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The many biological functions of the alternative cellular energy (ACE) pathway

Abstract

This article summarizes the known biological functions of the alternative cellular energy (ACE) pathway. It has been proposed that this pathway is powered by a natural force called KELEA (kinetic energy limiting electrostatic attraction). KELEA can be transferred to liquids, including water and body fluids. The absorption of KELEA results in a loosening and possible lengthening of the intermolecular bonding between the liquid molecules, along with an increase in the kinetic activity of the molecules. KELEA can also provide an energy source for biosynthetic chemical reactions, including the synthesis of lipids. Since many human illnesses are attributed to insufficient cellular energy (ICE), procedures aimed at enhancing the ACE pathway are likely to be therapeutically useful. Some of these procedures are currently available for widespread clinical use once they receive regulatory approval. A consortium of interacting clinicians is envisioned to assist in optimizing the current procedures for enhancing the ACE pathway and to develop new approaches. Patient support groups can also assist in the evaluation of various self-directed therapeutic procedures. Collectively, these efforts should significantly decrease the existing costs of medical care and provide effective therapies for several major illnesses for which none presently exists.

Keywords: chemistry, kelea, alternative cellular energy, abiotic synthesis, water, calories, enerceuticals, enercel, homeopathy, electrical charges, origin of life, rubisco, chronic fatigue syndrome, morgellons, dercum, hiv, zika, asthma, vaccines, burns, scar, alzheimer's

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W John Martin
Institute of Progressive Medicine, USA

Correspondence: W John Martin, Institute of Progressive Medicine, 1634 Spruce Street, South Pasadena CA, USA, Tel (626) 616-2868, Email w johnmartin@ccid.org

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Abbreviations: KELEA , kinetic energy limiting electrostatic attraction; ACE , alternative cellular energy; ICE, insufficient cellular energy; CAM, complementary alternative medicine; CPE , cytopathic effect; UV, ultraviolet; C, centigrade

Introduction

It has been assumed that the cellular energy utilized by animals and humans is solely obtained from the Calories available in consumed food. Yet, the work output of a typical human in terms of the functioning of different organ systems, muscular activities and maintaining body temperature are not explainable by the input of dietary calories.[1,2] To put this issue into perspective, the maximum available energy upon consumption of a diet of 2,000 Calories is less than that in a tenth of a gallon of gasoline (8.4million versus 13million joules). A Calorie (kilocalorie) is 4,200 joules and is defined as the heat necessary to raise the temperature of a kilogram (Kg) of water by 1o Centigrade (C). Over a 24-hour period, an individual weighing 75kilograms and assumed to be composed essentially of water, requires 6.3million joules (1,500 Calories) to maintain a body temperature of 37°C if living in an environment with an average temperature of 17 °C (59o Fahrenheit). 75 x (37-17) = 1,500. Estimates of the work output of various organs within the body, such as the heart and brain, are generally based on oxygen consumption, which again incorrectly assumes that food metabolism is the sole source of cellular energy. Higher estimates of work output are obtained using measures of biosynthesis, fluid movements, muscular performance, electrical activity, etc. It is reasonable, therefore, to consider that there is a mechanism, other than consuming food, by which the body can acquire cellular energy.

Beliefs in non-conventional energies

Traditional Oriental Medicine providers and Complementary Medicine (CAM) practitioners have long maintained that the body expresses non-conventional forms of energy. Popular names for the energy include: Chi, Ki, prana, life force, orgone, mana, and psychic.[3] Religions are predicated on the existence of spiritual forces, which can be bestowed upon others and can be imbued into bread wafers for communion and into water for blessings (holy water). Several medical devices are promoted as sources of healing energy (reviewed in 4, 5). Many of these devices are based on oscillating electrical, magnetic and/or light output, with emphasis commonly given to the importance of "proprietary" frequencies. Historical examples include the violet lamp of Edgar Cayce; beam ray of Royal Raymond Rife, multi-wave oscillator of Georges Lakhovsky, papimi machine of Panos Pappas, Zapper of Hilda Clark, etc. Certain practitioners feel they provide similar energies, either directly in techniques such as Reiki, or indirectly via appropriately placed stimulations, such as in acupuncture. Various herbal tinctures are also perceived as carriers of healing energy, even in miniscule amounts as used in homeopathy. Crystals and certain geometric shapes, such as pyramids, are also considered as a source of an unconventional energy with the capacity to cure diseases. Few studies have been undertaken to truly explain or to compare the clinical efficacy of the different approaches. Indeed, many procedures are falsely promoted as being the "one and only" answer to certain diseases. Overall, these various approaches are consistent with the concept that the body possesses an alternative cellular energy (ACE) pathway, which is distinct from the cellular energy obtained from food metabolism.

Alternative cellular energy (ACE) pathway

The studies which led to the initial, specific description of the ACE pathway have been described in earlier publications.[6–9] The present research is focused on obtaining more definitive answers to two basic questions. The first is why electrostatically attracted electrical charges do not proceed to their ultimate fusion and possible annihilation? The second question relates to the nature of the chemical energy, which

is conveyed and exchanged between different phases of complex chemical reactions. Both questions have been provisionally answered by postulating an external force called KELEA (kinetic energy limiting electrostatic attraction). It is proposed that this force is attracted to separated electrical charges in a manner that provides a repulsive force to other KELEA bound electrical charges. Even though some of this postulated energy is presumably released as opposing electrical charges move towards one another, there is sufficient remaining energy to change the trajectory of the approaching charges. In other words, KELEA becomes converted to kinetic energy.[10–15]

Water is liquid between 0°C and 100°C because of electrostatic (hydrogen) bonding between adjacent water molecules. Increasing the level of KELEA in water will loosen the strength and seemingly slightly extend the length or alter the orientation of the intermolecular bonding between the water molecules.[11] These changes can be measured as decreased surface tension, reduced specific gravity, greater internal movements and increased volatility (vaporizing). Indeed, KELEA can lead to the formation of numerous non-thermal vapor bubbles in water.[16] Based on various studies, blood circulation, tissue perfusion and enzyme mediated reactions are more efficient if the molecules comprising the body's fluids are more loosely bonded and have increased kinetic energy.

The ACE pathway can be viewed as an adjunct to cellular energy obtained from the metabolism of food.[17] This is clearly important in those medical conditions in which there is insufficient cellular energy (ICE) due to impaired food metabolism. These conditions can be broadly grouped as follows: i) Inadequate supply of oxygen to the body as in chronic obstructive pulmonary disease (COPD); ii) impaired blood supply to the tissues, as in cardiovascular, cerebrovascular and peripheral vascular diseases. iii) Inefficient metabolic pathways, as in diabetes and genetic disorders and; iv) increased energy demands as in infections and during wound healing.[13–15] An active ACE pathway may also help forestall cellular ageing due to mitochondria senescence.

The functional roles of the ACE pathway extend beyond the physiological support provided as an adjunct to food metabolism. For instance, it is proposed that KELEA can function in maintaining more stable cellular electrical membrane potential.[1,2] This appears to be particularly relevant to the functioning of neuronal and neurosensorycells. The ACE pathway compares favorably with the immune system as a defense mechanism against infections.[18] It can greatly benefit wound healing and tissue regeneration by inhibiting scarring because of its anti-inflammatory actions.[19] These topics are briefly covered in the following sections.

The ACE pathway versus system

The fluctuating electrical activity of the brain is somewhat comparable to several of the oscillating medical devices used by CAM practitioners. It was proposed, therefore, with supporting results obtained in a laughing yoga class that the brain may function as a KELEA attracting antenna for the body.[20] In other words, the brain and possibly muscles may receive KELEA for their own needs and contribute energy to the entire body. An extrapolation of this hypothesis is that neuronal and neurosensory cells may initially respond to ICE by becoming hyper-excitable. As discussed elsewhere,[1,2] this is likely to be a non-sustainable adaptation, in which case the affected neuronal and neurosensory cells would enter a phase in which although still viable, the cells would lack the energy required to perform their intended more specialized functions. Many neurological and psychiatric illnesses are consistent with symptoms arising from either hyper-excitable or functionally quiescent neuronal cells. The brain also plays an important balancing role in maintaining physiological homeostasis, such as in regulating blood pressure, hormone levels, bowel and bladder activities, etc. Dysfunction of the brain can, therefore, present with many additional illnesses that are not normally considered as being primarily neurological in origin. Such diseases, as well as more traditional neurological and psychiatric illnesses, are potentially treatable by enhancing the ACE pathway to improve brain function. Supporting clinical data confirming rather remarkable restoration of long term impaired neurosensory deficits have been received from several CAM practitioners engaged in ACE pathway based medical care.

The ACE pathway versus the immune system in combatting infections

The clearest advantage of the ACE pathway over the immune system is its ability to suppress infections caused by stealth adapted viruses.[18] These viruses are not effectively recognized by the cellular immune system because of the loss or mutation of the relatively few virus components predominantly targeted by cytotoxic T lymphocytes.[21–23] Unless the immune system is overly stimulated to allow responses to minor virus antigens, stealth adapted viruses do not provoke an inflammatory reaction. Over stimulation of the immune system can occasionally occur, however, for example with the combined use of adjuvants in simultaneously administered multiple vaccines.[24]

The brain is particularly susceptible to symptomatic illnesses caused by stealth adapted viruses. This is because of the spatial separation of areas with discrete functions. Thus, unlike other organs, limited localized damage to parts of the brain cannot be easily compensated by over-activity of other parts of the same organ. Prominent illnesses with virus culture confirmation of involvement of stealth adapted viruses include; autism, chronic fatigue syndrome and severe acute encephalopathy.[25–27] Stealth adapted viruses may also contribute to susceptibility to the transplacental transfer of Zika virus,[28] with both viruses being potentially suppressed via the ACE pathway.[29]

While stealth adaption allows viruses to bypass the cellular immune system, HIV can diminish cellular immunity through the direct destruction of lymphocytes. Considerable effort has been expended in trying to stimulate the immune system to counter HIV by using vaccines.[30] A far more reasonable approach is to enhance the ACE pathway. Enercel is an ACE pathway enhancing solution that was originally classified as a homeopathic formulation. Enercel was administered intravenously and by inhalation for 10weeks to HIV positive patients who agreed to forego anti-retroviral therapy (ART). Enercel reduced HIV loads and increased CD4 T lymphocyte counts.[31] In addition, there were positive mood changes in the Enercel-treated patients with pre-existing depression.

Enercel therapy also suppressed co-existing tuberculosis infections in the treated AIDS patients.[31] A major shortcoming of directed immunotherapy is that it is generally targeted to a specific type of microbe, rather than being broadly beneficial by inducing resistance to multiple co-infecting pathogens. Antigenic changes can also occur in specific pathogens allowing the emergence of strains, which are not suppressed by antigen specific vaccines.

A successful clinical trial was also conducted using two 3ml intramuscular injections of Enercel in young children presenting with tropical diarrhea.[32] The Enercel-treated children and a matched control grouping of sick children received routine care for their diarrhea. In approximately a third of the children in each group, the diarrhea was attributed to rotavirus. The other causes were presumably bacterial. Regardless of the cause, the ACE pathway based therapy led to

significant clinical improvements in comparison to the control group of children.

A dye light protocol using the dye neutral red dye and store purchased ultraviolet (UV) light was highly efficient in suppressing herpes simplex virus (HSV), herpes zoster virus (HZV) and human papillomavirus (HPV) skin infections.[33,34] The basis of this protocol is the production by the body of chemical materials with energetic properties, which can naturally attract KELEA. These materials are referred to as ACE pigments and were initially described as being responsible for suppressing the cytopathic effect (CPE) of cultured stealth adapted viruses.[6]

The production of fluorescent, commonly colored, electrostatic particles in irritating skin lesions is a feature of an illness called Morgellon's disease.[35] These are ACE pigments particles. Patients can become convinced that the electrostatic particles are parasites, leading to the unfortunate alternative diagnosis of delusional parasitosis. The cause of Morgellon's disease is uncertain with some investigators reporting the detection of the Lyme disease bacteria, *Borrelia burgdorferi*, in the skin lesions.[36] The few patients tested for infection with stealth adapted viruses have yielded positive results. It is possible that the presumptive involvement of *Borrelia* bacteria in Morgellon's disease is misleading since bacteria sequences can be incorporated into the genome of stealth adapted viruses.[37]

Another advantage of the ACE pathway over the immune system is the lack of autoimmunity, which occurs when the immune system targets normal tissues within the body. There are over one hundred listed autoimmune diseases, with prominent examples including systemic lupus erythromatosus, rheumatoid arthritis, multiple sclerosis, type I diabetes and Hashimoto's disease of the thyroid. The immune system is controlled by complex regulatory pathways, which can be disrupted by genetic and/or environmental factors. These disruptions can result in the failure of the immune system to respond appropriately to foreign pathogens or, in the case of autoimmunity, to respond to a tissue as if it were a foreign invader.

In addition to autoimmunity, inappropriate responses to some foreign microbes or even to certain chemicals can do more damage to the body than achieving the elimination of the microbe or chemical. Thus, there is an intrinsic capacity of the immune system to cause collateral damage to the body and to aid in the dissemination of certain pathogens. Except for Morgellon's disease and, as will be discussed later, Dercum's and related diseases,[38] no self-harm has been attributed to the ACE pathway.

The immune system is essentially a mechanism to amplify and to localize inflammation. An adverse consequence of inflammation is its attendant fibrosis (scarring). By contrast, as will be discussed next, the ACE pathway is anti-inflammatory. Indeed, there is a complete lack of inflammation during the natural ACE pathway mediated recovery of cats inoculated with stealth adapted viruses.[39]

Burn therapy and wound healing

Unlike the adaptive immune system, inflammation occurs in response to the detection by leukocytes of chemical components reflective of cellular injury. These "danger signals" are released from damaged cells and tissues in a manner that allows interaction with leukocytes, which then respond with inflammation.[40] Some pathogens express similar components, possibly as a means of engaging with leukocytes. Inflammation is evoked by skin burns. While usually regarded as a necessary part of the body's response to a skin burn, the inflammation is counterproductive to healing since scar tissue is formed by the proliferating fibroblasts. The scar tissue physically prevents regenerating of the preexisting cell types and the restoration of normal tissue conformation. The application of Enercel to enhance the ACE pathway proved to be remarkably successful in preventing scar formation in a burn victim.[19]

A comparable situation pertains to chronic wounds in which ongoing tissue damage maintains an inflammatory response, which impedes the regeneration of specialized cell types. The ongoing inflammation can be aggravated by bacteria infections. Again, it was shown that the use of an anti-bacterial, ACE enhancing solution, composed of electrolysis-generated copper-silver-citrate solution, avoided the need for amputation of a leg with a methicillin resistant Staphylococcus aureus (MRSA) infected ulcer of several years duration.[19]

Disfiguring damage from acute traumatic wounds (unpublished) and scarring from surgical incisions[19] have been prevented by the early application of KELEA activated solutions to the affected sites. The benefits have been so impressive to argue for the availability of KELEA activated water in ambulances, emergency rooms, war zones, etc.

The suppression of scar formation presumably indicates that the ACE pathway increases the threshold of leukocyte activation to "danger signals".[40] Depolarization of the resting membrane potential of leukocytes is probably required for their activation. This depolarization may be being inhibited by the KELEA activated solutions. Essentially, it is currently proposed that the ACE pathway adds to the resilience of leukocytes. Various immunological diseases, such as asthma, have a self-perpetuating inflammatory component induced by ongoing tissue damage. The interruption of this positive feedback cycle may explain the benefits seen in asthmatics with ACE pathway based therapies.[27]

The parenchymal cell recovery from ischemia in the heart and brain is rarely complete. An issue is whether the timely use of procedures able to enhance the ACE pathway will effectively minimize long term adverse consequences of scar formation following heart attacks and strokes.

Cancer

Most cell types within the body retain the ability to replicate if needed to replace the normal turnover of cells or to repair the loss of similar cells due to disease or injury. The replication is normally limited so as not to create an excess of cells. Cancers can occur when cells replicate excessively due to aberrant genes, virus infections and other causes. Apoptosis is a fail-safe mechanism in which cells can essentially self-destruct. It is genetically programmed into many cell types in the body to allow for the natural replacement of older cells by younger cells. It is also seemingly a natural response of many genetically or virus damaged cells. Apoptosis requires cellular energy and possibly more than is required for cell replication. This could be particularly so if the apoptosis pathway is impaired due to cellular damage. Providing these cells with additional energy through the ACE pathway could, therefore, result in more effective apoptosis and tumor regression. There is indirect evidence of tumor apoptosis occurring in patients receiving ACE pathway mediated therapies.[5] Included in this evidence is the occurrence of tumor cell death without any accompanying inflammation and pain; features of normal cell apoptosis.

Tumor cell replication and metastasis to other sites in the body can also be viewed as a cellular response to seek nutrients that are not accessible from the local tissue site. Added cellular energy through the

ACE pathway could potentially obviate this nutrient need. This might allow the cell to fully mature and forego further replication.

There are many clinical observations consistent with remarkable benefits of ACE pathway therapies in achieving tumor regression. Many of these observations do not get published in medical journals because of laws restricting unorthodox cancer therapies.

KELEA and abiotic synthesis of organic molecules

Fundamental flaws exist in the argument that the chemical energy within all organic molecules is solely provided from sunlight via photosynthesis. For example, this premise does not explain the origin of the many complex organic molecules, such as chlorophyll, ATP synthase and rubisco, which are required to link carbon dioxide with water to form glucose (1, 2). Nor does it explain the finding of organic molecules on extraterrestrial objects, including meteors and, as recently reported, the moon Ceres (41, 42). Continuing lipid synthesis is a prominent feature of long term cultures of stealth adapted viruses in which there are no remaining viable cells (43, 44). The synthesized lipids are in the form of "long, narrow linear troughs; membranes; solid crystals; pyramids; and more complex collections of colored compounds". Lipid synthesis can also occur with isolated ACE pigment particles placed onto an agar plate. The formation of lipids and other organic molecules reflects a gain in the chemical energies of the precursor molecules (reactants). This added energy is normally provided by sunlight during photosynthesis, but can apparently also be supplied by KELEA. Such a proposition is consistent with reported discrepancies of human weight changes being directly correlated with changes in food consumption.[45]

The notion that chemical energy in organic molecules can be increase by KELEA is supported by the enhanced vehicle mileage obtainable using KELEA activated gasoline and diesel fuels.[46]

These and related studies have led to the possibility that the energy, which is conveyed and exchanged between different phases of complex chemical reactions is a converted form of KELEA. This proposal is also consistent with a major role for water in the transfer of energy between sets of reacting chemicals.[47] KELEA can also potentially explain the phenomena of cold fusion and anomalous weight changes in objects.[48–49]

Dercum's disease and extreme obesity

This is a relatively rare illness characterized by the formation of multiple painful lipomas.[38] While genetic factors can play a role, several patients with this illness have had strikingly positive cultures for stealth adapted viruses. The cultures have also shown considerable lipid formation. Prior therapies for HIV patients occasionally lead to atrophy of facial fat. Plastic surgeons can restore facial fat tissue by injecting fat obtained from the abdomen by liposuction. Interestingly, the fat tissue being transferred can be stored frozen prior to use, in a manner that would disrupt all viable cells. Injected fat can, therefore, evoke the formation of adipocytes from host tissues. Since ACE pigments can lead to abiotic lipid (fat) synthesis, it is possible that the lipomas in Dercum's disease are a genetically-influenced consequence of overproduction of ACE pigments within subcutaneous tissues. The concept of de novo lipid synthesis may also potentially apply to certain situations of extreme obesity, not easily explained by the input of food calories.

Possible attraction of kelea by brain and muscles

It is believed that KELEA is attracted to electrical charges and is partially released as the opposite electrical charges approach one another. The remaining KELEA prevents the fusion of the opposing electrical charges as it becomes converted into kinetic energy. Opposing electrical charges in water can be partitioned by lipid membranes (and by membranes composed of certain terpenes). The presence of temporary openings or passageways in the membranes may have provided the primordial source of chemical energy for the synthesis of additional organic molecules. Such molecules could have potentially coalesced into primitive cell types.

Rubisco enzyme links carbon dioxide with water to produce glucose and release oxygen. Biochemists have commented upon the apparent inefficiency of rubisco in terms of only achieving five cycles per second with 20% wasteful reaction with oxygen, rather than carbon dioxide.[50] At limiting concentrations of reactants, rubisco shows oscillating activity at low reagent concentrations.[51]

Based on these and other observations, it is proposed that the fluctuating electrical activities of the brain and muscles, including the heart, are attracting KELEA from the environment.[20] The energy can be directly useful for the brain and muscle cells and contribute to the body's ACE pathway. Presumably, there are aspects of the brain's electrical activity which can influence the efficiency of its postulated antenna function. A basic level of neuronal cell activity may be necessary to maintain effective KELEA attracting ability. Indeed, it is possible that if a sufficient level of activity can be achieved therapeutically, the energy attracting capacity of the brain may become self-sustaining.[1,2] Thus, unlike many pharmaceuticals that are intended for lifelong use, single or limited use of several CAM procedures can potentially achieve long-term remission of illness. Patients may similarly be able to achieve sustainable, self-healing by improving the proposed antenna functions of their brain, heart and/or muscles.

Methods for obtaining KELEA activated water

KELEA activation of water can be quantitatively measured in terms of reduced surface tension, decreased specific gravity, increased volatility, increased permeability, greater internal movements, linear dissolving patterns of various dyes and several other criteria. Water from certain locations around the world is naturally activated to varying extent upon collection.[10] Regular water can be easily activated by two major methods. The first is to add KELEA attracting materials to the water. The second is to place the water into an environment with elevated levels of KELEA. Dipolar compounds with separated electrical charges attract KELEA and some of these, referred to as enerceuticals™, can transfer the energy to nearby water, possibly in an oscillatory manner. These compounds include many of the beneficial materials used by farmers in the belief that they are effectively restoring minerals to the soils. Examples include humic/fulvic acids, zeolites, volcanic rocks, mica, shungite, magnesium oxide, other metal oxides, etc. Several pharmaceuticals can activate water, including procine/Lidocaine, phenytoin, niacin and ascorbic acids. Various components of different plants can activate water, including materials from *Moringa oleifera* trees and from *Angelica keiskei (ashitaba)*.[52] Tinctures of numerous herbs can be similarly used, as can several gases including hydrogen, ozone and chlorine dioxide. Brown's gas,[53] which is an electrolysis generated mixture of hydrogen, oxygen and non-thermal vaporized water molecules can be used directly or to further activate water.

When water is sufficiently activated, it can attract and release additional KELEA and, thereby, lead to the activation of additional water. This principle explains the practice of serial dilutions of

homeopathic remedies.[54] Rather than dilutions, soluble water activating compounds can be removed from the water by zero-residue filtration. Insoluble activating materials can be removed by simple decanting. Activating gases will largely dissipate from the KELEA activated water.

Locally elevated levels of KELEA can be achieved by using various electrical and magnetic devices with rapid on-off switching. Some of these devices were referred to earlier and are based on historical findings by Cayce, Rife, Lakhovsky, Pappas, Clark and others. KELEA can be attracted to converging light fields[55] and to opposing electrical current flow.[56] Several other water-activating devices do not require an external electrical energy source. Examples include Reich chambers with walls of alternating conducting and insulating materials; the Aquapol device developed by Wilhelm Mohorn to reverse the upward flow of water in the foundation walls of old buildings; oxidized aluminum pipes employed by Victor Roehrich (Intrasound); crystals; and pyramids. Water can also be slowly activated by simply being placed close to previously activated water or to some of the other materials that can activate water by direct addition to the water.

Some healers have come to realize that they can activate externally placed water, seemingly through their mindful practice. Presumably, they are also enhancing their own ACE pathway. It appears as if individuals may differentially benefit from various activities, such as mindfulness, laughing yoga, listening to music, viewing art designs, physical exercise, etc. Based on their experiences, individuals can presumably learn through practice how best to enhance their ACE pathway and to avoid activities that can seemingly diminish their ACE pathway. This can lead to individual optimization of wellness strategies. A sub-conscious element in healing is also suggested by a CAM practitioner who records brain wave information from his neurologically-impaired patients and replays the information back to the patients via headphones. This procedure has worked even with coma patients and in very young infants (personal communication). Studies are clearly needed to prove that these various strategies do, indeed, promote the functioning of the ACE pathway. Efforts are underway to assist in these studies by providing simple means for assessing the ACE pathway.

Collaboration

Clinicians can rapidly advance the field of energy based medicine by conducting clinical trials, which compare some of the various suggested treatment strategies. KELEA activated water needs to be approved by regulatory authorities for urgent use in all burn and trauma victims. It is also extremely important to assess the possible benefits of enhancing the ACE pathway in minimizing scarring due to heart and brain ischemia. The therapy of AIDS patients should include procedures to enhance their ACE pathway. Preliminary data support the observation that mosquitoes are repelled by heightened KELEA fields; a finding that is relevant to present day concerns regarding mosquito transmitted Zika virus. Certainly, Zika virus infected pregnant women should be offered the opportunity to participate in ACE pathway-related clinical trials designed to protect their future children. Oncologists should be encouraged to compare the benefits of enhancing the ACE pathway with the results from chemotherapy, radiation therapy and immunotherapy.

Certain public health officials decided to actively suppress studies on stealth adapted viruses when it became apparent that certain of these viruses arose from African green monkey simian cytomegalovirus (SCMV).[23,57–59].This finding drew critical attention to the somewhat shoddy processes and attitudes, which prevailed when it was discovered in 1972 that the monkey kidney cultures used to produce polio vaccines were commonly contaminated with SCMV. The issue became more political with the realization that the testing of cytomegalovirus contaminated polio vaccines in chimpanzees likely led to the emergence of HIV.[60] It is long overdue for the Government to address the role of stealth adapted viruses in such devastating diseases as autism,[61] chronic fatigue syndrome,[62] Gulf war syndrome, drug addiction, etc. It should also shed light into why stealth adapted virus infected patients are at risk for adverse neurological effects of vaccines.[63]

A better public understanding of the ACE pathway should also lead to both individual and community based efforts at improved health and wellbeing. A renewed focus of the potential role of the brain in acquiring energy for the body may help in the deconstruction of the present overreliance on pharmaceuticals in healthcare.[64] Knowledge regarding KELEA can also provide additional substantial benefits to mankind through more productive agriculture;[65] reduced requirements for gasoline and diesel fuels;[46] lower cost of heat generation;[12] and reduction in scale formation and corrosion in metal pipes. Global warming may be due in part to atmospheric electromagnetic activities reducing the levels of KELEA from cosmic radiation.[66] It is possible that KELEA is directly involved in the formation of clouds, which form a reflective shield against some of the sun's heat. Accepting the notion of KELEA will hopefully be a spur to pursue the topic of global warming from a new perspective.

Conclusion

This article is intended to provide a brief but comprehensive overview of the research regarding the alternative cellular energy (ACE) pathway. It explains the concept of a natural force called KELEA (kinetic energy limiting electrostatic attraction) that is probably required to prevent the fusion and annihilation of electrostatically attracted opposite electrical charges. KELEA can lead to the de novo synthesis of lipids and may have initiated the early development of life forms. Indeed, KELEA may be directly related to the chemical energy conveyed and exchanged between different phases of complex chemical reactions.

KELEA is able to loosen the hydrogen bonding between water molecules and to add to the water's kinetic activity. KELEA activation of the body's fluids provides a source of cellular energy in addition to the energy obtained through the metabolism of food. Energy provided by the ACE pathway can function in ways beyond those supported by food-derived cellular energy. It complements the immune system in the defense against infectious diseases with several distinct advantages, including the capacity to suppress infections caused by stealth adapted viruses. The ACE pathway is also involved in the healing of tissue damage, including burns and mechanical trauma, with a suppression of disfiguring scarring commonly due to inflammation. Neuronal and neurosensory cells may undergo hyper-excitability followed by functional quiescence in response to an insufficiency of cellular energy (ICE). These adaptive responses may be reversed with symptom relief by enhancing the ACE pathway. Various means are available to enhance the ACE pathway, including the use of various medical devices and the administration, including consumption, of KELEA activated water. The fluctuating electrical activity of the brain may variously function as a self-sustaining antenna to attract KELEA into the body. A better understanding is needed of the factors, which influence this proposed function of the brain and whether a similar function applies to muscle activity. Many of the unanswered questions regarding the ACE pathway can be answered through well controlled and coordinated clinical trials.

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Conflicts of interest

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References

1. Martin WJ. Insufficiency of cellular energy (ICE) may precede neurodegeneration in Alzheimer's disease and be treatable via the alternative cellular energy (ACE) pathway. *Advances in Alzheimer's Disease*. 2017;6(1):1–12.
2. Martin WJ. Hyper-excitability followed by functional quiescence in neuronal cells caused by insufficient cellular energy (ICE): Treatable by enhancing the alternative cellular energy (ACE) pathway. *World Journal of Neuroscience.* 2017;7(3):257–266.
3. Institute of Medicine (US) Committee on the Use of Complementary and Alternative Medicine by the American Public. Complementary and alternative medicine in the United States. Washington, DC, USA: *National Academies Press*; 2005.
4. Martin WJ. Alternative cellular energy as a unifying concept in complementary alternative medicine. *Int J Complement Alt Med*. 2015;1(4):00022.
5. Martin WJ. Cancer as an insufficiency of cellular energy (ICE): Therapeutic approaches based on enhancing the alternative cellular energy (ACE) pathway. *Int J Complement Alt Med*. 2016;3(3): 00074.
6. Martin WJ. Stealth virus culture pigments: A potential source of cellular energy. *Exp Mol Pathol*. 2003;74(3):210–223.
7. Martin WJ. Complex intracellular inclusions in the brain of a child with a stealth virus encephalopathy. *Exp Mol Pathol*. 2003;74(3):197–209.
8. Martin WJ. Progressive medicine. *Exp Mol Pathol.* 2005;78(3):218–220.
9. Martin WJ. Etheric biology. *Exp Mol Pathol*. 2005;78(3):221–227.
10. Martin WJ. Stealth Adapted Viruses; Alternative Cellular Energy (ACE) & KELEA Activated Water. Author House, Bloomingdale, USA. 2014.p. 321.
11. Martin WJ . KELEA: A natural energy that seemingly reduces intermolecular hydrogen bonding in water and other liquids. *Open Journal of Biophysics*. 2015;5(3):69–79.
12. Martin WJ. Improved efficiency of heat exchange using KELEA activated water. *Open Journal of Energy Efficiency*. 2015;4:36–43.
13. Martin WJ. Therapeutic potential of KELEA activated water**.** *Int J Complement Alt Med*. 2015;1(1):00001.
14. Martin WJ. KELEA Activation of water and other fluids for health, agriculture and industry. *Journal of Water Resource and Protection*. 2015;7(16):1331–1344.
15. Martin WJ. Preparing and using KELEA activated water to enhance the alternative cellular energy (ACE) pathway in the therapy of multiple illnesses. *Int J Complement Alt Med*. 2016;3(1):00059.
16. Martin WJ. Alternative cellular energy pigments mistaken for parasitic skin infestations. *Exp Mol Pathol*. 2005;78(3):212–214.
17. Patton KT, Thibodeau GA. Nutrition and metabolism. In: Patton K, Editor. Anatomy & Physiology. 9th edn. Netherlands: Elsevier; 2016.
18. Martin WJ. The ACE pathway in comparison to the immune system in the defense against infectious diseases. *J Hum Virol Retrovirol.* 2016;4(1):00124.
19. Martin WJ. Tissue regeneration without scarring achieved by enhancing the alternative cellular energy (ACE) pathway. *Journal of Cosmetics, Dermatological Sciences and Applications*. 2017;7(1):82–98.
20. Martin WJ. Is the brain an activator of the alternative cellular energy (ACE) pathway? *Int J Complement Alt Med*. 2015;1(1):00002.
21. Martin WJ, Zeng LC, Ahmed K, et al. Cytomegalovirus-related sequences in an atypical cytopathic virus repeatedly isolated from a patient with the chronic fatigue syndrome. *Am J Pathol*.1994;145(2):441–452.
22. Martin WJ. Stealth viruses as neuropathogens. College of American Pathologist's Publication, *CAP Today*. 1994;8:67–70.
23. Martin WJ. Stealth adaptation of viruses: Review and updated molecular analysis on a stealth adapted African green monkey simian cytomegalovirus (SCMV). *J Hum Virol Retrovirol and*. 2014;1(4):00020.
24. Martin WJ. The rationale for vaccines and the potential inadvertent consequences including autism, AIDS and other epidemics. *Med Veritas.* 2004;1:81–85.
25. Martin WJ. Stealth adapted viruses: A bridge between molecular virology and clinical psychiatry. *Open Journal of Psychiatry.* 2015;5(4):311–319.
26. Martin WJ. Stealth adapted viruses-Possible drivers of major neuropsychiatric illnesses including Alzheimer's disease. *Journal of Neurology & Stroke*. 2015;2:00057.
27. Martin WJ and Laurent D. Homeopathy as a misnomer for activation of the alternative cellular energy pathway, Evidence for the therapeutic benefits of Enercel in a diverse range of clinical illnesses. *Int J Complement Alt Med.* 2015;2(1):00045.
28. Martin WJ. Co-infection with stealth adapted viruses may explain Zika virus associated microcephaly. *J Hum Virol Retroviro*. 2016;3(1):00080.
29. Martin WJ . Proposed testing of KELEA activated drinking water in Zika virus infected pregnant women. *J Hum Virol Retrovirol*. 2016; 3(5):00104.
30. Adamson B, Dimitrov D, Devine B, et al. The potential cost-effectiveness of HIV vaccines: A systematic review. *Pharmacoeconom Open*. 2017; 1(1):1–12.
31. Dubrov V, Dubrova T, Christner D, et al. Alternative cellular energy based therapy using Enercel in advanced AIDS patients co-infected with tuberculosis and treated in Chernigov, Ukraine. *Journal Human Virology Retrovirology.* 2015;2(6):00061.
32. Izaguirre RR, Guzman MR, Fuentes RC, et al. Alternative cellular energy based therapy of childhood diarrhea. *In* Stealth Adapted Viruses; Alternative Cellular Energy (ACE) & KELEA Activated Water. *Author House IN*. 2014;103–112.
33. Martin WJ, Stoneburner J. Symptomatic relief of herpetic skin lesions utilizing an energy based approach to healing. *Exp Mol Pathol*. 2005; 78(2):131–134.
34. Martin WJ, Stoneburner J. Alternative cellular energy (ACE) pathway activation as the mode of action of neutral red dye phototherapy of human viruses. *Journal Human Virology Retrovirology*. 2014;1(4):00019.
35. Middelveen MJ, Rasmussen EH, Kahn DG, et al. Morgellons disease: A chemical and light microscopic study. *Journal Clinical Experimental Dermatology Research*. 2012;3:140.
36. Savely VR, Stricker RB. Morgellons disease: the mystery unfolds. *Expert Rev Dermatol*. 2007;2(5):585–591.
37. Martin WJ . Bacteria-related sequences in a simian cytomegalovirus-derived stealth virus culture. *Exp Mol Pathol*. 2009;66(1):8–14.

38. Hansson E, Svensson H, Brorson H. Review of Dercum's disease and proposal of diagnostic criteria, diagnostic methods, classification and management. *Orphanet Journal of Rare Diseases*. 2012;7:23.

39. Martin WJ, Glass RT. Acute encephalopathy induced in cats with a stealth virus isolated from a patient with chronic fatigue syndrome. *Pathobiology*. 1995;63(3):115–118.

40. Matzinger P. The danger model: A renewed sense of self. *Science*. 2002;296(5566):301–305.

41. Pizzarello S, Cooper G Flynn G. The nature and distribution of the organic material in carbonaceous chondrites and interplanetary dust particles. In: Meteorites and the Early Solar System II, Univ. Arizona Press, USA. 2006.p.625–651.

42. De Sanctis MC, Ammannito E, McSween HY, et al. Localized aliphatic organic material on the surface of Ceres. *Science*. 2017;355(6326):719–722.

43. Martin WJ. The alternative cellular energy (ACE) pathway in the repair of the cytopathic effect (CPE) caused by stealth adapted viruses. *In vitro* and *in vivo* evidence supporting a new therapeutic paradigm. In Stealth Adapted Viruses; Alternative Cellular Energy (ACE) & KELEA Activated Water. Author House Bloomington. 2014.p.31–70.

44. Martin WJ. Is KELEA (kinetic energy limiting electrostatic attraction) a source of chemical energy? MedCrave Online *Journal of Bioorganic & Organic Chemistry*. 2017; 1(2):00011.

45. Koehler K, De Souza MJ, Williams NI . Less-than-expected weight loss in normal-weight women undergoing caloric restriction and exercise is accompanied by preservation of fat-free mass and metabolic adaptations. *European Journal of Clinical Nutrition*. 2017;71:365–371.

46. Martin WJ. KELEA (kinetic energy limiting electrostatic attraction) can markedly improve the performance of gasoline and diesel fuels in power generation and in transportation. *Journal of Transportation Technologies.* 2016;6(3):148–154.

47. Wiggins P. Life depends upon two types of water. *PLoS ONE*. 2008;3(1):e1406.

48. Martin WJ. KELEA (kinetic energy limiting electrostatic attraction) offers an alternative explanation to existing concepts regarding wave-particle duality, cold fusion and superconductivity. *Journal of Modern Physics*. 2016;7(15):1995–2007.

49. Martin WJ. KELEA (kinetic energy limiting electrostatic attraction) may add to the measured weight of an object. *Journal of Modern Physics* . 2016;7(6):461–472.

50. AndersonI, Backlund A. Structure and function of rubisco. *Plant Physiology Biochemistry*. 2008;46(3):275–291.

51. Roussel MR, Ivlev AA, Igamberdiev AU. Oscillations of the internal CO2 concentration in tobacco leaves transferred to low CO2. *Journal of Plant Physiology*. 2007;164(9):1188–1196.

52. Martin WJ. Do the benefits of *Moringa Oleifera* trees extend to KELEA activation of water? *Advances in Plants & Agriculture Research*. 2015;2(1): 00036.

53. Hurtak JJ, Hurtak D.The history and future of Brown's gas. *Nexus Magazine*. 2014;21(4):45–54.

54. Bornhoft G, Matthiessen PF. Homeopathy in Healthcare – Effectiveness, Appropriatness, Safety, Costs. Springer Publishing, New York, USA. 2011.p. 209.

55. Martin WJ . Interacting light paths attract KELEA (kinetic energy limiting electrostatic attraction) and can lead to the activation of water. International Journal of Complementary & Alternative Medicine. *Open Journal of Biophysics.* 2015;5(4):115–121.

56. Martin WJ . Interactive electric fields attract KELEA (kinetic energy limiting electrostatic attraction) and can lead to the activation of water. *Int J Complement Alt Me*. 2015;1(6):00034.

57. Martin WJ, Ahmed KN, Zeng LC, et al. African green monkey origin of the atypical cytopathic 'stealth virus' isolated from a patient with chronic fatigue syndrome. *Clinical Diagnostic Virology.* 1995;4:93–103.

58. Martin WJ . Simian cytomegalovirusrelated stealth virus isolated from the cerebrospinal fluid of a patient with bipolar psychosis and acute encephalopathy. *Pathobiology*. 1996;64(2):64–66.

59. Martin WJ. Stealth adaptation of an African green monkey simian cytomegalovirus**.** *Exp Mol Pathol* . 1999;66(1):3–7.

60. Martin WJ. Chimpanzees inoculated with cytomegalovirus contaminated polio vaccines may explain origin of HIV-1. *J Hum Virol Retrovirol*. 2015;2(2):00035.

61. Martin WJ.Stealth virus isolated from an autistic child. Journal. *Autism Developmental Disorders*. 1995;25:223–224.

62. Martin WJ. Severe stealth virus encephalopathy following chronic fatigue syndromelike illness: Clinical and histopathological features. *Pathobiology*. 1996;64(1):1–8.

63. Martin WJ. Stealth adaptation of viruses: Implications for therapy and for potential toxicity of vaccines. *Journal of Virology and Current Research*. 2015;1(1):555551.

64. Martin WJ . Deconstructing medicine: The alternative cellular energy pathway**.** *British Journal of Medicine and Medical Research*. 2016;11(8):1–6.

65. Martin WJ. KELEA Activated Water Leading to Improved Quantity & Quality of Agricultural Crops. *Adv Plants Agric Res*. 2015;2(1):00033.

66. Martin WJ. KELEA, Cosmic Rays, Cloud Formation and Electromagnetic Radiation: Electropollution as a Possible Explanation for Climate Change. *Atmospheric and Climate Sciences.* 2016;6(2):174–179.

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