

Bioelectricity Circulatory System: One of the Main Material Bases of Chinese Medicine

Yuling Wang¹ and Ran Tian²

ABSTRACT:

Medicine is a scientific system that serves human health. Both Chinese Medicine (CM) and Western Medicine (WM) regard the human body as the main object of study, thus they should not be essentially different or have strict boundaries. WM is mainly based on anatomy, physiology and biochemistry, which are visible and tangible. However, CM is mainly based on *yin* and *yang*, *five elements*, and *channels and so on*, all of which are invisible and intangible.

Key words : BECS, TCM, Ying and Yang, Qigong, channel, five elements

For nearly 20 years, the bioelectricity circulatory system (BECS), which is invisible and intangible, has been studied and it is one of the main materials of CM.

THE THEORY OF LIFE HARDWARE AND SOFTWARE

Human body consists of a hardware and software (Figure 1). Hardware is the anatomic structures (lower half of Figure 1) and it is known as biology which has been studied systemically. Software is the non-anatomic structure and it is defined as BECS (upper half of Figure 1), which is the generation of bioelectricity at different anatomic levels and the conversion between and among them.

The life hardware is visible and tangible while software is invisible and intangible. However, the life phenomenon is determined by software. Although human hardware is identical, the software can never be the same, so each of us has our own life function including intelligence.

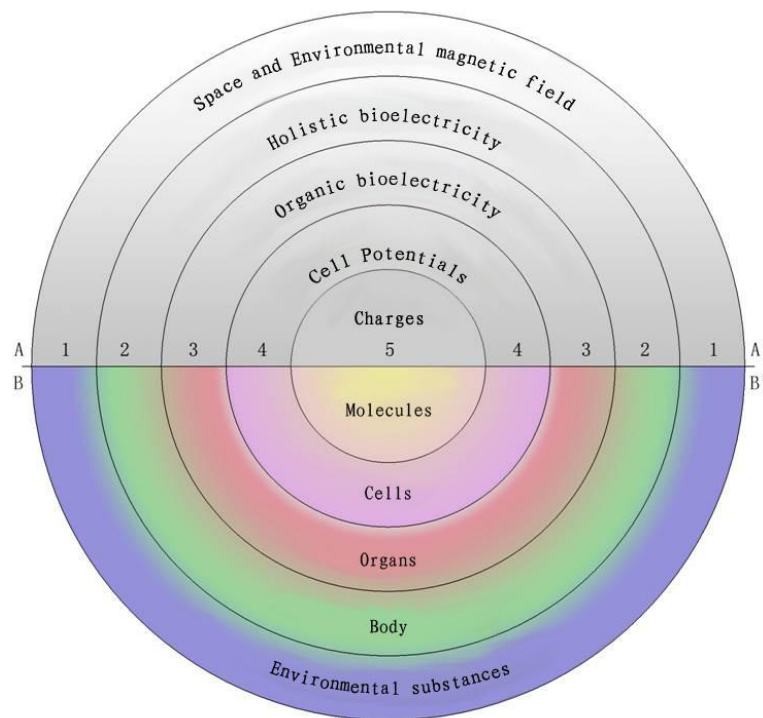


Fig. 1. Classifications of substances in human body

1. Anatomic Structures and Features

Life hardware (biology) includes morphology, anatomy, cytology and molecular biology. Anatomic structures consist of visible and tangible organs (including muscle, bone, nerve, blood, etc.); cells (including neural cells, muscle cells, fat cells etc.); and molecules (including inorganic molecules, lipids, proteins, nucleic acids, etc.).

2. BECS and Features

The life software (BECS) is a non-anatomic structure, which is invisible and intangible, but its presence is manifested by its function. From the upper half of the figure 1, it is shown that BECS involves five levels including molecular electrical charges, cellular potentials, organ bioelectricity, holistic bioelectricity, and space and environmental magnetic field.

BECS has five major features. The first feature is biological feature: bioelectricity exists within biological structures; when dead, the bioelectricity will disappear. The second feature is holistic: bioelectricity in the body makes a well-knit network, interconnected with each other to form a circuit system. Third feature is conductivity: bioelectricity flows within the body and response to

environment. Bioelectricity can be conducted, and therefore, a bioelectricity measured near the heart is not the bioelectricity entirely generated by the heart, but a sum of bioelectricity generated from entire body and conducted to that area. The fourth feature is material as bioelectricity exists although it is not visible. The fifth feature is non-anatomic in nature, something more yet to be identified further: current understanding on bioelectricity in living bodies is far from enough and the corresponding independent anatomical structure is yet to be found.

The presence of BECS is manifested by its function. In fact, in CM, *yin* and *yang*, *channels*, *points* and *gas* are all invisible and tangible. Our consciousness, mental state, soul, psychology and even life itself are also invisible and tangible.

3. The Relationship between Anatomic Structures and BECS

BECS is an independent system, but it is strictly dependent on anatomic structures because those anatomic structures are where the bioelectricity is generated and also the carriers of its conduction.

II. ANATOMIC STRUCTURES AND MEDICINE

A healthy anatomic structure is the basis of healthy life. Therefore, the human anatomic structure at organs, cells and molecules has been studied systematically.

1. Anatomic Structures and western Medicine

The core theory of WM is that the illnesses are caused by changes of anatomic structures. Therefore, WM studies are all focused on the relationship between the illnesses and anatomic structural changes, which covers the structure or/and quantity in molecular levels, cellular levels and organic levels. And most of the illnesses are defined by the name of the affected anatomic structure.

2. Anatomic Structures and Chinese Medicine

In the early years, CM also studied anatomic structure which has been described as blood-fluid, bones-tendons etc and developed the earliest surgical treatment. “*The Causes of Many Illnesses*”, a 50-volume book written about 600 AD, is the earliest medical treatise in China

and it documented early practices of bowel resection, abortion, tooth extraction surgery, and other surgical operations. The earliest chemical drugs originated in CM as well. Through the course of alchemy, ancient Chinese scientists discovered many new compounds, refined through years of rich experience. Some external applications, which have been passed down including plaster, patching, as well as topical medication used in dermatology and surgery, are still in use today.

III. THE BIOELECTRICITY CIRCULATORY SYSTEM AND CM

1、 BECS and CM Theory

a) The Yin and Yang theory in CM describes the relationship between anatomic structures and BECS, and the interdependence and convertibility between them. Once an imbalance occurs, illnesses will ensue.

b) The Five elements theory in CM describes the interaction of the bioelectricity between different organs. Different metabolic rates in tissues and organs result in distinct bioelectricity rates and intensity. Therefore, the bioelectricity generated by dissimilar organs can affect each other.

c) The Channels theory in CM represents the flow of bioelectricity. Test results indicate that a body's bioelectricity fluctuates over times, with an intensity that is usually lower than a volt (normally it is between 0.1-0.5V), with a frequency that varies between 25-150Hz, mainly 50Hz. The flow of bioelectricity is known as channels. The flowing of bioelectricity is the way to balance. If balanced, there would be no symptoms; otherwise, if the bioelectricity flows poorly and bioelectricity cannot be balanced, then the symptoms will happen. In other words, changes in bioelectricity are both symptoms and illnesses, and this is described as "blocked channels cause pains" in traditional CM.

d) The State of Viscera theory in CM reflects the mutual relationship of bioelectricity between internal organs and the body surface area. The bioelectricity from different organs is able to flow to certain body surface, establishing the relationship between the organs and body surfaces.

e) The Sky-man harmony theory in CM describes the interaction between a body's bioelectricity and the space and environmental magnetic field. From the embryonic period to birth, people stand between the sky and earth, suspended in the network of the space and environmental magnetic field. With constant changes of the space and environmental magnetic field, a body's bioelectricity also changes correspondingly.

f) The *blood-fluids* in CM theories reveal the relationship among bioelectricity, blood and fluids inside body.

2. Pulse Diagnosis Technology Is the Channel bioelectricity resonance technology

Pulse diagnosis technology is the most useful technology in CM, which is the doctors using their own bioelectricity detect the bioelectricity information of a patient simply placing fingers on the patient's wrist and make diagnosis of illnesses. According to BECS theory, different organs generate different identified bioelectricity which can flow to the body surface partly and forms the pulse, including wrist pulse. Therefore, the bioelectricity state detected from the surfaces can be used to diagnose illnesses at different organs.

3. Acupuncture Is the Channel bioelectricity resonance technology treatment Technology

It has been proven that acupuncture is effective in many conditions. It has also been confirmed by scientists that acupuncture can induce changes at the cellular level such as an increase of opioid peptides at the cell junction in the body after 30 minutes. However, this does not fully explain the rapid and persistent effect of acupuncture and its efficacy for certain illnesses like headache and arthritis pains.

Based on the channel system, acupuncture is known as an effective technology for many illnesses. In essence, once the metal acupuncture needle is inserted into the body, the bioelectricity reacts instantly. Therefore, the feeling of acupuncture is the conduction of bioelectricity. "Getting *qi*" by acupuncture is the exchange between human body and the space, environmental magnetic field and the acupuncturists through needles. According to the history of acupuncture's development, the introduction of the metal needle brought about a substantial improvement in the efficacy of acupuncture. By treating illnesses through the body's channels, acupuncture is essentially rectifying bioelectrical imbalances in the human body at holistic levels.

4. Bioelectricity and Chinese Herbs

Effectiveness of Chinese herbs is proven in many conditions. Mechanism of these effects are

in part explained by WM. Chinese herb medicine mainly provide water and inorganic ions to modify the distribution of the molecular electrical charges inside the body, then gradually improve the cell potentials, organic and holistic bioelectricity, then lead to a balance in bioelectricity. The other effective ingredients from the herbs used are scarce and mainly the glycoside-based substances.

5. BECS and Three Principles of CM

CM treatment is affected by geography, timing, and individual states; this is known as the three fundamental principles. Different geographic regions have different space and environmental magnetic fields. The same geographic place at different times of the day and seasons of the year also will have different space and environmental magnetic fields. Even in the same location, same time and seasons, different individuals will have different bioelectricity levels. BECS is a defining feature of the three principles of CM.

a) Geographic Regions: Diagnosis and treatment should be carried out under strict environmental characteristics. In different geographical environments, where electromagnetic field intensities differ, the state of human bioelectricity will not be the same. As a result, the effect of diagnosis and treatment will be different.

b) Timing: Timing is known as timing treatment, which means that diagnosis and treatment should be made according to the hours of the day as well as the seasons of the year. In a single day, the space and environmental magnetic field changes and therefore the human body bioelectricity differs in the morning, mid-day or evening. Also, the bioelectricity in a human body will not stay the same over time. Therefore, different results of diagnosis and treatment will occur over time. Seasons change throughout the year and so does the environmental magnetic field, which affects an individual's bioelectricity.

c) Individual States: This principle is to make diagnosis and treatment considering the patient's age, gender, and physical characteristics. The same gender, age and body conditions, however, do not ensure the same states of bioelectricity, just as people of the same age, gender and body health may require different medicines or doses of medication. The difference in individuals' bioelectricity means that the effect of a given drug will vary for different people. It is the same in Western medical treatment, the effectiveness of a drug on the same disease will not be the same in different

patients. With the same genes and environment, why twins develop different levels of intelligence? Why does one person, at different ages, have different intelligence? Why the intelligences of same person at different ages also vary? All of these phenomena, actually, are due to differences in BECS.

6. BECS, “QiGong” and Natural Healing

“QiGong” is the process of a human body transforming the space and environmental magnetic field to its own bioelectricity. When the converted bioelectricity intensively flows inside the body, it is “Getting qi”. Natural healing is the conversion process of the space and environmental magnetic field to the human bioelectricity, and the establishment of a normal BECS.

IV. BECS AND WM

With the development of electronic technology, the research has been extended into the bio-physical area, and now the body magnetic field, optical energy, heat energy and bioelectricity of human body are all studied separately.

1、 Mis-understanding of the Relationship between Symptoms and Anatomic Structures

WM believe that illness result from structural changes leading to symptoms. This is true in many aspects but it can also be a flawed understanding. Even today, WM still does not understand that a symptom is an independent system of invisibility and intangibility.

2. Misapplication of Electrocardiogram (ECG)

Despite the maturity and wide application, the problems of misdiagnosis or missed diagnosis for heart diseases by ECG cannot be solved yet. An ECG shows the voltage differences between different body surfaces. It is clear that surface electrocardiogram is a sum of vectors of electric potentials from the body. One approach by WM is electro-physiologic studies using intracardiac electrodes, which emphasizes electric potentials produced from various parts inside of the heart. By the holistic bioelectricity flow theory, the voltage differences detected in any surface is not only from inside of heart but is the integrated bioelectricity of all organs inside the body, not the health of the heart alone, as has been assumed.

3. Physiotherapy Equipment Shortcomings

In the last hundred years of study of physiotherapy equipment, there has been no equipment designed to work on the body's bioelectricity due to the paucity of systematic research of BECS. Existing electrotherapeutic equipment stimulates the tissue in order to improve blood circulation to relieve symptoms. The existing electrotherapy equipment can be divided into three categories. 1) Devices that convert electricity into energy output to stimulate the human body. 2) Devices that deliver different frequencies to stimulate the human body. 3) Devices that convert electricity power into the environmental magnetic field to affect the body's magnetic properties.

However, the lacking of consideration on the characteristic of BECS, many devices can produce side effect on BECS.

V. BECS HEALTH AND DISEASE

Based on BECS (Figure 1), it is not difficult to understand that changes in bioelectricity will cause different illnesses.

1. Molecular Bioelectricity Health and Metabolic Diseases

Any inorganic, organic molecules and even DNA and protein molecules all have their unique electrical properties -- charges, number of charges, and distribution of charges. Soluble molecules in water will reveal the ionic state, the positive charges and negative charges.

First, molecular electrical properties directly affect the permeability of cell membranes. A cell membrane is composed of phospholipids. If the polarity of phospholipids is weakened, the cell membrane will deform or rupture and the permeability of cell membranes will be changed. Therefore, some bigger molecules will leak out from cells to the blood, and can be detected in the blood. Taking hepatitis as example, the permeability liver cellular membranes will be changed and some enzymes will leak out and detected in high blood levels.

Second, the function of protein is determined by the activities of its charge regions. If the charge is neutralized, the protein will be inactivated and it will thus lose function.

Third, the resting potential and the action potential of a cell are generated by the movement of potassium, sodium, calcium and magnesium ions inside and outside the cell's membrane. Without the flow of ions, there will be no formation of cellular bioelectricity and no cell functions.

Fourth, the high concentration of molecular charges is the cause of edema, and the low concentration of molecular charges is the reason for dehydration. When acute injury happens, the dead cells will release a variety of charged material, leading to a high concentration of charges in the affected area. Therefore, body water will flow to dilute the charges in order to achieve a status of balanced charges. The retention of a large number of water molecules will rapidly produce swelling, and subsequently cause the decline of local cell function.

2. Cellular, Tissue, and Organ Bioelectricity Health and Functional Disease

Cellular potentials include resting potentials and action potentials. The height, strength and frequency of resting potentials and action potentials of a cell represent its function. First, the cell potential or resting potential and action potential (charges movement at the molecular level) determine the vitality of the cell. If the resting potential is lost, then the cell is declared dead. Second, abnormal action potentials will make the cell dysfunctional. Thus, the status of bioelectricity in cells can directly determine the functional states of an organ.

An organ is composed of different cells, some of which have active bioelectricity, while others do not. The type and quantity of the cells with active bioelectricity in organs determines the features and strength of their functions. The organs with high water content have intensive distribution of molecular charges as well as active cellular bioelectricity, so that they play a more important function in human body. Therefore, the blood, brain, glands, muscles, etc., are organs with high bioelectricity activity, while the fat, bone, tendons, connective tissue and hair are tissues with low activity in bioelectricity.

The sum of bioelectricity generated by a variety of cells within an organ is organ bioelectricity. The decrease of action potentials in one organ will result in a decrease of strength and (or) frequency in action potentials and then a diminished or slower function. If, however, the cells in one organ increase the frequency or strength of their action potentials, then the overall function of this organ would be excessive. Take the case of the thyroid organ. A decrease in action potentials would result in hypothyroidism (too little thyroid hormone is formed and released), whereas an increase in action potentials would lead to hyperthyroidism (an excess of thyroid hormone). As another example, when the bioelectricity of skeletal muscle is a low frequency, myasthenia will occur; when the frequency becomes too low, the muscles will be paralyzed. However, when the

frequency is higher than the normal, there will be spastic paralysis or seizures.

3. Holistic Bioelectricity Health, Vital Signs, and Disease Symptoms

In human bodies, the bioelectricity generated by molecular, cellular and organ activities cannot be detected separately but forms the holistic bioelectricity -- a circuit flow system. Holistic bioelectricity plays a role in coordinating the functions of different tissues and organs and also in reservation and accumulation of bioelectricity for molecules, cells, tissues and organs. Meanwhile, the circulation of holistic bioelectricity generates and maintains life temperature. Therefore, low temperature or fever is caused by abnormal bioelectricity circulation. When life is passed, temperature disappears. A holistic bioelectricity change in strength, wave type and frequency is the symptoms or sub-health conditions.

4. Bioelectricity and Environmental Magnetic Field Correspondences

The relationship among human bioelectricity, space, environmental magnetic field, and the electrical properties of food are a significant part of BECS. Human Bioelectricity will change with the changes of space and environmental magnetic field so that we are awake during the day and sleep at night. The human biological clock is, in fact, the corresponding relationship of human bioelectricity to the magnetic field given the position of the sun. Correspondence of bioelectricity is the foundation of human adaptability to the environment. Human bioelectricity has to be coordinated with space and environmental magnetic fields (sky and earth). When a person lives in one place for long time and then moves, he is likely to suffer some discomfort because he is unaccustomed to the new environment, which is essentially caused by a slow bioelectricity correspondence with the local magnetic field. Finally, the bioelectricity of human beings and other creatures interacts with each other.

5. Bioelectricity and Complex Illnesses

Almost all illnesses related to tissues, including blood system, nervous system, glands, muscles, and so forth, are complex and incurable. Although the anatomic structures, cell and molecules in those tissues are quite different in terms of category and quantity, they share a common characteristic: the bioelectricity activity is relatively high.

6. BECS and Human Immune System

Western medical research on the immune system has focused on structure, however the definition and structure of the immune system is still relatively poorly understood. The discovery and development of BECS might deepen our understanding of the immune system. The formation of life begins from one cell; each division of cells will generate bioelectricity, until the formation of an individual life once the body has also formed its complete BECS. The bioelectricity systems in young lives circulate more vigorously, providing stronger resistances and leading to healthier bodies. As time goes on and age increases, the generation and circulation of human bioelectricity would have been gradually eroded due to the influence over time of the environmental magnetic field. Eventually the body stops growing and the body's bioelectricity diminish. As BECS weakens, immunity also gradually fades, while disease, in contrast, flourishes.

VI. BIOELECTRICITY RESONANCE TREATMENT TECHNIQUES AND THEIR EFFECTIVENESS

1. Mechanisms of Channel Bioelectricity Resonance Technology

Channel bioelectricity resonance technology is designed to regulate the body bioelectricity, and normalizes its occurrence, flow, and transformation with the environmental magnetic field. According to the laws of human bioelectricity, electrical signals were determined to be in a frequency mainly between of 25 Hz, 50 Hz and 100 Hz, and in sine wave, the intensity of treatment signals can be adjustable to be appropriate to a given patient's feeling.

One principal way of treatment is "*Jing*" treatment, along the longitude of limbs and (or) the trunk, while another principal way is "*Luo*" treatment, crossing the horizontal direction of trunk and limbs (away from the heart). The circuit is made outside the diseased region during each treatment.

2. Indications

Channel bioelectricity resonance technology firstly can be applied to diseases caused by bioelectricity changes, which covers the symptoms, pains, functional illnesses and sub-health.

Secondly, it can apply to illnesses produced by bioelectricity active tissue including the

nervous system, muscles and glands. And what is more, it can be applied to most of the complex illnesses.

3、 Disease Treatment and Effectiveness

The evaluation of effectiveness consists of two parts. For functional disease or symptoms, the effectiveness was evaluated mainly according to the patient's satisfaction. For illnesses with structural changes, the effectiveness was evaluated according to the changes of symptoms related to the illness and some with the evaluation of the anatomic structure changes before and after treatment.

Here we summarized 1471 cases treated within the latest 5 years, of which 1370 cases showed significant effectiveness, thus an effective rate of 95%. The illnesses include over 100 kinds, and they are categorized as follows. They are listed in rough classes and detailed analyses on these results are necessary.

1) Nervous system-related illnesses

The nervous system is the most active tissue in bioelectricity. Its relevant illnesses are complicated and difficult. The illnesses treated include functional diseases such as insomnia, headache, autism, epilepsy, depression and structural diseases such as cerebral palsy, stroke, paralysis, Meniere's syndrome, etc. Among the 311 cases treated, 300 cases were shown to be highly effective, and the efficacy rate reached 96%.

2) Digestive system illnesses

The digestive system consists of the digestive tube and digestive glands. The bioelectricity active tissues in the digestive system mainly include the liver, pancreas, glands and smooth muscle at the gastrointestinal wall. Common ailments include functional diseases such as toothache, oral ulcer, gastritis, stomachache, dyspepsia, acute abdominal pain, and some structural diseases such as appendicitis, and hemorrhoids etc. Among the 212 cases treated, 203 cases were shown to be highly effective; the efficacy rate was thus 96%.

3) Muscular system illnesses

The kinetic system includes skeleton, joints and skeletal muscle. The bioelectricity active tissues in this system include muscle, joint, and bone marrow. Common ailments include muscle atrophy, paralysis, arthritis, swollen joints, and femoral head necrosis. Among the 401 cases

treated, 384 cases were shown to be highly effective; the efficacy rate reached 96%.

4) Respiratory system illnesses

The respiratory system includes the upper and lower airways and lungs, and consists of the nose, pharynx, throat, trachea, bronchi and lungs, etc. The bioelectricity active tissues in this system include the respiratory muscles such as diaphragm, pectoralis muscles, bronchial/tracheal glands, smooth muscle at the airway. Common ailments include common cold, nasosinusitis, pharyngitis, emphysema, asthma, expectoration difficulty, etc. Among the 146 cases treated, 132 cases were shown to be highly effective and the effective rate reached 90%.

5) Urogenital system illnesses

The bioelectricity active tissues in the urogenital system include the kidneys and smooth muscle at the ureter urinary bladder and urethra. Common ailments include nephritis, edema, urgent urination, frequent micturition, dysuria, cystitis, urinary inflammation, kidney stone, prostatitis and orchitis. Among the 66 cases treated, 65 cases were shown to be highly effective and the effective rate reached 98%.

6) Circulatory system illnesses

The circulatory system consists of the cardiovascular system, blood vessels and the lymphatic system. The bioelectricity active tissues in this system include vascular smooth muscle and cardiac muscle. Common ailments include hypertension and varicosity mainly. Among the 46 cases treated, 23 cases were shown to be highly effective and the effective rate reached 50%.

7) Endocrine system illnesses

The endocrine system consists of endocrine gland and endocrine cells in other organs. Major endocrine glands of the body include the thyroid glands, parathyroid glands, adrenal glands, pituitary gland, pancreatic islet, thymus, gonad, etc. Common ailments include diabetes, high blood pressure, hyperthyroidism. Among the 36 cases treated, 18 cases were shown to be highly effective and the effective rate reached 50%.

Channel Bioelectricity Resonance Technology Treatment can Improve Symptoms Directly

1) Pain treatment

Pain is a symptom and the majority of illnesses may cause pains. The essence of pain is the

change of bioelectricity. The channel bioelectricity resonance technology has a significant effect on pain symptoms. Among the treated 870 cases of various pains, such as trauma pain, acute abdominal pain, even cancer pains, 833 cases have been remarkably effectively treated and the effective rate reached 96%.

2) Treatment of paralysis

Paralysis is a functional disease. Although the causes and manifestations of paralysis are very complex, paralysis is caused by the abnormal bioelectricity of muscle cells. If the muscles' bioelectricity frequency is too high, it will produce a spasm; if the frequency is lower than normal, the muscle is very weak; if the frequency of bioelectricity is too low, flaccid paralysis will appear. There have been 327 patients of paralysis -- including traumatic paralysis, stroke complications, sequelae of acute myelitis, and cerebral palsy -- who have been treated by channel bioelectricity resonance technology, 322 of which have achieved significant effectiveness with an effective rate of 98%.

5. Channel Bioelectricity Resonance Technology Treatment can Change Anatomic Structures

1) . Edema illnesses.

The structure of the human body and bioelectricity are interdependent, thus channel bioelectricity resonance technology treatment will affect structure of the human body. At the molecular level, the changes of bioelectricity can remodel molecular status but not the contents of individual molecules. Changes in the water content inside and outside of cells will transform the cell morphology then lead to changes in an organ's shape. There have been 238 cases of edema illnesses treated, including injure swollen, cervical vertebra edema, knee edema, gout, trauma edema, etc. Out of 238 cases, 228 cases were treated effectively and the effective rate reached 96%.

2) Spinal illnesses

The spine consists of backbones and the surrounding muscles and the position of spine is maintained by the muscle strengths, as well as the muscle electricity. When the muscles' bioelectricity is not in balance, there will be symptoms, which are normally clinically diagnosed as muscle strain, stiff neck, etc. If the imbalance lasts for a long period, the spinal cord position will change and lead to disease like spinal disc bulge, herniated disc, intervertebral canal stenosis, spinal degeneration, even rachiocamposis and so on. After bioelectrical treatments of 471 cases of

spinal disease, the effective number of cases was 445 cases, with efficacy of 94%.

3) Hemorrhoids

Hemorrhoids are common digestive illnesses. Hemorrhoids are divided into internal hemorrhoids, external hemorrhoids or mixed hemorrhoids, and some of them need surgical treatment. Hemorrhoids involve muscles close to the anus and in the walls of blood veins. Once the bioelectricity decreases, the muscles expand and thus form hemorrhoids. With channel bioelectricity resonance technology treatment, the bioelectricity in the involved muscles will recover and contract to make the hemorrhoids shrink or disappear altogether. 6 hemorrhoids treated, and all shown significant changes in 5 time treatment.

2、 Typical Examples of Patients Treated Successfully

1) Rheumatoid arthritic pain:

A male patient suffering from rheumatoid arthritic pain more than a decade cannot get dressed by himself, nor can he reach his face with his own hands. He has been seeking for treatment at several hospitals. He has been treated by drugs, acupuncture and acupotomy technique, but to no effect. In 2010, he received channel bioelectricity resonance technology treatments on four times; he can now comfortably get dressed by himself and wash his face; he can even do some work at his farm.

2) Brain hemorrhage:

A male patient, 50 years old, suffered from a brain hemorrhage 15th August 2010, and got surgery immediately at hospital. After 33 days' treatment, he left the hospital with his leg paralyzed and immobile. Just one day after he received a single, his leg felt sensation on the fourth day of the treatment; he could walk on his own with the support of crutches (medical record attached 1).

3) Epilepsy:

A 10 year old girl from Beijing was diagnosed epilepsy by Beijing Children's Hospital, her EEG shown discharges increases obviously, in 5 years, EEGs taken twice a year all appeared discharges increases obviously although taken medicine regularly. She began to take Bioelectricity resonance treatment 40 minutes for one treatment. During the 5 treatment period, her appetite increased and her constipation improved. 15 days later, Her EEG shown normal, and there is no irregular discharge at all (medical record attached 2).

4) Gallstone:

One 60 years old female, suffered from gallstone diagnosed at Laiwu City Chinese Medicine Hospital. The ultrasound diagnosis shown cholecystolithiasis and two pieces of stones was found, the sizes are respectively is 2.2*1.6CM 1.3*0.9CM, After 20 time treatment with bioelectricity resonance treatment, Shown by ultrasound inspection again, the cholecystitis already recovered. The stones turned into 1.9*1.3CM, the 1.3*1.3CM scope cotton wool shape material which means the stones crush into smaller sizes. After taking another 20 time treatment, non-size stone was found (Medical record attached 3).

5) Complication of Reinforcement of the lumbar:

A retired professor from Peking University underwent surgery for reinforcement of the lumbar, caused by necrosis of the 12th thoracic vertebra, but she was unable to walk seven months after the surgery. Treated by channel bioelectricity resonance technology, many symptoms were improved. After the first treatment, the previous cold sensation in her legs returned to normal; the urgency of micturition, frequent urination and other urinary symptoms improved a lot after five channel bioelectricity resonance technology treatments; and the muscles 11cm below the knee grew 1.5 cm in each leg, while that 13 cm upper the knee increase by 3.5-4.5 cm after 19 time treatments. Her pain was relieved after 20 time treatments, and her waist circumference reduced by 16 cm after 25 time treatments (Medical record attached 4).

6) Severe scoliosis:

A 10-year old girl, suffering from severe scoliosis, was tested and diagnosed at B Hospital and told that, unfortunately, there is no effective treatment technology for her. After 20 treatments with channel bioelectricity resonance technology over a six-month period, the spine was reset and curvature reduced significantly (Medical record attached 5).

7) Acute liver injury:

One male patients suffered from sever acute liver damage due to heavy alcohol drinking. Medical test found that the ALT, AST, GGT, L/S and IBIL was all significantly high. Treatment with channel bioelectricity resonance technology, the above five indicators decreased in five days after treatment, all of them come back to normal in 3 months (see table 1). (Medical record attached 6)

Tab.1. Liver enzymes changes

	Normal level	Before T	5D after T	3Ms after T
--	--------------	----------	------------	-------------

ALT	0-40 u/l	329u/l	60 u/l	18.7 u/l
AST	0-40 u/l	90.1 u/l	27 u/l	16.3 u/l
GGT	0-50 u/l	268.7 u/l	236 u/l	26.6 u/l
L/S	0.4-1.5	3.15	0.45	1.1
IBIL	0-15 umol	0.4-1.5 u/l	1.2 umol	7.8 umol

8) Senile deafness:

A male patient, eighty-seven, 1995 with senile deafness and in 2000, his hearing loss went serious. February 2002, he began to use hearing AIDS. In early September 2005, he accepted bioelectricity treatment, after 8 times, his hearing basically restored to 3 and half years ago. Continuous treatment for another 9 times, he can communicate with other people without hearing aids. As the hearing were not tested before treatment, so the control used was tested 43 months ago. But her family reflects the hearing has greatly improved (tab.2). (Medical record attached 7).

Tab. 2 Hearing changes

		250HZ	500HZ	1000HZ	2000HZ	4000HZ	Hearing
Right Ear DB	Before T (2002)	60	55	55	65	80	58
	2005	50	60	60	60	70	60
Left Ear DB	Before T (2002)	65	60	65	70	85	65
	2005 After T	55	50	55	60	70	55

9) Thyroid function hyperfunction:

One female patient was diagnosed as thyroid function hyperfunction in December 2010 in the United States. She returned to China and took channel bioelectricity resonance technology treatment, and 10 days later, the TSH come back to normal level (tab.3) . (Medical record attached 8)

Tab.3 TSH Level Changes

	Level tested (uiu/ml)
Before T(2010.11.18)	0.2
After T (10 days)	0.3994
After T (30 days)	0.656

VII. CONCLUSIONS

1. The discovery of BECS has established the fundamentals for human beings to understand our bodies. The anatomic system is the hardware of life, namely biology; the non-anatomic system is the software of life, namely BECS. BECS is the essence of life, if bioelectricity disappears, life terminates.

2. BECS is the other significant fundamental underpinning of CM. Bioelectricity changes cause symptoms and illnesses. CM's theory including "yin and yang", channel etc. are the earliest recognition of the existence of BECS, but described in different terminology. Current WM also began to study some manifestations related to BECS, including psychology, praxiology, etc. However, it lacks an understanding of the essence of BECS.

3. Medical research related to the BECS will open the future of medicine. BIOELECTRICITY medicine is much more than complementary or alternative medicine but is a field breaking the limitation of current medical system.

4. Advances in the understanding of bioelectricity medicine unite medicine and physics and it also unites and supplements the strengths of Western and CM.

Reference:

1. Wang YL. "Study on the essence of TCM Channel Bio-electricity". *Frontier Science*. 2007; 1: p85-91.
2. Wang YL. *Bio-electricity Medicine and Traditional Chinese Medicine*. Beijing: XueYuan Press, 2008
3. Tian Ran, & Wang YuLing. Letter to the Editor, Pathologic study on a new bioelectricity circulatory system. *Basic and Applied Pathology*. 2012; 5(3):p79-80.
4. Wang YL. Definition on Biology, Function, Life, and Death. *Frontier Science*. 2013; 3: p15-19.
5. Wang Y L. *Bioelectricity Resonance Technology and Its application, Bioelectromagnetic and subtle energy medicine*, Second Edition, P49-57, CRC PRESS, Taylor & Francis Group, Edited by PAUL J.ROSCH, MD, 2014
6. Rosch PJ. *Bioelectromagnetic and Subtle Energy Medicine, The Interface between Mind and Matter, Longevity, Regeneration, and Optimal Health*. *Ann. N.Y. Acad. Sci.* 2009; 1172: p297–311.
7. Nordenstrom B.E.W. *Biologically Closed Electric Circuits: Clinical, Experimental and Theoretical Evidence for an Additional Circulatory System*. Stockholm: Nordic Medical Publications, 1983
8. Rosch P.J. Afterword in B.E.W. Nordenstrom *Exploring BCEC-Systems*, Stockholm: Nordic Medical Publications, 1998: p98–112.
9. Liu FL, Geng YX, Duan F, et al: Clinical Observation of the analgesia effect of bio-electricity Resonance on patients with nonspecific low back pain. *China Medical Herald*.2011; 8(33):

p84-87.

- 1.president of Beijing Shengkang Natural hospital
- 2.American Academy of Intelligent Medicine Inc