

(lower back ache) showed considerable decrease in symptoms of pain. Few of them felt energetic after the use of the patch for 12 hours.

The control group was unaware that they were wearing a placebo patch. The majority of participants in the group showed no change in the PIP scan, GDV, and EIS. In the subjective reading, there was also no remarkable relief. Since no changes were observed in the control group; however, remarkable positive changes were seen in the experimental group, it can be concluded that the IceWave patches produce significant beneficial energetic effects.

Acknowledgements:

Authors are thankful to Mr. Sudhir Neurgaonkar, Anil Zutshi, Mr. Gaurav Kakade, Ms. Sayali Suryawanshi, Mr. Kedar Khatmode, Adishree Halgekar for arranging individuals for the study and helping in technical matters.

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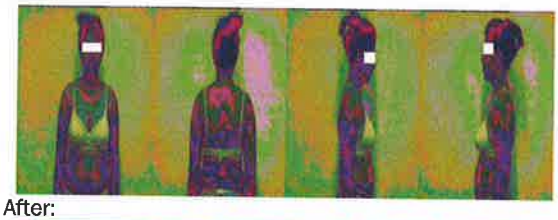
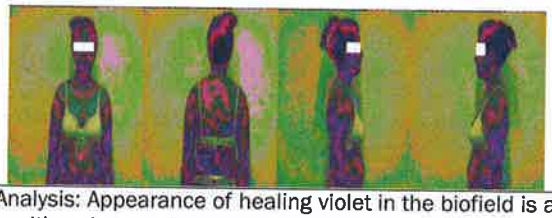
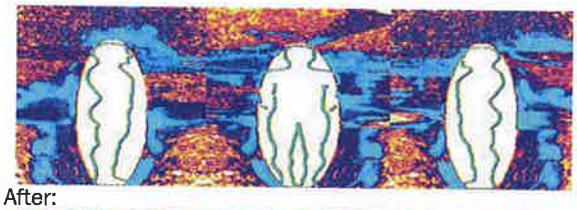
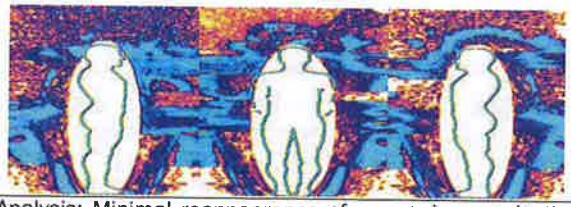
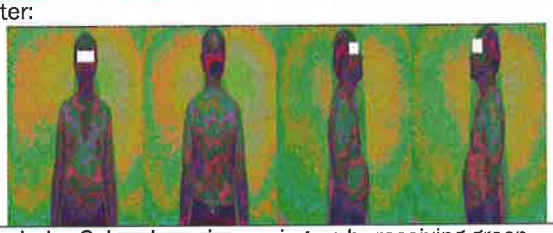
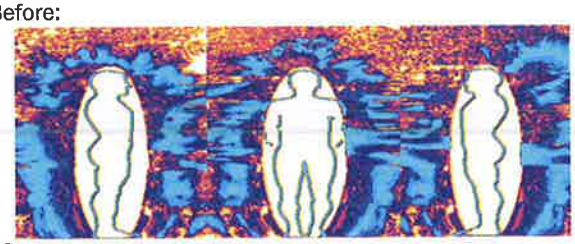
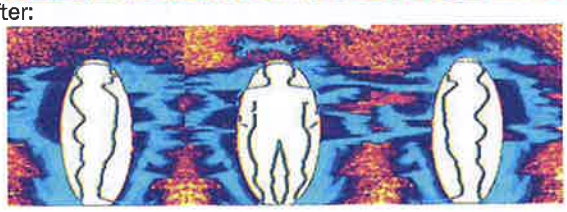
PIP :	GDV :
Before:  After: 	Before:  After: 
Analysis: Appearance of healing violet in the biofield is a positive change. Congestion (red color) in the back has reduced. Rearranging of energy is seen in the lung fields. Overall after scan shows positive change.	Analysis: Minimal reappearance of energy is seen in the biofield. Biofield also appears to be much more continuous and vibrant in after scan.

EIS	EIS
Before: 	After: 
Here we see disorders of Somesthesia and particular distribution as far as the dermatomes are concerned. Dark blue color indicates a problem of significant intensity. Before scans show complaints in the right hand, arm, chest abdomen and back. In the after scans we see significant improvement. Improvement is seen in the hand, arm and pectoral area. Low intensity problems are seen in the chest, abdomen and back	

Fig 3: Improvement seen in an individual using Ice Wave patches

PIP :	GDV :
Before:  After: 	Before:  After: 
Analysis: Solar plexus is opening up by receiving green colored positive energy. Muscle spasm in the back has reduced and green colored positive energy have increased.	Energy emission from crown chakra has reduced. Overall distortion of the aura has reduced. The density of the aura increased.

EIS	EIS
Before: 	After: 
Yellow colour in the muscles of the back is because of increased neuronal excitability and increased lactic acid or anaerobic metabolism in that particular area. Sea green in both the extremities is because of decreased neuronal excitability. This relates to problems of somesthesia. Overall improvement is seen in the after scans.	

Fig 4: Improvement seen in an individual using Ice Wave patches

Effects of LifeWave Glutathione Patches on Human Biofield

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Abstract:

LifeWave Plus products are based on the principles of homeopathy and activate the body's bio-energetic system. Low levels of glutathione in the body have been shown to result in pain. The purpose of this study was to investigate the effectiveness of the Glutathione patch as antioxidant by observing changes in the human biofield. Polycontrast Interference Photography (PIP), Gas Discharge Visualization (GDV) and Electro-Interstitial Scan (EIS) were the devices utilized before and after using Life wave Glutathione Patch. After the application of the Glutathione patch, significant & considerable positive changes were seen in the Biofield as well as on the chakra level. Predominance of positive green and subtle pink with the subjective feeling of wellness is a positive change. The Results revealed that the Patch has effect in reducing stress.

Key Words: Glutathione patches, biofield

Introduction:

The ancient knowledge has a concept called Chakra system and Aura. The chakras are energy centers. The chakras are considered to have a structure like Flower and each chakra has different no of petals. Biofield is energy envelop around our body. It is oval shaped. Seven chakras and the biofield comprises aura. The chakras are energy vortices which supplies energy to our organs. Our emotions are related to this chakra. Positive energy of this chakra maintains the harmony of our physical and psychological health.[1, 2]

Figure 1: Seven major energy centers of the human body

The chakras are situated along side the Spinal cord. The structure, surface area, and symmetry of the biofield help identify areas of health, including psychological, emotional, and physical health. The Centre for Biofield Sciences investigations studying the energy vortices along the spinal cord, commonly known as chakras (from Sanskrit meaning 'wheel') to show their physiological and psychological connections to the human body. These seven major chakras are also related to glands within the body. The seven centers include the base, navel, solar plexus, heart, throat, brow, and crown located along the center of the body. Each center spins on its own specific frequency. The slowest spinning center is the base and the frequencies progressively increase to the highest center, the crown.[1,3]

LifeWave is a new age patch technology. It works on the acupuncture points. The patches contain homeopathy medicines. The patches have non-transdermal behavior. When the patches are applied on specific acupuncture points it gently boosts the energy flow. Glutathione is an important antioxidant composed of the amino acids glutamate, cysteine, and glycine.[4] Glutathione concentrations in the cell decrease in response to protein malnutrition, oxidative stress, and many pathological conditions.[5] Lymphocyte activation and proliferation requires adequate glutathione concentrations;

therefore it is critical in the immune response.[6,7] For this reason, the efficacy of LifeWave patches utilizing glutathione was investigated for pain reduction.

The aim of this research project was to examine the changes in the 7 chakras and also in the biofield as a result of using the LifeWave Glutathione patch. To evaluate the efficacy of the patch, the Centre for Biofield Sciences used (1) Polycontrast Interference Photography (2) Gas Discharge Visualization (3) Electro Interstitial Scan.

PIP is a revolutionary computer imaging system developed by Harry Oldfield, a renowned British scientist. PIP is three-dimensional imaging, which can show the state of the energy field – where energy is blocked and where it is moving freely.[1,2] PIP displays a live image on a PC monitor where the electrical signals from a video camera are graded into clearly visible colors representing a much finer gradation of light intensity than the image entering the camera. Light intensities are distinguished in a way that is impossible to the human eye. It requires the human body to be exposed to a full spectrum-controlled lighting environment.[3,8] The absorption and reflection intensities are color coded and analyzed. Reduction in red/orange colored low energy, or replacement of low energy with green, pink violet colored positive energy is considered to be a positive change in the body, as well as the reduction in pooling of energy or opening up of charkas. This can be determined by the patterns and colors shown on the photographs.[1]

The Gas Discharge Visualization technique (GDV) is a an advanced form of Kirlian photography, developed by Dr. Konstantin Korotkov, a leading scientist from St. Petersburg, Russia, used for viewing of the human energy field (aura).This new technology allows one to capture by a special camera An electric impulse stimulates a biological subject and generates a response of the subject in the form of photon and electron emission. The glow of the photon radiation owing to the gas discharge generated in electromagnetic field is transformed by optical and charge couple device systems into a computer file.[9-11]

The Electro Interstitial Scan (EIS) is a programmable electro medical system, which is scientifically proven and clinically validated as an effective diagnostic device. Efficient and non-invasive medical device that measures physiological parameters and produces detail reports with 89 % repeatable accuracy. It measures conductivity of interstitial fluid between the cells. The bio impedance technology is very similar to ECG and EEG, but instead of supplying information for brain or heart only, EIS measures electro physiological properties of 22 different volumes within the body and comes up with 69 different physiological parameters.[12-14]

Materials and Methods:

Participants were randomly selected from university notices and local newspaper advertises. The eligible age group was 18-70 yrs. Pregnant were nursing women were excluded from the study. 50 participants were in Test and 20 were in Control group. The participants were selected who has health complaints such as stress, fatigue, feeling of low energy, lethargy etc. The trial was a kind of double blind study as the research and the participants were unaware of this grouping. The participants were unaware of whether they have given experimental patch or placebo one For the study two biofield scanning devices were used viz. Polycontrast Interference Photography (PIP) and Gas discharge visualization (GDV). Electro interstitial Scan (EIS) full body scan was also used.

Figure 2: Placement of patch (Large Intestine 4): This point is located on the back of the right hand, in the web, on the bone of the index finger

As per the protocol the Principal Investigator gave detailed information of the study to the participants; clear all the questions they may have had and then asked to sign informed consent form. After the set of Before scans PIP, GDV and EIS the participants were asked to put the patch on the right hand near thumb for 12 hours and come back again after 24 hours for second set of scans i.e. after scan. The after scans were randomly recorded by leading experts.

Observations and Results:

Pixel analysis of PIP scans was done using the Adobe Photoshop to measure red, green, and blue pixel. The Red pixels represents pooled or low energy, The Green and Blue pixels stands for positive energy. The subject in this study test group showed in almost all the chakras. The red pixels are reduced and there is increase in Blue and Green positive energy. Maximum positive changes are seen in the Crown, Brow, Heart and Solar plexus. The area and brightness of of GDV scans of participants using Glutathione Patch increased significantly as shown in Table 1. .

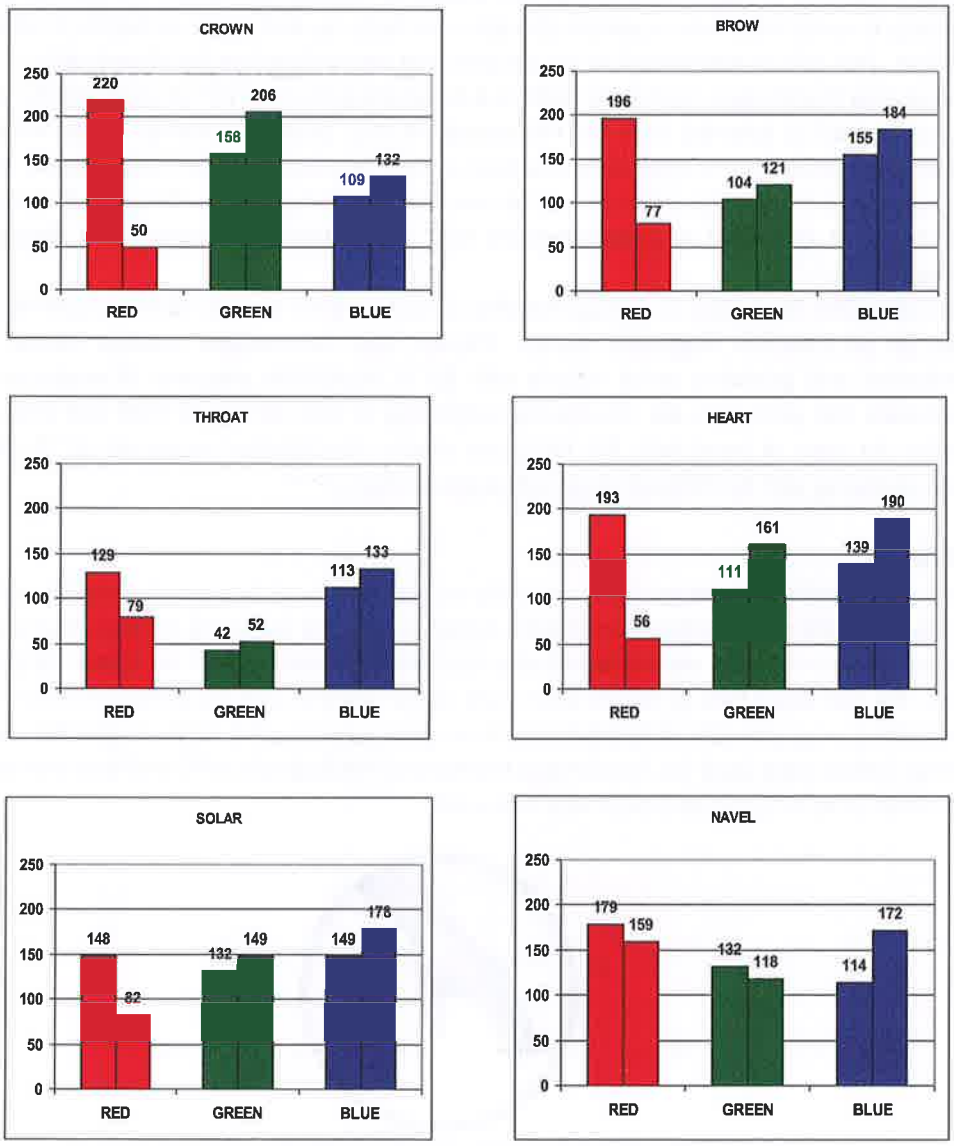

Figure 3: Analysis of RGB colours at seven major chakras

Positive changes are seen in all three devices. It is classified as an overall positive change, in one or two devices is considered to be positive results, and negative shifts in all devices is classified as negative change. In the test group, 88% of subjects experienced a positive change, 7% subjects experienced a no change, and 5% experienced a negative change. The response of the clients having stress, Feeling of low energy, lethargy was positive and they felt relaxed after using patch for 12 hours. Few of them felt energetic after the use of the patch for 12 hours.

Table 1: Analysis of scans in Test and Placebo control groups

Parameters of GDV	Glutathione patch		Placebo patch	
	Baseline	*Visit 2*	*Baseline*	*Visit 2*
GDV Area	32947 ±678.62	34214 * ±848.48	32337 ± 1293.5	32547 ns ± 903.45
GDV Brightness	187.16 ±0.938	190.20** ±0.503	187.35 ±1.819	188.81 ns ±0.904
EIS iph	7.31 ±0.003	7.29*** ±0.002	7.32 ±0.003	7.32 ns ±0.002
EIS ihco3	23.49 ±0.21	23.63 ns ±0.19	23.67 ±0.23	24.12 ns ±0.38
EIS pco2	48.07 ±0.64	50.27*** ±0.63	48.14 ±0.74	47.56 ns ±0.61
EIS ih	49.08 ±0.44	50.55*** ±0.34	48.54 ±0.47	48.28 ns ±0.48
EIS isbe	- 0.50 ±0.22	- 0.08 * ±0.20	- 0.18 ±0.43	- 0.20 ns ±0.24
PIP Red	123.78 ±2.57	107.16*** ±2.20	118.24 ±2.81	120.16 ns ±2.68
PIP Blue	118.82 ±2.22	126.88*** ±1.43	122.46 ±1.67	121.69 ns ±2.25
PIP Green	122.82 ±2.21	130.52*** ±2.21	123.47 ±2.81	122.36 ns ±3.65

*p<0.05 significant; ** p<0.001 very significant

*** p<0.0001 extremely significant; ns: not significant

Conclusion:

During the use of Glutathione patch, a significant number of subjects showed an improvement in all three body scans. Further research with higher numbers of subjects, with multiple days of patch usage should be performed to better understand the possible benefits of using this particular patch. Long term effects after wearing the patch should also be considered when further investigation of the patch is performed.

The control group was unaware that they were wearing a placebo patch. As expected, the majority of participants in the group showed no change in the PIP scan, GDV, and EIS. In the subjective reading, there was also no remarkable relief. Since no changes were observed in the control group; however, remarkable positive changes were seen in test group, it can be concluded that Glutathione patches produce beneficial energetic effects.

Acknowledgements:

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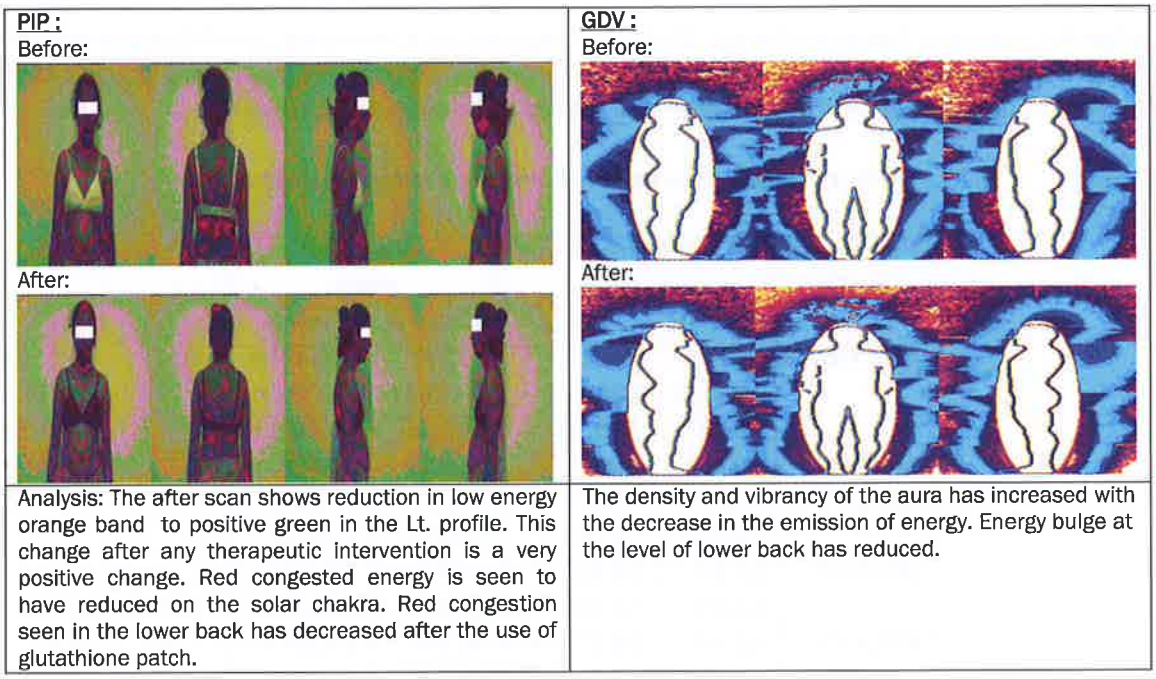

Fig 4: Improvement seen in an individual using Glutathione patches

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Modification in Biofield and Oxidative Stress by the LifeWave Glutathione-Prototype Patches

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Abstract:

Glutathione-Prototype is an improved patch. It also acts as anti oxidant like old Glutathione patch. The LifeWave have developed the patches which are based on the principals of Homeopathy. It works on the acupuncture points, and gently boosts the energy. The patch has non-transdermal system. The pilot study was carried out to validate the efficacy of this newly developed patch. For the assessment, Polycontrast Interference Photography (PIP), Gas Discharge Visualization (GDV) and Electro-Interstitial Scan (EIS) devices were used. Results show that the Prototype patch has effect on reducing oxidative stress in individuals. After the application of the patch, significant & considerable positive changes were seen in the Biofield as well as on the chakra level.

Key words: LifeWave Glutathione-Prototype, Biofield, Oxidative stress

Introduction:

The aura or astral body is an oval shaped energy field around the body which emits subtle energy. Seven major chakras comprise the aura. Chakras are energy centres and which have flower like structure and they have energy vortices related to organs and emotions. The structure, surface area, and symmetry of the biofield help identify areas of health, including psychological, emotional, and physical health. The Centre for Biofield Sciences investigations studying the energy vortices along the spinal cord, commonly known as chakras (from Sanskrit meaning 'wheel') to show their physiological and psychological connections to the human body.[1,2]

According to ancient knowledge, these energy centres have petals. These chakras receive energy and it travels upward to higher chakras. These seven major chakras are also related to glands within the body. The seven centres include the base, navel, solar plexus, heart, throat, brow, and crown located along the centre of the body which is illustrated in Figure 1. Each centre spins on its own specific frequency. The slowest spinning centre is the base and the frequencies progressively increase to the highest centre, the crown.[1,3]

Figure 1: Illustration of the seven major energy centers of the human body

LifeWave patches are recognized by FDA and contain organic materials. LifeWave is light-weight system which helps in increasing .stamina and energy. Combination of modern technology and ancient acupuncture techniques has been used in LifeWave to stimulate glutathione levels in the body. Glutathione is an antioxidant composed of the amino acids glutamate, cysteine, and glycine. Glutathione concentrations in the cell decrease in response to protein

malnutrition, oxidative stress, and many pathological conditions. Lymphocyte activation and proliferation requires adequate glutathione concentrations; therefore it is critical in the immune response. Glutathione-Patch is an improved patch which also acts as antioxidant. To compare the results of this study with the results of original glutathione patches this study was carried out so, we can validate the efficacy of the Glutathione-Prototype patches.[4-7]

The aim of this research project was to examine the changes in the 7 chakras and also in the biofield as a result of using the *Glutathione-Prototype* patch. To evaluate the efficacy of the patch, the Centre for Biofield Sciences used (1) Polycontrast Interference Photography (2) Gas Discharge Visualization (3) Electro Interstitial Scan.

Poly-contrast Interference Photography (PIP) is a non-invasive, light analysis technology invented by Dr. Harry Oldfield. It requires the human body to be exposed to a full spectrum-controlled lighting environment. The absorption and reflection intensities are color coded and analyzed. PIP is most useful when analyzing the body for congestions & leakages that appear above the specific organ or part of the body being investigated. Typically it is understood that body will absorb more light (i.e. reflect less) where it has issues in comparison to the rest of the participant's body. Reduction in red/orange colored low energy, or replacement of low energy with green, pink violet colored positive energy is considered to be a positive change in the body, as well as the reduction in pooling of energy or opening up of charkas.[1,3,8]

Gas Discharge Visualization (GDV) is an advanced form of Kirlian photography, developed by Dr. Korotkov. An electric impulse stimulates a biological subject and generates a response of the subject in the form of photon & electron emission. The glow of the photon radiation owing to the gas discharge generated in electromagnetic field is transformed by optical & charge couple device systems into a computer file.[9-11]

Electro-Interstitial Scan (EIS) is a programmable electro-medical system scientifically proven and clinically validated. It is an efficient, non-invasive medical device that measures physiological parameters and produces detailed reports with 89% repeatable accuracy. The EIS measures conductivity of interstitial fluid between the cells. Its bio-impedance technology is similar to ECG and EEG, but rather than supplying information for only the brain or heart, the EIS measures electro physiological properties of 22 different volumes within the body and describes 69 different physiological parameters.[12-14]

Materials and Methods:

Participants were randomly selected from solicitation from local newspaper advertisements and university notices. Approximately 35 subjects were reviewed to ensure they met the inclusion/exclusion criteria. In order to participate in this study, subjects were required to be between 18 and 70 years of age and could not participate if pregnant or nursing. The principal Investigator answered all the questions asked by the Subjects and then the subjects were asked to sign the consent form. A patient number was then given to the subject to maintain confidentiality and facilitate randomization of the treatment group.

Twenty people were in the Glutathione-Prototype patch test group and 5 people were in the control group. The similar looking patches for application were given to the subjects of control group, the study could be performed as double blind. Neither participant, nor researcher knew whether they were given a study patch or a placebo. Research subjects were randomly assigned to one of the two groups. The subjects were then scanned using the PIP, GDV, and EIS. Subjects randomized to the test group were asked to adhere the patches as shown in the LifeWave handout "Patch Instructions" for 12 hours. The same set of scan was repeated after 24 hours.

Observations and Results:

Overall 80% positive changes are seen all the equipments. The results from the Glutathione-Prototype patch investigation are summarized in the Graph 1. Maximum subjects showed a positive change after using the Glutathione-Prototype patch. Maximum changes were seen in the Brow chakra, Solar plexus and Navel chakra along with a significant positive change in the Biofield.

Positive changes in the PIP were seen as reduction in the red pixcels and increase in the Green and Blue pixels. The red pixels stand for low or pooled energy whereas the Green and Blue stands for high positive energy. Pixel analysis

was performed using Adobe Photoshop. In GDV, the changes are seen as reduction in the no leaks and distortion of the field. The increase in the Density, Area and Brightness is considered as positive change. In EIS, reduction in the oxidative stress indicated by increase in Super oxide dismutase (soD2) and Glutathione reeducates and decrease in MDA.

The response of the clients with stress and pain conditions was positive and they felt reduction in the pain after using patch for 12 hours. The subjects having excessive stress showed positive changes as reduction in the stress level. Clients with pains particularly of Lumbago (lower back ache) showed considerable decrease in symptoms of pain. Few of them felt energetic after the use of the patch for 12 hours.

Table 1: Analysis of scans in Test and Placebo control groups

Parameters of GDV	Glutathione Prototype patch		Placebo patch	
	Baseline	*Visit 2*	*Baseline*	*Visit 2*
GDV Area	0.398 ±0.01	0.468** ±0.02	0.367 ±0.01	0.354 ns ±0.12
GDV Brightness	187.0 ±1.32	185.05 ns ±1.59	194.10 ±1.48	189.06 ns ±1.76
GDV Density	30055 ±742.96	33334 ns ±2270.8	31434 ±635.35	31736 ns ±764.04
EIS Glutathione reductase	0.520 ±0.06	0.572 ns ±0.074	0.524 ±0.056	0.533 ns ±0.067
EIS - MDA	6.55 ±0.57	5.71 ns ±0.67	6.46 ±0.48	6.57 ns ±0.54
EIS - SOD2	49.32 ±3.64	52.17 ns ±4.42	50.43 ±4.54	50.36 ns ±4.89
PIP Red	123.99 ±4.09	105.36*** ±4.03	126.29 ±5.12	125.31 ns ±4.58
PIP Blue	118.88 ±4.66	130.62** ±4.12	128.53 ±4.86	130.65 ±4.35
PIP Green	119.85 ±3.37	130.31*** ±2.55	124.21 ±3.24	120.65 ns ±3.38

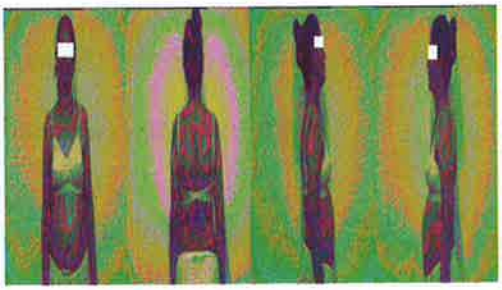
** p<0.001 very significant; *** p<0.0001 extremely significant; ns: not significant

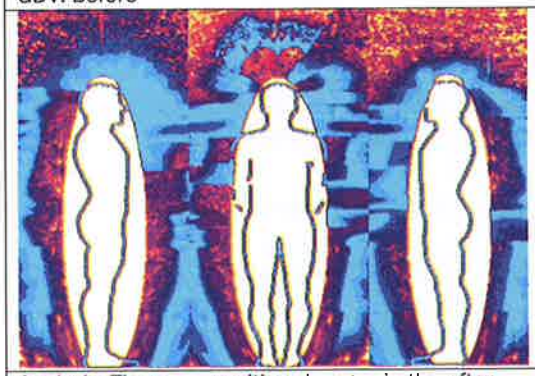
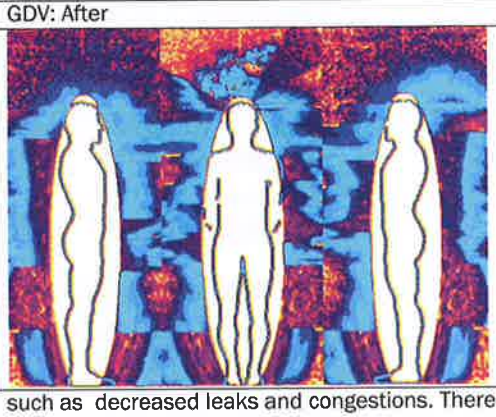
Conclusion:

From the results it can be concluded that the Prototype patch has a profound effect on enhancing the energy. In addition to data analysis, positive changes in the biofield were seen after the use of the patch. It seems clear that the Glutathione-Prototype patch has a profound effect on biofield. In addition the analysis part of the technique was able to provide the therapist with some extraordinary insights into the condition of the client.

This is an objective data indicating the therapeutic effect of Glutathione-Prototype patches. The mechanism of interactions is complex and to some extent psychological factors may affect a few of the patients.

The control group was unaware that they were wearing a placebo patch. As expected, the majority of participants in the group showed no change in the PIP scan, GDV, and EIS. In the subjective reading, there was also no remarkable relief. Since no changes were observed in the control group; however, remarkable positive changes were seen in the experimental group, it can be concluded that the Prototype patch produce beneficial energetic effects.

PIP: Before	PIP: After
	
Analysis: Positive shift is seen in the Biofield as the density of low orange frequency has decreased. Rearranging of energy is seen in the Solar Plexus.	

GDV: Before	GDV: After
	
Analysis: There are positive changes in the after scan such as decreased leaks and congestions. There is also increase in the continuity of biofields.	

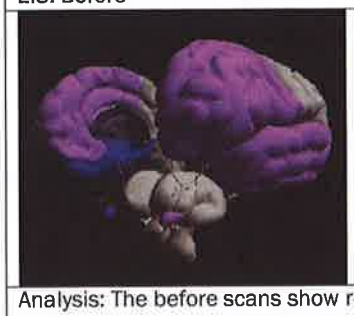
EIS: Before	EIS: After
	
Analysis: The before scans show reduced conductivities Frontal Lobes and Limbic System. Similar changes are seen in Amygdalas. This can relate with emotional problems or fatigue. It can also be associated with anguish due to some cause. The after scans have shown significant improvement.	

Fig. 2: A case showing positive results of LifeWave Glutathione-Prototype Patches

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Effects of the LifeWave X-15 Patches on the Biofield and Physiological Functions

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Abstract:

LifeWave has developed a new patch called X-15 which is proposed to have anti-inflammatory behavior and improves tissue conductivity. The X-15 patches also intend to induce relaxation of the parasympathetic system, reduce oxidative stress, and improve collagen structure. Twenty (20) experimental and five (5) control participants were scanned with Polycontrast Interference Photography, Gas Discharge Visualization, and the Electro-Interstitial Scan before and after using the X-15 patch. Overall, there were significant positive changes in all three assessment techniques. In addition, there were correlating patterns across the scanning technologies, which provided concurrent validity for the technologies being used. Further detailed research is required with a larger population and a higher level of data control and experimental blinding.

Key Words: LifeWave X-15 patches, biofield, physiology

Introduction:

Human biofield was first mentioned in the ancient Vedic texts, as the Nadi system which is closely correlated to the meridian system of Traditional Chinese Medicine. Energetic vortices along the midline of the body are referred to as chakras from the Sanskrit word for wheel and correspond to the torsion field produced by the repeated firing of nerves in the nerve plexus. Each chakra is linked to a physiological endocrine gland via the nerve plexus and directly affects the gland with which it is connected, thus affecting the hormones secreted by each, as displayed in Table 1. A specific wavelength is also associated with each chakra which corresponds with the colors of the rainbow. The frequency of each chakra increases from base to crown chakra and from red to violet on the electromagnetic spectrum.[1]

Table 1: Colors and organs associated with each energy centre / chakra

Energy Centre (Chakra)	Color	Endocrine Gland	Gland function
Crown	Violet	Pineal	Regulates diurnal rhythms; adrenal functions
Brow	Indigo	Pituitary	Master gland: regulates activity of several endocrine glands
Throat	Blue	Thyroid	Regulates general rate of metabolism
Heart	Green	Thymus	Regulates immune system: defends against infections
Solar Plexus	Yellow	Adrenals	Regulates water balance in the body, response to stress, metabolism, the immune system, sexual development and function, and influences digestion and urinary system
Navel	Orange	Pancreas	Regulates glucose to produce and maintain stores of energy.
Base	Red	Gonads	Regulates sexual hormones

First discovered in 1963 by Professor Bonghan Kim, thin fibers known as Bonghan ducts have been found throughout the lymphatic, circulatory, and nervous system, and create web-like structures across the surface of internal organs.[2-7] Within bonghan ducts, scientists have found granules of approximately 1μm in diameter which contain DNA

and are proposed to be utilized in the cell repair process.[2,8] These newly discovered fibers are thought to be the physical anatomy of the *Nadi* /meridian system and could possibly be involved in creating the energetic vortices within the biofield. As more scientists begin to explore the bonghan system and its function in the body, more doctors will gain insight into the application of the Nadi/meridian system to optimize the healing process utilizing this newly found system.

LifeWave patches contain nano-structured biomolecular crystals that emit an informational signal to the body through acupuncture points and possibly along the bonghan system discussed above.[9,10] The Centre for Biofield Sciences as well as other research laboratories have performed studies of various types of LifeWave patches which have an anti-aging, anti-inflammatory effect with positive results showing a significant improvement in the overall health and wellbeing of the participants.[9,11-21] In this study, the Centre for Biofield Sciences will be studying their latest model, X-15, which also proposes to increase antioxidant levels. The patch will be placed at Conception Vessel (CV) 17 on the center of the chest which is the conversion point of the CV with the pericardium, spleen, kidney, small intestine, and triple burner meridian channels in Traditional Oriental Medicine. Patch placement is over the heart chakra in Vedic traditions, which is closely connected to the thymus gland and the immune system. It is important to note the location of the patch is significant in two different ancient traditions.

The aim of this research project was to examine the changes in the biofield and interstitial fluid as a result of using the LifeWave X-15 patch. To evaluate the efficacy of the patch for use for inflammation and overall wellness, the Centre for Biofield Sciences used Polycontrast Interference Photography (PIP), Gas Discharge Visualization (GDV), and Electro-Interstitial Scan (EIS).

Polycontrast Interference Photography (PIP) is an advanced scanning technology that reveals light interference patterns on the skin's surface. The participant is exposed to a standardized, full-spectrum lighting environment and should be de-robed with all jewelry removed to maximize skin exposure and minimize image artifacts.[22]A white, matte wall provides a monochromatic background against which the PIP colors are most clearly highlighted. A digital camera is used to detect the interference of biophotons emanating from the subject with the light produced from the standardized lighting system. The PIP software measures the absorption and reflection of light on the skin's surface and surroundings then displays a composite image of the accentuated interference gradations on the screen.[23]A second set of PIP biofield images are taken out of focus to see the overall light distribution on the body. Along the midline of the body, patterns appear on the body which corroborates with the anatomical feature of the 'chakras' as recorded in the ancient Vedic texts. In such a case a trained practitioner can assess the functionality of a particular chakra and the respective organs and systems with which they interact as previously shown in Table 1.

Gas Discharge Visualization (GDV), also known as Electro-Photon Imaging, is an advanced form of Kirlian photography developed by Dr. Konstantin Korotkov. An electric impulse stimulates a biological subject and generates a response of the subject in the form of photon & electron emission. The glow of the photon radiation owing to the gas discharge generated in electromagnetic field is transformed by optical and charge couple device systems into a computer file.[9,24] Participants will be required to put each finger tip on a quartz plate and an image displaying the photons emissions is then analyzed according to the Korean Su Jok meridian system, which is possibly related to the bonghan system previously described.[9,24-27]

Bioelectric impedance measurements (BIM) represents a wide range of old and new non-invasive technologies and methods where a very small electric current is applied to the body via one or more surface electrode and the resultant current passing through the body is detected at other surface electrodes placed elsewhere on the body. A drop in voltage occurs as the current encounters impedance or resistance inherent in the fluids and tissues it passes through as it courses through the various physiological "compartments" of the body. These compartments include the bloodstream, the intracellular space, the lymphatic system, the interstitial space, and others. This drop in voltage provides indirect information about the physical and chemical properties of the compartment(s) that the current passes through. Electro Interstitial Scan (EIS) is a programmable electro medical system, which is a non-invasive medical device that measures physiological parameters and produces detail reports with 89 % repeatable accuracy. It measures conductivity of interstitial fluid between the cells. The bio impedance technology is very similar to ECG and EEG, but

instead of supplying information for brain or heart only, EIS measures electro-physiological properties of 22 different volumes within the body and produces data for 69 different physiological parameters.

Materials and Methods:

Participants were randomly selected through newspaper ads to take part in the research of the efficacy of X-15 patches on strengthening the human energy field. Twenty-five research participants were involved in the research study, with 20 subjects in the experimental group and five subjects in the control group. To be included in the study, participants had to be 18 years of age or older and under the age of 60. Each subject was examined using the PIP, GDV, and EIS prior to administering the X-15 patch to generate base readings. Instructions on patch placement, shown in Figure 1, were given to the experimental group. Participants were instructed to wear the patch for 12 hours. The participants were rescanned the next day for final evaluation using the same three screening technologies. The results were then independently analyzed using standardized paired t-tests with p-values of less than 0.05 for significance.

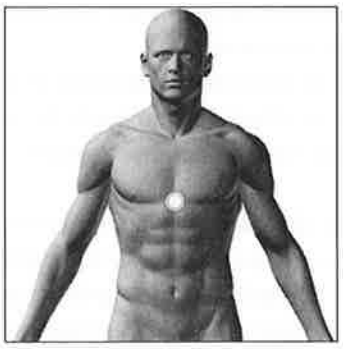

Figure 1: Placement of LifeWave X-15 patch (on the sternum, in the center of the chest)

Observations and Results:

Photoshop was utilized to analyze the red, green, and blue color distribution of each image to measure the amount of red/low energy versus green/balanced energy within a person's field. As shown in Table2, significant decrease in red/low energy ($p = 0.000$) was measured in the experimental group wearing the LiveWave X-15 patch, with a mean baseline pixel analysis of 134.70 and final pixel analysis of 109.85. A significant increase in green/balanced energy ($p = 0.011$) was also observed in the experimental group with a baseline pixel analysis of 106.15 and final pixel analysis of 118.05. In the control group, no significant change was measured in red or green energy. There was, however, no significant difference between the experimental and control group. A graphical representation of the data can be seen in Figure 2.

The area and density of biophotonic emissions from the finger tip was analyzed for significance. Participants wearing the X-15 patch had baseline area values of 30122.7 and a significant increase to 32835.45 was measured at the final visit ($p = 0.026$) as shown in Figure 3. The density of emissions from the control group increased significantly from 0.39798 to 0.43370 between visits ($p = 0.026$) seen in Figure 4. The control group, however, had no significant changes in the area or density of biophotonic emissions from the finger tips. Again, there was no significant difference between the experimental and control groups.

Using the SPA and EPA analysis, the EIS evaluated the functioning of all organs and organ systems. A significant increase in colon and stomach functioning was measured in LifeWave participants with baseline and final average values of 3.365 and 0.720, respectively ($p = 0.031$). In addition, a significant increase in liver and gall bladder functioning was also measured in LifeWave participants with a baseline value of 4.805 and final value of 1.245 ($p = 0.03$). No significant changes were measured in the control group nor in the comparison between experimental and control.

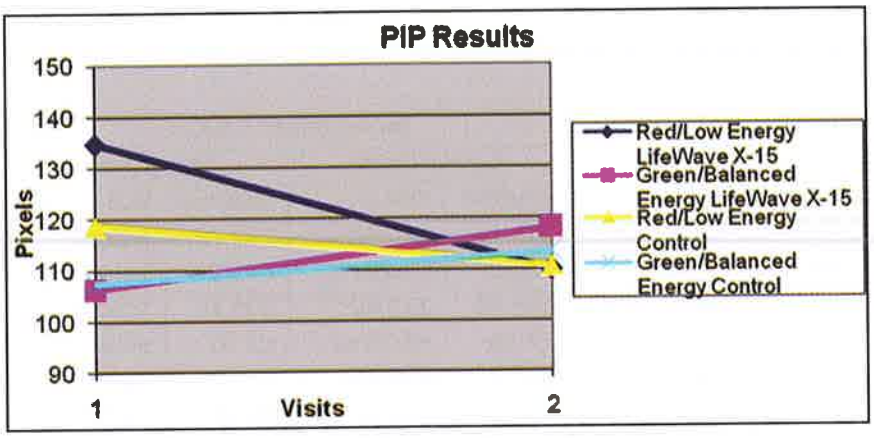

Figure 2: Red and green pixel analysis of experimental and control group

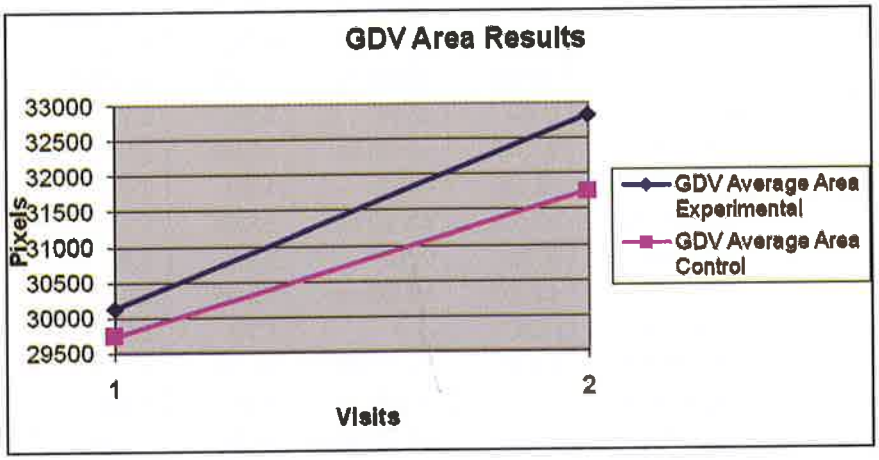

Figure 3: Photonic emission area through pixel analysis of experimental versus control

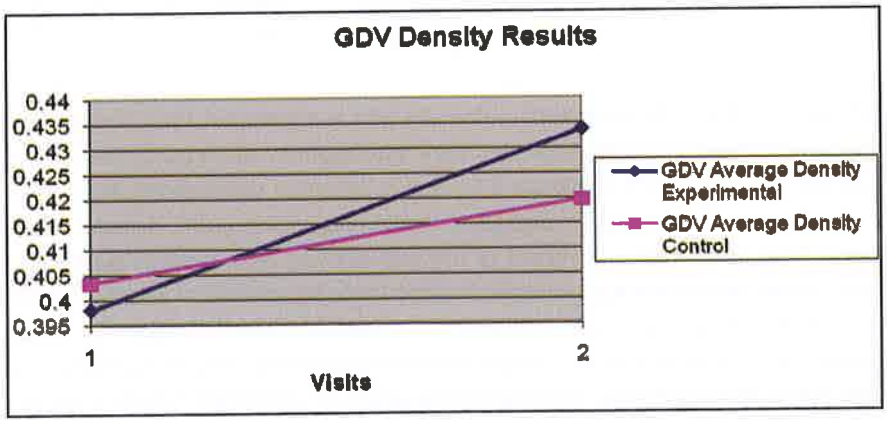

Figure 4: Density of biophotonic emissions in comparison of experimental and control

Table 2: Analysis of PIP, GDV and EIS parameters in Control and Test groups

Devices	Parameters	Scores (mean ± S.E.)			
		Control Group		Test group	
		Baseline	Visit 2	Baseline	Visit 2
PIP	Red colour	118.60 ±5.39	110.40 ±6.28 ns	134.70 ±4.92	109.85 ±3.45***
	Green colour	107.40 ±7.16	113.40 ±8.25 ns	106.15 ±3.16	118.05 ±4.95 *
	Blue colour	127.20 ±7.79	119.20 ±10.32 ns	119.90 ±3.51	128.10 ±3.67 ns
GDV	Area	29732 ±2670.7	31751 ±2678.9 ns	30123 ±1105.0	32835 ±562.5 *
	Brightness	191.80 ±3.62	192.80 ±1.74 ns	189.95 ±1.10	190.70 ±0.84 ns
	Density	0.40 ±0.03	0.41 ±0.03 ns	0.39 ±0.01	0.43 ±0.007 *
EIS	Colon and Stomach	0.62 ±1.58	-2.34 ±1.09 ns	3.36 ±0.86	0.72 ±1.17 *
	Liver and gall bladder	-0.18 ±1.94	-0.52 ±1.32 ns	4.80 ±0.95	1.24 ±1.45 *
	Pancreas	5.72 ±2.23	0.38 ±0.86 ns	5.28 ±1.06	2.98 ±1.42 ns
	Left brain Frontal lobe	-1.8 ±1.65	-1.0 ±1.58 ns	1.75 ±1.39	1.00 ±1.12 ns
	Right brain frontal lobe	-5.0 ±1.51	-3.80 ±0.58 ns	-4.0 ±1.62	-1.65 ±1.39 ns
	Genitourinary systems	-1.80 ±1.65	-5.40 ±1.88 ns	-4.25 ±0.83	-4.60 ±1.13 ns
	Thyroid	9.56 ±3.89	1.68 ±2.14 ns	8.82 ±1.53	6.76 ±1.89 ns

*p<0.05; ***p<0.0001

Discussion:

The participants wearing the LifeWave X-15 patch showed a significant improvement on all three scanning devices used in this study. In addition, positive responses were expressed by every participant wearing the X-15 patchin the MYMOP-2 questionnaire. After using the LifeWave X-15 patch, research participants reported positive responses in backache complaints (particularly lower back), digestive complaints, joint pain, muscle spasms, chronic fatigue syndrome, stress and insomnia. The emotional impact of the patches was described by subjects as a reduction in the symptoms of depression, stress, and resulting insomnia, thereby inducing emotional stability and a sense of calmness. Marked improvements were also reported in concentration and memory related complaints. One subject with Irritable Bowel Syndrome complained of stomach cramps, irregular bowel movements, and had symptoms of gastro colic reflex. After wearing the X-15 patch for 12 hours, the participant showed significant improvements in our assessment parameters, as well as, clinical signs and symptoms.

The participants in the control group, however, did not report such changes on the physical or emotional level in comparison to the X-15 experimental group on the MYMOP-2 questionnaire. Therefore, by analyzing the participants'

descriptions of their experience, LifeWave X-15 patch users had a dramatic effect on their overall health. Although the results from the PIP, GDV, and EIS show no significant difference in improving health in comparison to placebo, the participants' personal experience of benefits with the use of the LifeWave X-15 patch prove otherwise. It is also important to note, however, the placebo effect could also play a role in these outcomes.

Since LifeWave patches operate on an energetic level along the meridians, more time may be necessary for the energetic shift to appear as a physical change. For this reason, the Centre for Biofield Sciences suggests future studies with extended use of the patch. Also, additional studies with a placebo control patch should be performed to identify possible false results from the placebo effect.

Conclusion:

From the pilot study conducted at the Centre for Biofield Sciences in Pune, India, it can be concluded that the LifeWave X-15 patch had a dramatic effect on the health of the participants who suffered from a range of conditions as compared to control group. Significant positive energetic changes were observed in participants in the X-15 experimental group as measured by Polycontrast Interference Photography, Gas Discharge Visualization, and the Electro-Interstitial Scan. The results from the EIS suggest that the use of the X-15 patches increased the conductivities in tissues and had anti-inflammatory effects.

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Evaluation of LifeWave Y-Age Series Patches on Human Biofield and Interstitial Fluid

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Abstract:

The LifeWave Y-Age Series patches, contains glutathione, Carnosine, X-15 patch. The LifeWave glutathione patch contains natural non-toxic crystals that absorb body heat to generate infrared signals that causes the body to produce more endemic glutathione. Glutathione patches and carnosine patches acts as an antioxidant. LifeWave X-15 patches have an anti inflammatory and antioxidant effect and also improve tissue conductivity. LifeWave Carnosine patches are helpful in improving athletic performance, overall health and it also accelerates wound healing.

In this pilot study five randomly assigned subjects were given three patches to wear for Nine hours. All participants were given a standardized MYMOP-2 questionnaire and scanned with Medical Thermal Imaging, Electro-Interstitial Scan, and Gas Discharge Visualization before and after using the assigned patch. Correlating patterns across the scanning technologies were independently analyzed using standardized paired t-test with significant changes evaluated at p-values of less than 0.05.

Key Words: LifeWave Y-age, Biofield, Interstitial Fluid

Introduction:

The Centre for Biofield sciences can scan the biofield with the help of non invasive technologies which was earlier explained by Rishies [1]. Consistent with the ancient knowledge there are subtle bodies beyond the physical body that are related with the realms of mind, soul, and spirit. They explore the concept of chakra and documented it in Vedas, Patanjali Yoga shastra, etc. The main concepts explained are about Nadi and meridian system. The Sanskrit meaning of Chakra is "Wheel of light. These subtle energy centers are located at the main branching of the nervous system. The seven major chakras play a vital role in maintaining the harmony of human body. Chakras are related to different organs as well as our emotions. Chakra is a concept referring to wheel-like vortices, which according to traditional Indian medicine, are believed to exist in the surface of the etheric double of man. The Chakras are said to be "force centers" or wheel of energy permeating, from a point on the physical body, the layers of the subtle bodies in an ever-increasing fan-shaped formation. Rotating vortices of subtle matter, they are considered the focal points for the reception and transmission of energies. These chakras look after the working of endocrine glands.

LifeWave patches are non –transdermal that does not put any chemicals or drugs into the body. LifeWave patches contain nano-structured bimolecular crystals that emit an informational signal to the body through acupuncture[2] points. [7,8]The Centre for Biofield Sciences as well as other research laboratories[5,6] have performed studies of various types of LifeWave patches which have an anti-aging, anti-inflammatory, antioxidant effect with positive results showing a significant improvement in the overall health and wellbeing of the participants. In this study, the Centre for Biofield Sciences will be performing a comparison study of three of their Y-Age series patches, Glutathione, X-15, and Carnosine versus a placebo-control group. The devices used for the above-mentioned study are Gas Discharge Visualization (GDV), Electro-Interstitial Scan (EIS), Medical Thermal Imaging (MTI). The aim of this research project was to examine the changes in the biofield and physiological parameters in interstitial fluid after using the LifeWave Y-Age Series patches.

Gas Discharge Visualization (GDV), also known as Electro-Photon Imaging, is an advanced form of Kirlian photography developed by Dr. Konstantin Korotkov. An electric impulse stimulates a biological subject and generates a

response of the subject in the form of photon & electron emission. The glow of the photon radiation owing to the gas discharge generated in electromagnetic field is transformed by optical and charge couple device systems into a computer file. Participants will be required to put each finger tip on a quartz plate and an image displaying the photons emissions is then analyzed according to the Korean Su Jok meridian system[9-12]. The photonic emissions of the ten finger tips were analyzed by the software. For this study, the area and symmetry of the aura was analyzed for the assessment of balance and vibrancy.

The EIS system uses software to control and coordinate two specific pre-programmed sequences of brief, barely perceptible current pulses through an array of 6 symmetrically placed surface electrodes: left & right forehead, left & right hands (palms), and left & right feet (soles). This 6-electrode array forms 22 electrode pairs, or "body parts". The term "body parts" refers to the 3-dimensional anatomical space that lies between each electrode pair. The resistance/conductivity values measuring by EIS system will be displayed in numerical forms on a scale of +100 to –100 for each of the 22 body parts.

Initially, the resistance/conductivity (C) is in numerical forms on a scale from 0 to +100. The measurement of conductivity on the level of the localized body system makes it possible to carry out modeling images according to a chromatology corresponding to the measurement of conductivity. Scale of colours used for conductivities is as follows. The colour on the left corresponds to a null conductivity (min=0). The colour on the right has the most significant conductivity for the image considered. In all the modeling images, one represents the value of conductivity treated according to a value between - 100/+100. Body systems are shown through chromatology from blue to red, showing the extrapolated physiological interstitial fluid parameters according to the physiology knowledge of the interstitial fluid physiology and the cells' activity and ionic equilibrium. The assessment parameters used here for EIS have been for acid base balance based on bicarbonates, pressure of carbon dioxide, amount of acids and interstitial fluid ph.

Three type or acidosis/alkalosis ratios exist: Metabolic: depends of the level of the bicarbonates: Norms SBE=0. Ligns of bicarbonates in blue (Bic): if the bicarbonates increased (SBE positive), the result is metabolic alkalosis, if the bicarbonates decreased (SBE negative), the result is metabolic acidosis Respiratory: Norms PCO2= 46: if the PCO2 decreased (on the left), the result is respiratory alkalosis, if the PCO2 decreased (on the right), the result is respiratory acidosis Interstitial Fluid Norm=7.33

Medical Thermal Imaging (MTI) has been used for medicinal purpose for more than 40 years and has been extensively used to monitor inflammation. Thermal Imaging is a non-invasive technology that allows the examiner to visualize and quantify changes in skin surface temperature. This visual image maps the body temperature with the help of which the examiner can asses the area of inflammation where the heat is gathering. The body's asymmetry can be easily identified as the body has symmetry in regard to temperature. An increase or decrease in the amount of infrared radiation emitted from the body surface is indicated by the spectrum of colours. The body is very symmetrical in regard to temperature; subtle temperature hence asymmetry's can be easily identified. Skin blood flow is controlled by sympathetic nervous system. In healthy scans symmetrical dermal patterns can be seen. This is recorded in precise detail with a temperature sensitivity of 0.01°C Thermography. The neuro-thermography application of thermography measures the somatic component of the sympathetic nervous system by assessing dermal blood flow. The sympathetic nervous system is stimulated at the same anatomical location as its sensory counterpart and produces a "somato sympathetic response." The somato sympathetic response appears on thermography as a localized area of altered temperature with specific features for each anatomical lesion. The mean temperature differential in peripheral nerve injury is 1.5°C. In sympathetic dysfunctions (RSD/SMP/CRPS) temperature differentials ranging from 1°C to 10°C depending on severity are not uncommon. Rheumatologic processes generally appear as "hot areas" with increased temperature patterns. The pathology is generally an inflammatory process, i.e. synovitis of joints and tendon sheaths, epicondylitis, capsular and muscle injuries, etc. Both hot and cold responses may coexist if the pain associated with an inflammatory focus excites an increase in sympathetic activity. Also, vascular conditions are readily demonstrated by thermography including Raynauds, Vasculitis, Limb Ischemia, DVT, etc.

Materials and Methods:

Participants were randomly selected through newspaper adds to take part in the research of Y-Age Series patches. Five research participants were involved in the experimental study and five participants in the placebo group and five participants in control group. Inclusion criteria for participation in this study were individuals above 40 years of age, have not used life wave patch before, non smoker, non pregnant or nursing. Each participant was examined using the Medical Thermal Imaging (MTI), Gas Discharge Visualization (GDV) and Electro Interstitial Scan (EIS) prior to administering the Y-Age Series patch to generate base readings. Instructions on patch placement, shown below in the table were given to the experimental group and for placebo control group similar looking patches were used.

Each participant has been given a randomly assigned identification number to maintain confidentiality of their personal information. Participants were informed of the nature of the research and all questions regarding the study has been explained in detail. The research participants were given a copy of the informed consent form and were given 48 hours to make an educated decision about whether they would like to participate or not. Participants who signed an informed consent form were allowed to participate in the study. At each visit, participants were given a standard MYMOP-2 questionnaire to get subjective readings of what the participants' personal complaints were, that affect their daily lives to evaluate the changes they experience during the study.

The patches were given to the participants of experimental group. The participants were wearing Glutathione and X-15 patch and carnosine for 9 hours on specific acupuncture points as shown in the table 1. The participants were rescanned after 10 minutes and after 9 hr using the same three screening technologies and Follow-Up MYMOP-2 questionnaire.

Participants were asked to return to the Centre for Biofield Science after 9 hrs within +/- 1 hour of the time of the first visit. They were instructed not to eat or drink 3 hours before each visit, and not to engage in any vigorous exercise or consume alcohol for at least 24 hour before each visit. Participants were instructed to consume plenty of fluids after application of patch. During the follow-up visit, the participants were given a follow-up MYMOP-2 questionnaire and scanned using the same three devices.

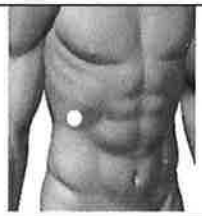
	**GLUTATHIONE:** Stomach 36 (on right) - This point is located at the depression, which is 4 finger widths below the right knee cap and 1 finger length to the outside of the bone.
	**CARNOSINE:** Governing Vessel 14 - located on the base of the neck, where the CV7 vertebrae protrude if you tuck your chin into your neck.
	**X-15:** On the right side of the body, under the second to last (11^{th}) rib.

Table 1: Locations of patch placement during study

Observations and Results:

This pilot study demonstrates a statistically significant improvement from the LifeWave Y-Age Series patch in two of the scanning devices i.e. MTI and GDV. In MTI remarkable positive shifts are seen in Thymus, heart and Back indicating improvement in the energy level as well as reduction in the inflammation. In addition, positive responses were expressed by every participant using Y-Age Series patch in the MYMOP-2 questionnaire. After using the LifeWave Y-Age Series patch, research participants reported positive responses in backache complaints (particularly lower back), muscle spasms, chronic fatigue syndrome and insomnia. In GDV minimal positive changes are seen in emotional plane. This is based on the results that have been seen on GDV with filter as compared with those on GDV without filter. The emotional impact of the patches was described by subjects as a reduction in the symptoms of depression, and the resulting insomnia, thereby inducing emotional stability and a sense of calmness. The participants in the control group, however, did not report such changes on the physical or emotional level in comparison to the experimental group on the MYMOP-2 questionnaire. Therefore, by analyzing the participants' descriptions of their experience, LifeWave Y-Age Series patch users had positive effect on their overall health. In placebo control group minimal positive changes are seen in immediate after scan which may be due to psychological effect as no change is seen in subsequent after visit (9hrs) scan. The results from the GDV, and EIS show no significant difference in improving health in placebo group. Since LifeWave patches operate on an energetic level more time may be necessary for the energetic shift to appear as a physical change. There were no side effects seen on any of the participants from the patch. For this reason, the Centre for Biofield Sciences suggests future studies with extended use of the patch.

Conclusion:

From the pilot study conducted at the Centre for Biofield Sciences in Pune, India, it can be concluded that the LifeWave Y-Age Series patch had a positive effect on the physical and mental health of the participants who suffered from a range of conditions as compared to control group. Significant positive energetic changes were observed in participants in the experimental group as measured by Medical Thermal Imaging, The results from MTI indicates that the Patches exerts anti-inflammatory effects as the sponsor, LifeWave, proposed at the initiation of the study. The results from the MTI show positive changes in Thymus and Heart area as well as in back. As previously stated, since no significant change was measured in comparison to placebo, more studies should be performed to monitor a longer term use to allow ample time for health improvements to manifest into a physical change.

Table 2. Analysis of GDV and MTI parameters in Test Group (Baseline and visit 2)

Parameters	Visits	Mean	Std. Deviation	Significance level
gdv_rtf	Baseline	13791.40	2008.09	ns
	Visit 2	12764.80	2578.12	
gdv_rtwf	Baseline	11741.80	1326.12	ns
	Visit 2	9781.40	2296.114	
gdv_ltf	Baseline	12432.60	912.84	ns
	Visit 2	37650.20	55852.10	
gdv_ltwf	Baseline	11194.80	537.830	ns
	Visit 2	10344.60	3553.30	
symm_f	Baseline	93.480	5.9537	ns
	Visit 2	94.860	2.2367	
symm_wf	Baseline	94.220	3.2920	ns
	Visit 2	92.160	3.4464	
MTI_RR	Baseline	32.300	1.7450	ns
	Visit 2	32.620	1.7852	
MTI_thymus	Baseline	33.02	1.616	ns
	Visit 2	33.680	1.7283	
MTI_heart	Baseline	32.360	1.7771	ns
	Visit 2	32.600	2.0408	
MTI_back	Baseline	33.560	1.3164	ns
	Visit 2	33.680	1.3953	
MTI_R leg	Baseline	31.480	1.2194	ns
	Visit 2	31.960	1.1371	
MTI_L leg	Baseline	31.820	1.9486	ns
	Visit 2	32.320	1.7050	

RR: reference reading; f: filter; wf: without filter; rtf: right with filter; rtwf : right without filter; ltf : left with filter; ltwf: left without filter; ns: not significant

Table 3. Analysis of GDV and MTI parameters in Test Group (Baseline and visit 3)

Parameters	Visits	Mean	Std. Deviation	Significance level
gdv_rtf	Baseline	13791.40	2008.094	ns
	Visit 3	10514.40	2419.054	
gdv_rtwf	Baseline	11741.80	1326.129	ns
	Visit 3	10156.40	2650.943	
gdv_ltf	Baseline	12432.60	912.840	ns
	Visit 3	12488.80	2719.164	
gdv_ltwf	Baseline	11194.80	537.830	ns
	Visit 3	13167.40	5115.687	
symm_f	Baseline	93.480	5.9537	ns
	Visit 3	93.280	7.3060	
symm_wf	Baseline	94.220	3.2920	ns
	Visit 3	90.080	8.4535	
MTI_RR	Baseline	32.300	1.7450	*
	Visit 3	34.980	.6834	
MTI_thymus	Baseline	33.02	1.616	*
	Visit 3	35.880	.8556	
MTI_heart	Baseline	32.360	1.7771	*
	Visit 3	35.140	.5727	
MTI_back	Baseline	33.560	1.3164	*
	Visit 3	36.00	.914	
MTI_R leg	Baseline	31.480	1.2194	ns
	Visit 3	32.880	1.9766	
MTI_L leg	Baseline	31.820	1.9486	ns
	Visit 3	33.30	2.384	

RR: reference reading; f: filter; wf: without filter; rtf: right with filter; rtwf : right without filter; ltf : left with filter; ltwf: left without filter; ns: not significant; * significant

Table 4. Analysis of GDV and MTI parameters in Test Group (visit 2 and visit 3)

Parameters	Visits	Mean	Std. Deviation	Significance level
gdv_rtf	Visit 2	12764.80	2578.12	**
	Visit 3	10514.40	2419.05	
gdv_rtwf	Visit 2	9781.40	2296.114	ns
	Visit 3	10156.40	2650.94	
gdv_ltf	Visit 2	37650.20	55852.10	ns
	Visit 3	12488.80	2719.164	
gdv_ltwf	Visit 2	10344.60	3553.306	ns
	Visit 3	13167.40	5115.687	
symm_f	Visit 2	94.860	2.2367	ns
	Visit 3	93.280	7.3060	
symm_wf	Visit 2	92.160	3.4464	ns
	Visit 3	90.080	8.4535	
MTI_RR	Visit 2	32.620	1.7852	ns
	Visit 3	34.980	.6834	
MTI_thymus	Visit 2	33.680	1.7283	ns
	Visit 3	35.880	.8556	
MTI_heart	Visit 2	32.600	2.0408	*
	Visit 3	35.140	.5727	
MTI_back	Visit 2	33.680	1.3953	*
	Visit 3	36.00	.914	
MTI_R leg	Visit 2	31.960	1.1371	ns
	Visit 3	32.880	1.9766	
MTI_L leg	Visit 2	32.320	1.7050	ns
	Visit 3	33.30	2.384	

RR: reference reading; f: filter; wf: without filter; rtf: right with filter; rtwf : right without filter; ltf : left with filter; ltwf: left without filter; ns: not significant; * significant; ** highly significant

Table 5. Analysis of EIS parameters in Test Group

Parameters	Visits	Mean	Std. Deviation	Significance level
EIS iph	Baseline	7.302	0.0762	
	Visit 2	7.306	0.0493	ns
	Visit 3	7.316	0.0642	ns
EIS ihco3	Baseline	22.06	6.2101	
	Visit 2	21.186	5.0812	ns
	Visit 3	22.882	4.3665	ns
EIS pco2	Baseline	44.620	4.600	
	Visit 2	42.872	5.6281	ns
	Visit 3	43.79	4.094	ns
EIS ih	Baseline	50.28	8.121	
	Visit 2	49.540	5.410	ns
	Visit 3	48.736	7.301	ns
EIS isbe	Baseline	-2.20	5.891	
	Visit 2	-3.00	5.099	ns
	Visit 3	-2.00	5.148	ns

ns: p>0.05 not significant

Table 6. Analysis of EIS parameters in Placebo Control Group

Parameters	Visits	Mean	Std. Deviation	Significance level
EIS iph	Baseline	7.3380	0.0626	
	Visit 2	7.3300	0.0509	ns
	Visit 3	7.3480	0.0455	ns
EIS ihco3	Baseline	23.0580	7.0914	
	Visit 2	21.5060	5.5011	ns
	Visit 3	24.0160	4.2325	ns
EIS pco2	Baseline	42.8560	6.6578	
	Visit 2	41.2160	6.3122	ns
	Visit 3	44.25	4.381	ns
EIS ih	Baseline	46.15	6.276	
	Visit 2	46.892	5.152	ns
	Visit 3	44.774	4.647	ns
EIS isbe	Baseline	-1.00	7.000	
	Visit 2	-2.60	5.320	ns
	Visit 3	.00	4.472	ns

ns: p>0.05 not significant

Table 7. Analysis of GDV and MTI parameters in Placebo Control Group (Baseline and visit 2)

Parameters	Visits	Mean	Std. Deviation	Significance level
gdv_rtf	Baseline	10171.20	1636.106	ns
	Visit 2	10264.00	1107.935	
gdv_rtwf	Baseline	8710.20	3066.526	ns
	Visit 2	9498.60	2404.715	
gdv_ltf	Baseline	10604.20	1273.768	ns
	Visit 2	11033.00	1110.064	
gdv_ltwf	Baseline	9751.00	1298.156	ns
	Visit 2	12426.00	4166.444	
symm_f	Baseline	93.700	4.6125	ns
	Visit 2	90.520	8.7377	
symm_wf	Baseline	88.080	13.4075	ns
	Visit 2	89.180	7.4771	
MTI_RR	Baseline	35.500	2.3780	ns
	Visit 2	35.040	1.6950	
MTI_thymus	Baseline	36.06	2.480	ns
	Visit 2	35.700	1.8507	
MTI_heart	Baseline	35.560	2.2300	*
	Visit 2	34.940	1.9616	
MTI_back	Baseline	36.440	2.4886	*
	Visit 2	35.600	2.0736	
MTI_R leg	Baseline	35.360	2.1326	ns
	Visit 2	35.060	2.2165	
MTI_L leg	Baseline	35.300	2.3580	*
	Visit 2	34.860	2.1984	

RR: reference reading; f: filter; wf: without filter; rtf: right with filter; rtwf : right without filter; ltf : left with filter; ltwf: left without filter; ns: $p>0.05$ not significant; * $p<0.05$ significant

Table 8. Analysis of GDV and MTI parameters in Placebo Control Group (Baseline and visit 3)

Parameters	Visits	Mean	Std. Deviation	Significance level
gdv_rtf	Baseline	10171.20	1636.106	ns
	Visit 3	9632.40	896.083	
gdv_rtwf	Baseline	8710.20	3066.526	ns
	Visit 3	9982.60	3322.137	
gdv_ltf	Baseline	10604.20	1273.768	ns
	Visit 3	10826.60	2024.492	
gdv_ltwf	Baseline	9751.00	1298.156	ns
	Visit 3	10625.20	1715.696	
symm_f	Baseline	93.700	4.6125	ns
	Visit 3	90.500	5.8553	
symm_wf	Baseline	88.080	13.4075	ns
	Visit 3	87.220	10.6380	
MTI_RR	Baseline	35.500	2.3780	ns
	Visit 3	34.880	1.5786	
MTI_thymus	Baseline	36.06	2.480	ns
	Visit 3	35.440	2.0219	
MTI_heart	Baseline	35.560	2.2300	*
	Visit 3	34.680	1.8431	
MTI_back	Baseline	36.440	2.4886	ns
	Visit 3	35.60	1.958	
MTI_R leg	Baseline	35.360	2.1326	ns
	Visit 3	34.380	1.8754	
MTI_L leg	Baseline	35.300	2.3580	ns
	Visit 3	34.68	2.248	

RR: reference reading; f: filter; wf: without filter; rtf: right with filter; rtwf : right without filter; ltf : left with filter; ltwf: left without filter; ns: $p>0.05$ not significant; * $p<0.05$ significant

Table 9. Analysis of GDV and MTI parameters in Placebo Control Group (visit 2 and visit 3)

Parameters	Visits	Mean	Std. Deviation	Significance level
gdv_rtf	Visit 2	10264.00	1107.935	ns
	Visit 3	9632.40	896.083	
gdv_rtwf	Visit 2	9498.60	2404.715	ns
	Visit 3	9982.60	3322.137	
gdv_ltf	Visit 2	11033.00	1110.064	ns
	Visit 3	10826.60	2024.492	
gdv_ltwf	Visit 2	12426.00	4166.444	ns
	Visit 3	10625.20	1715.696	
symm_f	Visit 2	90.520	8.7377	ns
	Visit 3	90.500	5.8553	
symm_wf	Visit 2	89.180	7.4771	ns
	Visit 3	87.220	10.6380	
MTI_RR	Visit 2	35.040	1.6950	ns
	Visit 3	34.880	1.5786	
MTI_thymus	Visit 2	35.700	1.8507	ns
	Visit 3	35.440	2.0219	
MTI_heart	Visit 2	34.940	1.9616	ns
	Visit 3	34.680	1.8431	
MTI_back	Visit 2	35.600	2.0736	ns
	Visit 3	35.60	1.958	
MTI_R leg	Visit 2	35.060	2.2165	ns
	Visit 3	34.380	1.8754	
MTI_L leg	Visit 2	34.860	2.1984	ns
	Visit 3	34.68	2.248	

RR: reference reading; f: filter; wf: without filter; rtf: right with filter; rtwf : right without filter; ltf : left with filter; ltwf: left without filter; ns: p>0.05 not significant

Table 10. Analysis of GDV and MTI parameters in Control Group (Baseline and visit 2)

Parameters	Visits	Mean	Std. Deviation	Significance level
gdv_rtf	Baseline	10584.20	1614.72	ns
	Visit 2	12089.40	1887.73	
gdv_rtwf	Baseline	10335.20	2702.93	ns
	Visit 2	8646.00	1403.79	
gdv_ltf	Baseline	12994.00	1756.76	ns
	Visit 2	12700.60	1983.98	
gdv_ltwf	Baseline	10434.60	1760.40	ns
	Visit 2	11362.80	1694.13	
symm_f	Baseline	96.08	2.747	ns
	Visit 2	95.30	4.422	
symm_wf	Baseline	92.140	5.846	ns
	Visit 2	88.50	5.743	
MTI_RR	Baseline	32.80	1.118	ns
	Visit 2	32.36	1.27	
MTI_thymus	Baseline	33.76	0.969	ns
	Visit 2	33.44	1.047	
MTI_heart	Baseline	32.82	1.325	ns
	Visit 2	32.54	1.515	
MTI_back	Baseline	34.00	1.232	ns
	Visit 2	33.58	0.887	
MTI_R leg	Baseline	32.90	1.328	ns
	Visit 2	33.26	1.346	
MTI_L leg	Baseline	32.88	1.202	ns
	Visit 2	32.92	1.423	

RR: reference reading; f: filter; wf: without filter; rtf: right with filter; rtwf : right without filter; ltf : left with filter; ltwf: left without filter; ns: p>0.05 not significant

Table11. Analysis of GDV and MTI parameters in Control Group (Baseline and visit 3)

Parameters	Visits	Mean	Std. Deviation	Significance level
gdv_rtf	Baseline	10584.20	1614.72	ns
	Visit 3	11268.20	1718.92	
gdv_rtwf	Baseline	10335.20	2702.93	ns
	Visit 3	9838.60	685.33	
gdv_ltf	Baseline	12994.00	1756.76	ns
	Visit 3	11903.40	2238.75	
gdv_ltwf	Baseline	10434.60	1760.40	ns
	Visit 3	10116.00	975.26	
symm_f	Baseline	96.08	2.747	ns
	Visit 3	96.46	1.788	
symm_wf	Baseline	92.140	5.8466	ns
	Visit 3	91.98	5.696	
MTI_RR	Baseline	32.80	1.118	ns
	Visit 3	33.80	2.270	
MTI_thymus	Baseline	33.76	.969	ns
	Visit 3	34.46	2.565	
MTI_heart	Baseline	32.82	1.325	ns
	Visit 3	33.68	2.332	
MTI_back	Baseline	34.00	1.232	ns
	Visit 3	34.66	2.422	
MTI_R leg	Baseline	32.90	1.328	ns
	Visit 3	33.82	2.259	
MTI_L leg	Baseline	32.88	1.202	ns
	Visit 3	33.80	2.219	

RR: reference reading; f: filter; wf: without filter; rtf: right with filter; rtwf : right without filter; ltf : left with filter; ltwf: left without filter; ns: p>0.05 not significant

Table 12. Analysis of GDV and MTI parameters in Control Group (visit 2 and visit 3)

Parameters	Visits	Mean	Std. Deviation	Significance level
gdv_rtf	Visit 2	12089.40	1887.73	ns
	Visit 3	11268.20	1718.92	
gdv_rtwf	Visit 2	8646.00	1403.79	ns
	Visit 3	9838.60	685.33	
gdv_ltf	Visit 2	12700.60	1983.98	ns
	Visit 3	11903.40	2238.75	
gdv_ltwf	Visit 2	11362.80	1694.13	ns
	Visit 3	10116.00	975.26	
symm_f	Visit 2	95.30	4.422	ns
	Visit 3	96.46	1.788	
symm_wf	Visit 2	88.50	5.743	ns
	Visit 3	91.98	5.696	
MTI_RR	Visit 2	32.36	1.27	ns
	Visit 3	33.80	2.270	
MTI_thymus	Visit 2	33.44	1.047	ns
	Visit 3	34.46	2.565	
MTI_heart	Visit 2	32.54	1.515	ns
	Visit 3	33.68	2.332	
MTI_back	Visit 2	33.58	0.887	ns
	Visit 3	34.66	2.422	
MTI_R leg	Visit 2	33.26	1.346	ns
	Visit 3	33.82	2.259	
MTI_L leg	Visit 2	32.92	1.423	ns
	Visit 3	33.80	2.219	

RR: reference reading; f: filter; wf: without filter; rtf: right with filter; rtwf : right without filter; ltf : left with filter; ltwf: left without filter; ns: p>0.05 not significant

Table 13. Analysis of EIS parameters in Control Group

Parameters	Visits	Mean	Std. Deviation	Significance level
EIS iph	Baseline	7.286	023	
	Visit 2	7.276	0.028	ns
	Visit 3	7.302	0.078	ns
EIS ihco3	Baseline	20.436	3.122	
	Visit 2	19.098	3.377	ns
	Visit 3	20.50	7.177	ns
EIS pco2	Baseline	43.88	5.159	
	Visit 2	42.136	7.189	ns
	Visit 3	41.32	7.746	ns
EIS ih	Baseline	51.80	2.814	
	Visit 2	53.068	3.575	ns
	Visit 3	50.448	8.467	ns
EIS isbe	Baseline	-3.80	3.114	
	Visit 2	-5.00	3.317	ns
	Visit 3	-3.40	6.986	ns

ns: p>0.05 not significant

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