Note: No referenced illustrations are currently available

The following article is by David Kanzenbach (aidsbusters@earthlink.net) and describes the device he invented which is a pad generator that can transmit variable carrier (up to RF) signals modulated by DC.

In Vivo Pulsed High Potential HIV Electrotherapy

Pulsed high potential HIV electrotherapy technology appears to be an effective method for the treatment of HIV disease, reducing viral load to low levels and significantly improving the immune panel in preliminary experimental trials conducted over the past 30 months. Reductions of viral load by as much as 97.6%, from 369,000 to 9,800, and CD-4 count increases of as much as 600%, from 224 to 1410 have been reported in the absence of HIV pharmaceuticals in preliminary human clinical case studies.

Pre and post treatment Immune panel and viral load by PCR reports, and the signed statements of Doctors, patients, and health care professionals confirming these results are available for review subject to the execution of a confidentiality agreement.

This technology appears to be nearly as effective in its present form as any Protease inhibitor and Nucleoside analog combination drug therapy available at a small fraction of the cost and without significant side effects, and it is my belief that it can be improved further, perhaps significantly.

It is therefore a potentially universal treatment for HIV disease and AIDS.

The use of momentary high potentials breaks the skin dielectric and allows significant potentials to impact the tissues and accumulate in the body.

Pulsed high potential electrotherapy is thought to denature and disrupt the fragile gp120 and gp41 receptor proteins found on the surface of the HIV virion, disabling the gp41 mechanism and thereby inhibiting the ability of the virus to infect CD4 cells in vivo.

In addition, high potential electrotherapy is thought to rupture infected cells having weakened cell membranes expressing virus, and may prevent the formation of synctia.

These effects are believed to be due to the electromechanical and electrostatic stresses induced by high voltage pulses at multiple audio and radio frequencies, as well as by one or more electrochemical reactions. One hypothesis upon which the development of this technology is based concerning the structure and action of the viral receptor proteins has been confirmed in the recently published article, "Core Structure of gp41 from the HIV Envelope Glycoprotein;" Cell; vol. 89, pp. 263-273, April 18, 1997, in that the co-

receptor is in the form of a trimer spiral under tension and having an hydrophobic tip to act as a lipid harpoon.

It has already been established that exposure to low potential currents of low power will significantly inhibit the ability of HIV to infect CD4 cells in vitro, (Science News, March 30, 1991, p. 207)., U.S. Patent of Kaali, #5,188,738.

The electromechanical stresses, cell electroporation, and ion exchange processes induced by high voltage DC pulses are well documented in vitro and may serve both to destroy infected cells and to stimulate the immune system, (G. Bryant and J. Wolfe; Electromechanical Stresses Produced in the Plasma Membranes of Suspended Cells by Applied Electric Fields (1987); J. Membrane Biol.; vol. 96; pp. 129-139; D.C. Chang; Cell poration and cell fusion using an oscillating electric field; Oct. 1989; Biophys. J.; vol. 56; pp. 641-652; L. Dao-Sheng, R.D. Astumian, and T.Y. Tsong; Activation of Na and K Pumping Modes (Na, K)--ATPase by an Oscillating Electric Field; 1990; J. Biol. Chem. vol.265; pp. 7260-7267; D.S. Dimitrov and A.E. Sowers; 1990; Membrane Electroporation - Fast Molecular Exchange by Electroosmosis; Biophys. Act; vol. 1022; pp. 381-392).

The action of in vivo high potential HIV electrotherapy appears to penetrate the soft tissues as well as the blood, targeting the principal reservoirs of infection in the lymphatic system.

This advanced electrotherapy is painless if not comfortable for all persons, non-invasive, and appears to be well tolerated and without toxic side effects or the potential for the rapid development of resistant mutational strains of HIV.

It should be noted that all current FDA approved pharmaceutical industry HIV drug therapies only inhibit the ability of the HIV virus to replicate once it has infected the cell.

An informal clinical trial has been concluded by the Director of a holistic medical clinic in Newport Beach, California with extensive experience in the treatment of HIV disease and AIDS.

In this trial no persons suffered ill effects from the use of this type of device.

In the initial reduced power safety trial of 7 - 5 minute sessions delivered over 2 weeks, 3 of 4 persons reported some improvement in their subsequent immune panel and a reduction in their viral load. with 2 persons achieving a 50% or greater reduction.

In a subsequent trial with the current generation of device 3 of 3 persons reported significant increases in CD-4 cells and a an average viral load reduction of greater than 1 log, with 1 person acheiving nearly a 2 log reduction in viral load as measured by PCR.

The design and development of this technology is sufficiently advanced to be production ready in its present form, although certain improvements may be rapidly incorporated into the design with further human trials.

A search of the AIDS patent database has shown this technology to be both unique and patentable. A Patent application has been submitted to the U.S. Patent and Trademark Office and a U.S. Patent is now pending.

The application of this advanced electrotheraputic technology for the treatment of HIV and AIDS throughout the World may represent a significant advance in medicine. In addition to trreating HIV and AIDS, this form of high Voltage therapy may have other important applications as well:

One of the foremost concerns in medicine today is the emergence of antibiotic resistant strains of bacterial microbes, and this technology has been demonstrated anecdotally to be effective therapy for an H.Pylori infection, (i.e. a duodenal ulcer), as well as resolving a chronic fungal infection in the muscle tissue of an AIDS patient.

Exposure to the forces produced by pulsed high voltage electrotherapy at multiple frequencies appears to inactivate disease causing microorganisms in vivo. Inactivation and destruction of bacterial microorganisms by elecric means is well established in vitro, (M. Allen and K. Soike; Sterilization by Electrohydraulic Treatment; Oct. 1966; Science; pp. 155-157; W.A. Hamilton, and A.J.H. Sale; Effects of High Electric Fields on Microorganisms II. Mechanism and Action of the Lethal Effect; 1967; Biochem. Biophys. Acta. vol. 148; pp. 789-800; S.E. Gillibrand and M.L. Speck; Inactivation of Microorganisms by Electrohydraulic Shock; 1967a; Appl. Microbiol.; vol. 15(5); pp. 1038-1044; T. Grahl, W. Sitzmann, and H. Markl; 102; Killing of microorganisms in fluid media by high-voltage pulses; Presented at the 10th Dechema Biotechnol. Conference Series 5B; pp. 675-678).

The equipment which has been developed thus far is robust, inexpensive to produce, and portable. For HIV treatment, the high voltage pulsed DC output is applied directly to the patient's body at the hands, feet, thymus, and major lymph nodes through two Copper electrodes, with one electrode being the high voltage output and the other being held at ground potential. Approximately 60 to 90 minutes of exposure distributed over from 5 to14 treatment sessions over a period of one to two weeks are required, with results becoming apparent in the majority of test subjects within 30 to 60 days after the cessation of treatment.

In summation, the human body is an electrochemical machine of great complexity. Cellular activity and mortality as well as pathogen deactivation in response to electric fields is scientifically established in vitro. Changes of tens of millivolts in transmembrane potentials can stimulate cell mitosis, cause the electroporation of cell membranes, and rupture damaged cells. FDA approved magnetic pulse diathermy and low voltage current devices exist which accelerate healing by these means. Diapulse, Johnson and Johnson's

bone growth stimulator, and the Israeli Armament Industries electrolytic cell wound dressing, are examples of these types of devices.

As the body acts as a distributed resistive capacitive network, a charge is allowed to build and be sustained in the blood and tissues by waveforms and frequencies suited both to the human physiology and the demands of the high Voltage antiresonant output circuit. A middle audio frequency is employed at a burst rate allowing the greatest charge to accumulate in the output coil without allowing the charge to dissipate from the body completely between bursts. These bursts also stimulate the nerves and muscles, aiding in lymphatic flow and stimulating the release of glandular secretions and neurotransmitters believed to have a beneficial theraputic effect. The average energy output of this device is well within the range known to be safe, and the sensation is not unlike that of an FDA approved TENS type stimulator, currently in wide use in the United States and Europe.

Additional switching at a low radio frequency is believed to generate a magnetic resonance in the blood. This action is not unlike inductive field healing technology, typically referred to as radio or magnetic pulse diathermy, that is FDA approved and currently in wide use in the United States and Europe. This type of holistic device dates back to George Lakhovsky and a high peak power version is currently being investigated under an IDE by a Professor P.T. Pappas of Greece.

An investigational high potential pulsed electrotheraputic device incorporating the effects described can be provided at no cost for evaluation by interested health care professionals or research organizations wishing to verify our results, as well as interested governments, or prospective licensees, distributors, or buyers, subject to the execution of a confidential disclosure and limited use agreement providing for the public disclosure of clinical data which may be acquired during the course of the evaluation.

Summary of Cases:

These are all of the results so far produced by the latest production ready variant, which I am calling a Holistic Electrotheraputic Device:

Case A
36 year old white male
HIV positive since 1985
Previous antiretroviral use

Before round of electrical therapy:
CD-4: 224
Viral load: 38,503
After round of electrical therapy
60 minutes of exposure over a period of one week
CD-4: 1405
Viral load by ultrasensitive: 4,020

Case B
48 year old white male
HIV positive since 1984
AIDS diagnosis since 1997
No previous antiretroviral use

Before round of electrical therapy:
CD-4:140
Viral load: 369,154
After round of electrical therapy:
90 minutes of exposure over a period of 10 days
70 days post treatment:
CD-4: 263
Viral load: 9,862
115 days post treatment:
CD-4: 140
Viral load: 323,042

Case C
31 year old white male
HIV positive since 1991
No previous antiretroviral use
Before round of electrical therapy:
CD-4: 501
Viral load by PCR: 13,500
After round of electrical therapy:
75 minutes of exposure over a period of 10 days
55 days post treatment:
CD-4: 787
Viral load by PCR: 733

Efficacy: 100% of test subjects

Conclusion:
To a reasonable mind interested in the greater good, this would seem to warrant further investigation.

I have been using this device exclusively for 30 months to treat my own HIV infection with no ill effects.

Sincerely,

David Kanzenbach
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In The United States Patent and Trademark Office:

Holistic Electrotheraputic Device for Treating HIV and Other Diseases

It has been established in biochemical science and through the prior art that electric and magnetic fields can influence the electrochemistry of cells and deactivate pathogens such as bacteria and viruses.

An electrotheraputic device is described suitable for treating HIV and other diseases in the human body by means of high potential DC electric impulses delivered to the body at two or more frequencies, as depicted in Figures 1 and 2.

Fig. 1 represents a practical circuit which is a currently preferred configuration.

Fig. 2 represents various means of achieving enhanced effects.

In the invention, one or more oscillators are configured to produce a varying DC signal having the desired wave form, duty cycles, and range of frequencies, generally an audio frequency of from 100-1000 cps with an optional carrier and sub carrier of from 8 kc to 2 mc delivered through filter and logic gating means to a high speed semiconductor amplifier or switch such as a power MOSFET, at generally from 1 to 48 impulses per second.

Such modulation may be produced by an array of dividers, counters, and logic gates from one or more fixed or variable oscillators as depicted in Figs. 1 and 2.

A sine wave generator and voltage controlled oscillator may be employed to provide a frequency modulation effect, as shown in Fig. 2.

Outputs from an oscillator may also be delivered to a timed pulse generator, a function generator and mixer circuit, and a gated amplifier to produce an optimal wave form for the demands of the transformer and the distributed RC network of the body, and therefore most suitable for electrotheraputic application, as shown in Fig. 2. This modulation at a plurality of frequencies is configured to drive the primary windings of one or more transformers of high potential secondary output at the desired frequencies and duty cycles of DC impulses.

The high potential secondary output impulses are introduced into the body through two or more output electrodes in contact with, or in close proximity to the surface of the skin. These impulses and the currents and potentials which flow through and accumulate in the body are believed to act upon the cellular and viral electrochemistry, also producing beneficial systemic effects such as nervous stimulation and muscular contractions.

A current limiting device such as a potentiometer or rheostat is generally employed in series with a diode to control available current to the primary coil of the transformer, as shown in Figs. 1 and 2.

Voltage and current control means such as a transistor regulator may also be employed where desirable to regulate the Voltage and current to the primary coil of the transformer.

A half or full bridge driver circuit may also be employed to drive the primary coil of the transformer.

High Voltage output may be directed to a spark gap or discharge tube when desirable as shown in Fig. 2.

Digital logic such as AND or NAND gating having two or more inputs may be employed to drive a transistor switch directly, as shown in Fig. 1. This transistor, an N-channel enhancement mode MOSFET, switches current to ground through the primary coil of a suitable high Voltage transformer, such as an automotive ignition coil.

Beneficial effects which are increases in CD-4 cell counts, reductions in viral load and the reduction of chronic infection are generally proportional to exposure time, number of treatments, and delivered output power.