8.5. RESONANCE THERAPY. CERAMIC MATERIALS AND METHODS OF THEIR APPLICATION IN MEDICINE

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Abstract: The scientific article is intended as a scientific and methodical reference article for practicing doctors and scientists. It presents general information on ceramic materials and their potential for use in medicine. A characteristic is given of the resonance therapeutic method of influencing the human body by narrow-range infrared radiation. The article gives step-by-step methodical recommendations and clinical examples of using the emitters in treating various conditions. One section is devoted to describing the method of electroacupuncture diagnosis according to R. Voll, which allows the doctor to detect hidden pathology, establish the relationships between the organs and systems involved in the pathological process, and select the optimal modes of treatment by means of narrow-range emitters.

Index terms: Functional ceramics, impulsive radiation, range converters, gall bladder, liver, kidneys, heart, cholesterin, blood, inflammation, tumors, backbone, immunity.

РЕЗОНАНСНАЯ ТЕРАПИЯ. КЕРАМИЧЕСКИЕ МАТЕРИАЛЫ И ИХ ПРИМЕНЕНИЕ В МЕДИЦИНЕ

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Аннотация: Приводятся общие сведения о свойствах керамических материалов, предназначенных для практического применения в медицине. Приводятся принципы резонансной терапии, с использованием преобразователей спектра первичного источника энергии на основе функциональной керамики. Показаны особенности воздействия узкоспектрального импульсного инфракрасного излучения на организм человека. Приводится пошаговая инструкция и методические рекомендации, а также клинические примеры использования излучателей в лечении различных патологий. Один из разделов посвящен описанию методу электроакопунктурной диагностики по Фоллю, которая, в дополнение к другим методам диагностики, позволяет врачу выявить скрытые патологии, определить взаимосвязь органов и систем, вовлеченных в патологический процесс, выбору оптимальных режимов лечения. Статья предназначена для практикующих врачей и ученых.

Ключевые слова: функциональная керамика, импульсное излучение, преобразователи спектра, желчный пузырь, печень, почки, сердце, холестерин, кровь, воспаление, опухоли, позвоночник, иммунитет.

INTRODUCTION

Whereas the XVIII and XIX centuries saw the triumph of such sciences as physics and chemistry, the XX century, and its second half in particular, can be called the century of biology. Indeed, fundamental biological laws have been established, the mechanism of antibiotic action uncovered (which helps fungi to fight bacteria), as well as the mechanism of action and the structure of viruses. Cloning has been carried out; the mechanisms of cancers are being decoded at a molecular level; the non-genetic functions of nucleic acids and those of many hormones have been uncovered, as well as the feedback mechanisms regulating the activity of the endocrine system and, thus, the metabolic processes in the body as a whole. The role has been established that the hypothalamus plays in fine-tuning internal processes in response to external stimuli, as have been the functions of the principal parts of the brain that control various body systems. Particularly tremendous progress has been made in the study of immunity, with its principal components deciphered. Various vaccines and sera have been created that have saved the lives of millions. However, as so often happens, forming relationships higher in the hierarchy, e.g. at the level of the nervous and endocrine system, at the genetic and microbiological level, leads to a situation where the role of elementary chemical and metabolic processes at the molecular level gets forgotten.

We arbitrarily classify science into chemistry, physics, biology, medicine, and these further into smaller disciplines. But nature does not care what we call its laws. It uses them as it sees fit. Even in elementary physics we have to make a number of assumptions and simplifications and create ideal models in order to establish this or that law. The technique makes it possible to form a better understanding of the process, but simplifies it so much that actual systems cannot be fitted into our calculations, and we have to make corrections by introducing various coefficients and functions.

Scientific quest usually takes several routes. As the knowledge base built up, research in each area of human endeavour became increasingly deeper, and the procedures grew more and more sophisticated and specialized. The number of objects also grew exponentially. As a result, science kept splitting into numerous narrow fields, but a more extensive body of knowledge enabled new laws to be discovered which would have been extremely difficult to grasp without this separation. Thus, using *in vitro* techniques in immunology has produced really epoch-making results; however, they have their limitations. It should always be borne in mind that the living organism, by means of its regulatory mechanisms, can both replenish the necessary substances by speeding up metabolic processes and triggering specific reactions that result in formation of substances that help to normalize homeostasis, and eliminate waste products.

We can regulate processes at the hormonal level, at the level of microorganisms, enzymes and other catalysts such as vitamins and trace elements, but tend to forget that, in the final analysis, the metabolism of the living organism is made up of parallel and sequential chemical and photochemical reactions. Ensuring that they are in sync is a decisive factor in maintaining homeostasis and providing an adequate response to a changing environment. Cancerous processes are at the same time chemical ones and obey their own regulatory factors such as the number and type of radicals, competing and inhibiting reactions, and so on. Such radicals usually have extremely high activation energy for recombination, which is why they are 'immortal'.

There is no denying the role of the genetic factor. But this is the ability of the body to carry out a complex of specific processes. Here is a simple example. The presence of a high concentration of mercury or ions of other heavy metals in the body results in sure death, no matter what the genetic factor is. Dioxin also affects all levels of regulation. All these processes occur via elementary chemical processes. In other words, a disturbance at the level of elementary chemical reactions results in changes at all the other levels and, vice versa, disturbances at higher levels are at the same time disturbances at the level of chemical processes. For example, smoking greatly increases the risk of developing cardiovascular diseases for the simple reason that haemoglobin forms an insoluble compound with carbon monoxide which is deposited on vascular walls. And tobacco smoke contains more than 1,500 toxic compounds, of which carbon monoxide is by no means the most harmful.

Cancerous processes can have external or internal causes on which the genetic factor has little effect. Thus, V.A. Chaklin in his articles *Quest for the Mystery and Quest for the Mystery Continues* gives statistics on the dependence of types and incidence of cancer on the way of life and customs of various peoples. On the other hand, the cancerous process can be stopped by removing (eliminating or recombining) radicals with high activation energy. In this case it does not matter how they have formed in the body: produced by oncoviruses, exposure to ultraviolet and other types of radiation, oxidative stress, organic poisons such as dioxin or butyphos, heavy metal ions, impaired blood circulation, and so on. In other words, if we have a system that enables us to control processes at the molecular level we can restore homeostasis. Moreover, if we pin down the root cause of the illness and eliminate it, the success of the treatment can be guaranteed.

For many years it was thought that the main cause of myocardial infarction was hypoxia resulting from atherosclerosis. But numerous studies have revealed that an increase in oxygen partial pressure, together with eliminating the hypoxia, speeds up the reaction of peroxide oxidation of lipids. This also results in formation of free radicals that greatly increase energy consumption and cause disintegration of the cell membranes. This is the main cause of myocardial infarction. To stop the process, it is necessary to control the reaction of peroxide oxidation of lipids. Although antioxidants are now in the limelight, one can take them as much as one likes without the slightest effect. This usually results from impaired blood circulation or a changed composition of the intestinal microflora, which provides plastic and energy-rich materials, vitamins, other nutrients, antibiotics and so on. If the microflora cannot ensure their absorption, even with a surplus of, say, vitamin A or other vitamins in the food the person will develop vitamin deficiency.

Thus, it is important to bear in mind that any biological process, even the most complex, has an underlying chemical one. These processes should be synchronized with each other as to both types and kinetic parameters. The body's regulating mechanisms make it possible to control these chemical and photochemical processes, but the body, as any system, has limitations. In this case it is necessary to help it exactly at the molecular, chemical and photochemical levels of metabolism. The therapy method being proposed that is capable of destroying pathogenic microorganisms including viruses, eliminating disturbances in metabolic processes, recombining free radicals with high activation energy, controlling reactions of peroxide oxidation of lipids, and normalizing the hormonal balance in the body, will prevent many diseases and allow one to live a full life.

List of Abbreviations:

- **BAP:** bioactive points
- **EAV:** electroacupuncture according to Voll
- **EPED** – the extent of parenchymatous and epithelial degeneration
- **IR emitters:** infrared emitters
- **(b):** an emitter to irradiate the whole body **(s):** an emitter to irradiate a particular organ or body part

GENERAL CHARACTERIZATION OF THE METHOD OF EXPOSING THE BODY TO RESONANCE INFRARED RADIATION

The essence of the method is to normalize physiological processes and eliminate pathologic ones by exposure to IR radiation that is in resonance with the processes to be corrected. In other words, the radiation normalizes metabolic processes and eliminates the root cause of the disease and not only its manifestations.

Ceramic IR emitters generate a certain wavelength in a narrow waveband rather than a broad one as conventional devices do. They have various temporal characteristics and can be continuous, pulse, or generate energy in a sophisticated pattern.

A feature common to all types of emitters is that they their energy spectrum ($E=h\nu$) is equal to, or lower than, that of radiation emitted by the human body. The radiation range in every particular case should be in resonance, as to energy and spectrum, with the process to be influenced. This means that the emitters have effect only when the body has a pathologic focus, whose absorption spectrum differs from that of the healthy body. They do not affect a healthy person in these ranges, since he/she is completely transparent to them.

TYPES OF EMITTERS

K line

K-line emitters have a spectrum that is identical to, or very close to, that of the human body's intrinsic radiation. By normalizing the rates of chemical processes they normalize immunity and stimulate the body. Besides, they can normalize the function of the hypothalamus, stimulate the endocrine glands, and improve pancreatic function.

KL is used for low rates of metabolic processes;

KH, for high rates of metabolic processes;

KB, to speed up bone tissue regeneration;

KS, for prophylactic purposes.

R line

R-line emitters are capable of recombining free radicals with free activation energy and have an anticancer and antiviral effect. The RV emitter is more often used to treat viral diseases, whereas the RC emitter, to treat cancer.

G line

G-line emitters affect the human pathogenic flora, have an antibacterial and anti-inflammatory effect, destroy protozoa and normalize the composition of the intestinal microflora. The GI emitter is widely used to treat infectious and inflammatory diseases. The GL, GM and GH emitters are used to treat mild and severe endocrine diseases.

AF emitter

The emitter has a more pronounced antimicrobial and anifungal effect than the G-line emitters.

Z line

There are four types of emitters of the Z line. They differ in the strength of their effect and line up in ascending order as **ZB→ZC→AK→AV.**

The ZB emitter is used to normalize microcirculation, eliminate deposits from vascular walls, and convert insoluble pathologic tissue into a soluble state.

The ZC emitter is used to treat the systemic disorders of connective tissue.

The AK emitter is used to treat systemic collagenoses, organs severely afflicted by connective tissue (liver cirrhosis and so on), and to disperse keloid scars and commissures. It can also be used instead of the ZB emitter, with an efficacy about 10 times greater (when it is so used, the time of exposure should be reduced tenfold).

The AV emitter is used for diseases afflicting veins. It can also perform all the functions of the AK emitter with an efficacy about 10 times greater (when it is so used, the time of exposure should be reduced tenfold).

As to design, there are general and topical emitters. The general ones affect the whole surface of the body, whereas the topical ones the particular organs or body parts involved in a pathologic process.

MECHANISM OF ACTION OF THE IR EMITTERS

K-LINE EMITTERS

There are various processes continuously going on in the body made up of a number of chemical reactions occurring in a strict sequence. Under the influence of pathogenic factors one or more of the processes get out of order and the rate of one or more chemical reactions goes up or down. As a result, there is a deficit or surplus of the products that should have been used up in the reaction and converted into the compounds necessary to downstream processes. This disrupts the entire chain and makes it impossible for the normal metabolic cycle to go to completion. It manifests itself as various diseases such as the formation of foreign tissue and lithiasis, impaired vascular and endocrine function, allergic reactions, skin and other diseases, and a lowered immune status. In a word, the patient lacks an adequate response to various pathogenic agents.

It should be remembered that the majority of metabolic processes going on in the human body are photochemical reactions with a resonance within the range of the body's intrinsic radiation, so the rates and synchronism of their occurring strictly depend on the power of that radiation. Excess radiation has no adverse effect, since the rate of the reactions is limited by the presence or otherwise of the necessary components at a particular time for a particular reaction. Besides, the rates of chemical reactions can be fine-tuned by the regulation system (the nervous system).

As is well known, the body of a young man and that of an old one may have the same temperature but differ in the power (flow) of the infrared radiation they are emitting. The intensity of the radiation indicates the vitality of the body, which means that the processes occurring in the young man are more active than those in the old one, and they are more synchronized as well. The intensity of infrared radiation turns out to be lower in those with an impaired immune status, those suffering from grave diseases, and dying people.

The K-line IR emitters imitate the radiation of the human body with its wavelength, have a favourable effect on metabolism and immunity, and stimulate and activate the natural processes occurring in the body. Exposed to a general emitter, the body absorbs the infrared radiation it needs at the right wavelength and recovers the sequence and rates of the processes that are occurring in it. After the rates of these processes are normalized the generation of the intrinsic radiation is restored, which helps to bring into sync the rates of the chemical reactions and metabolic processes in the body. As a result, patients have their immune status improved, homeostasis, function of the internal organs, blood circulation, sleep and appetite normalized, the overall state improved, and fatiguability lessened.

By emission spectrum the K-line emitters can be classified into:

- KL, whose energy level is 0.2% higher than that of the body's intrinsic radiation;

- KH, whose energy level is 0.2% lower than that of the body's intrinsic radiation (in terms of quantum energy **E=hv**, where **E** is energy, **h** Planck's constant, and **v** frequency, a value inversely proportional to wavelength).

- **KS,** whose frequency is equal to that of the body's intrinsic radiation.

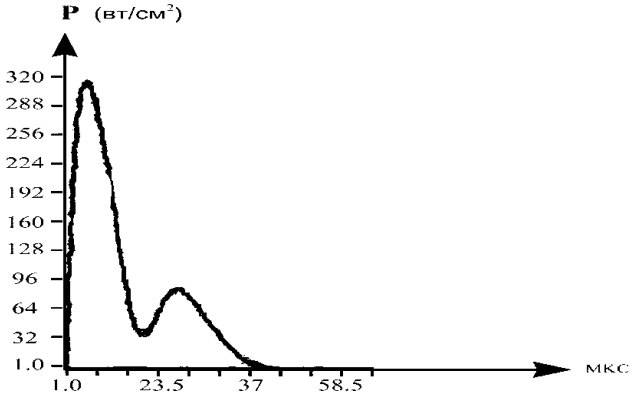
The topical emitters of the K line affect areas susceptible to the radiation. These include the areas of projection of the pancreas, hypothalamus, thymus, heels, and 7th cervical vertebra. By irradiating exactly these areas one can raise the adaptive capacities of the body and its resistance.

R-LINE EMITTERS

According to current knowledge, in the development of cancer, cardiovascular and other diseases a prominent role is played by **free radicals**.

A free radical is an atom or molecule that has an unpaired electron in the outer orbital. It is a very chemically active element that tends to extract (or donate) an electron from its surroundings that is capable of recombination in order to create a stable electron pair. The molecules involved in the process in turn become active, since the unpaired electron stays that way. The presence of such radicals is the starting point for a chain reaction. The absence of a biologic compound (or any other factor) capable of making free radicals recombine rapidly results in the cell undergoing irreparable damage.

Normally free radicals arise in the course of certain physiological processes (without which life would be impossible) and, after performing their functions, recombine with each other to form a complete (neutral) molecule or compound. They may appear in abnormal amounts in many cases. For example, as a result of disrupted electron transport in the mitochondrial respiratory chain, which occurs in the metabolism of a cancerous cell. Besides, they play a key role in the active proliferation of cancerous cells. It has been proved that an excess of free radicals plays a destructive role in the genesis of many diseases of the gastrointestinal tract, pancreatitis, diabetes mellitus, myocardial infarction and so on. Radical formation may be caused by viruses, UV- and ionising radiation, pulsed electromagnetic fields, chemical poisons such as dioxin, impaired blood circulation, heavy metal ions, an excess of oxygen or the presence of powerful oxidants such as ozone, and so on.

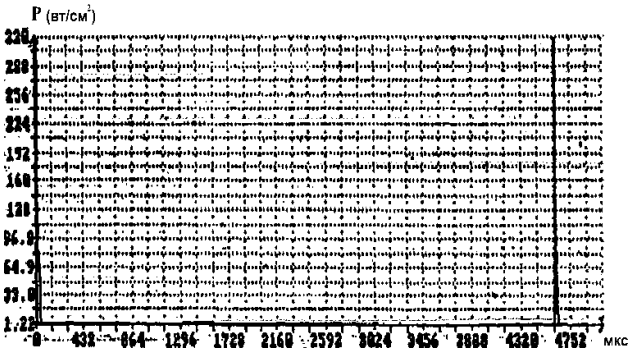


Antioxidant factors play an important part in the recombination of free radicals both inside and outside the cell. In the presence of a degeneratively changed cancerous cell these antioxidant factors cannot cope. First, the number of free radicals is continuously rising; second, in a cancerous cell the charge of the active part responsible for its growth and the recombination of the radical after it has performed its functions is, in our opinion, divided, that is, is far from optimal for recombination reactions. This also hinders, or renders impossible, the neutralization of cancer-inducing radicals by antioxidants. The **activation energy** of such radicals is much higher than normal, so the body defences available cannot inactivate them. The growth of cancerous cells therefore becomes uncontrollable and it is necessary to help the reaction of cancer-inducing radical recombination from outside.

The **RC** emitter is a universal eliminator of free radicals with high activation energy. Its mechanism of action is that it enables the energy barrier to be overcome, thus increasing the reactivity of the radicals for recombination and then making them enter into the reaction.

(P is the density of pulse energy).

The RC emitter generates two types of pulses alternating with each other in a very short time – millionths of a second. The first has the necessary activation energy to create an active radical from ionized water accounting for 10^{-14} of the overall water content in the body. The second makes the active radical of a dividing degeneratively changed cell combine with the newly formed water radical and thus put an end to the pathologic process.



The first pulse lasts 10 μs with an energy density of 320 W/cm^2.

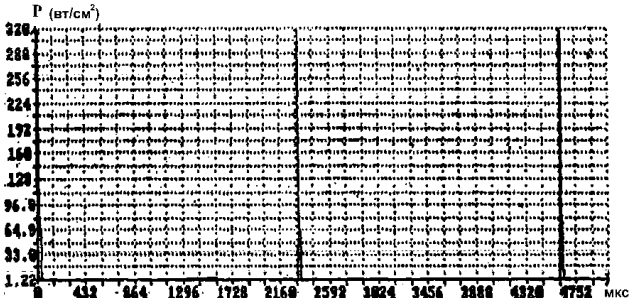
The second pulse lasts about 13 μs and makes the newly formed radicals react with the radical inside the cell. Besides, it leads to the recombination of the radicals formed from the water.

$$HO\bullet + H\bullet = H_2O \rightarrow R\bullet + OH\bullet \rightarrow ROH$$

$$R\bullet + H\bullet \rightarrow RH$$

$$H\bullet + OH\bullet \rightarrow H_2O$$

(The water radical is short-lived, since it always tends to become H_20.)



The exposure to the emitter brings about a chemically stable system capable of stopping the progress of a pathologic process.

The **RV** emitter has a predominantly antiviral effect, by inactivating viral enzymes. Unlike the **RC** emitter it generates additional pulses of greater energy.

G-LINE EMITTERS

The action of these emitters is based on a principle of 'low-temperature sterilization', which is to disrupt some processes (chemical reactions) necessary for cell proliferation. All microorganisms multiply by division. At the molecular level the process consists of a chain of chemical reaction in a strict sequence, which result in a new organism.

The principle of building such a chain can be schematically represented as:

a b — a+b

c d — c+d

a c — a+c

b d — b+d

……

Exposure to a **G-**line emitter disrupts certain reactions in the chain, and the process of division cannot go to completion. As a result, the microorganisms die, since their lifecycle is very short. An exposure to the emitter of 45 minutes is enough to destroy pathogenic microorganisms such as staphylococcus and streptococcus, and 1.5 hours for protozoa such as trichomonas and lamblii.

The **G**-line emitters affect pathogenic microflora, help to normalize the intestinal microflora, and have an anti-inflammatory effect. The mechanism of the anti-inflammatory action is based on dissociating lipid-cholesterol complex and releasing free cholesterol, which is used to synthesize corticosteroids. Exposure to the emitter also activates adrenal function and dissociates protein-steroid complexes, which helps to raise the steroid level and thus reduce the permeability of vascular walls.

The **G**-line emitters are effective in treating patients with disturbances of lipid metabolism (obesity, lipomata).

The death of infectious agents releases great amounts of toxins capable of activating biologically active substances, which may give rise to active radicals. To inactivate these radicals the **G**-line emitters contain **RC**- or **RV**-type ceramics. The **G-**line emitters differ in the amount of the additive: the **GI** contains 0,5 % of the anticancer ceramics, the **GL** 1%, the **GM** 2%, and the **GH** 5%.

The **GL, GM** and **GH** emitters have a stronger antiviral (because of a greater content of the R additive) and anti-inflammatory effect than the GI emitter (these properties increase as we go from the **GI** to the **GH**). They are effective in treating endocrine disorders.

AF EMITTER

The principle behind the action of the **AF** emitter is the same as the **G** line, but its energy is capable of disrupting more reactions involved in microbial reproduction. It can affect not only pathogenic bacteria and protozoa but pathogenic fungi as well.

The optimal exposure to the **AF** emitter is shorter than that to the **G-**line emitters (a 20-minute exposure roughly corresponds to a 60-minute exposure to the **GI** emitter). It takes just 15 minutes to destroy pathogenic microorganisms.

The **AF** emitter can also be used to treat cavitary growths and exudative processes such as cysts and exudative pleurisy.

Z-LINE EMITTERS

The action of the emitters of this line is to loosen the intermolecular bonds in foreign tissue. The bonds between the molecules of connective tissue formed as a result of pathologic processes are weaker than the chemical bonds between the molecules forming normal body tissues, since they consists of hydrogen bonds, van der Waals forces and so on. Radiation from the emitters disrupts these weak bonds, and the pathologic compounds can be converted into a soluble state, which makes it possible to carry them away with the blood flow.

When blood vessels are irradiated the intermolecular bonds of pathologic deposits on vascular walls such as atheromata break, after which they can be gradually eliminated from the body without the risk of clot detachment.

INDICATIONS AND CONTRAINDICATIONS FOR THE USE OF GENERAL AND TOPICAL EMITTERS INDICATIONS

K-line emitters

- Impaired immune status
- Disturbance of pancreatic functional activity
- Imbalance of the sympathetic and parasympathetic parts of the autonomic nervous system
- Increased physical and emotional stress (training sessions, competitions and so on)
- Allergic conditions such as asthma and allergic rhinitis
- Pain syndrome

R-line emitters

- Diseases of viral aetiology, benign and malignant tumours
- Prevention of viral and tumour diseases
- Intoxication
- Prevention of myocardial infarction and ischemic lesions of organs
- Preventive and actual treatment of reperfusion injuries of organs
- Pain syndrome

G-line emitters

- Bacterial infection
- Inflammatory processes of various localizations (mastitis, arthritis, sinusitis, rheumatic carditis, endometritis, enteritis, and so on)
- Diseases caused by protozoa (amebiasis, lambliasis, trichomoniasis, and so on)
- The presence of ureaplasmic infection or chlamidiasis
- In postoperative conditions, to prevent a secondary infection and relieve perifocal inflammation
- Contusions, injuries, wounds
- Hypercholesteremia
- Disturbances of lipid metabolism
- Burns
- Ulcers
- Dysbacteriosis
- Adrenal insufficiency
- Skin diseases (psoriasis, eczema, and so on)
- Pain syndrome

AF emitter **(to be used together with a G-line emitter when so indicated*)***

- Mycoses of various aetiologies and localizations
- Cavitary growths (cysts)
- Diseases accompanied by a pronounced exudative component (exudative pleurisy, arthritis and so on)
- When there is a bacterial infection the choice of emitter (GI or AF) is made based on EAV readings.

Z line emitters

- Microcirculation disturbances in various diseases such as diabetes mellitus, atherosclerosis, infantile cerebral palsy, and angiopathies and their prevention
- Diseases of the gallbladder such as cholecystitis and cholelithiasis
- Disturbances of lipid metabolism
- Hypercholesteremia
- Diseases of the vertebral column
- Collagenoses
- Keloid scars

ZB emitter

- Hypertension (localized to the areas of the head, neck, thoracic and abdominal aorta)
- Angiopathy

- Diseases of the intestine and gallbladder (in conjunction with other emitters)
- Atherosclerosis
- Stenocardia
- Diseases of the vertebral column
- Benign tumours (adenoma, fibroma, myoma, cysts)
- Impaired filtration capacity of the kidneys

ZC and AK emitters (to supplement the ZB emitter when so indicated):

- Systemic lesions of connective tissue (scleroderma, dermatomyositis, systemic lupus erythematosus, acute inflammatory rheumatitis, systemic vasculites)
- Keloid scars and commissures
- Endometriosis
- Cirrhosis

AV emitter (to supplement the other Z-line emitters when so indicated)

- Diseases involving veins

CONTRAINDICATIONS

Alcohol intake 14 days before, during and 10 days after the treatment

NOTION OF ILLNESS AND IMMUNITY

Illness is a reaction of the body that sets in on encountering pathogenic factors and acts to restore homeostasis.

In acute illnesses the manifestations reflect their cause. In chronic processes, as a rule, the root cause tends to be sidelined and the patient makes complains that stem more from its effects qqq. Either way, effective treatment is achieved only when the root cause of the illness is eliminated.

What causes can give rise to a pathologic process?

These may be:

- infection (bacterial, viral, mycotic)
- excessive amounts of various xenobiotics in the body (salts of heavy metals, toxic overload, and so on)
- hormonal imbalance
- disruption of regulatory mechanisms
- impaired blood flow in the body as a whole, an organ or its part
- injuries

Factors contributing to the development of a pathologic process are:

- hereditary predisposition including such parameters as type of nervous system, which determines the speed and type of response to various factors;
- the activity with which some metabolic processes occur, such as the phenotype of acetylation, which determines the rate of inactivating xenobiotics;
- carrying the HLA antigen, which determines a predisposition to certain diseases, and so on;
- external adverse factors such as low or high temperature, its sudden changes, the presence of excessive radiation, including UV radiation, ozone and other oxidants, an incorrect posture, negative psychoemotional stress, bad habits such as smoking, drinking, violation of the eating regimen, a propensity for sweet and fatty food, and son on.

It is known that a key factor in developing an illness is the status of the immune system. It is the immune status that determines body resistance to the effect of foreign agents.

What exactly is meant by immunity? The nervous system and body defences control all the responses of the body to external and internal stimuli. They determine precisely what the stimulus is and how the metabolism should be changed to withstand, neutralize, destroy, offset or eliminate the offender (infection, toxins), restore processes disturbed by psychoemotional stress, and so on.

The nervous system responds to a stimulus by producing and discharging hormones, enzymes and antibodies, constricting the blood vessels, and so on. Production and discharge of these active substance and their deactivation in essence determine the immune status. If a stimulus is too strong the body produces more substances than necessary, thus obliging the nervous system to neutralize their surplus. With a constant stimulus whose force varies chaotically the process of producing active substances, their destruction and the reaction of stimulation occur repeatedly and also chaotically. When there are too many destabilizing factors such as various infections, toxins, heavy metal ions and especially negative psychic stress the nervous system breaks down because it gets into a conflict situation. In such contradictory conditions it breaks down completely. This is manifested in an impaired function of the sympathetic part of the autonomic nervous system, which may result, for example, in a reduction in the steroid levels or give rise to autoimmune processes.

INTESTINAL MICROFLORA

The intestinal microflora produces vitamins and enzymes necessary to the body, and its composition determines the state of the barrier function of the intestine and the activity of antibody production in the parietal lymph nodes. Quantitative and qualitative changes in the intestinal microflora and its localization may cause various diseases, not only intestinal ones, and lower the immune status. It should be pointed out that in most patients suffering from various diseases there is, as a rule, a changed intestinal microflora.

To destroy pathogenic infection while preserving a healthy microflora of the necessary composition and concentration is an objective of any method of treatment. Antibiotics destroy most of the pathogenic microflora but completely change the composition of the intrinsic microflora.

The **GI** emitter generates infrared radiation in such a range and with such temporal characteristics that its use destroys the pathogenic flora completely. The healthy microflora remains intact, since its absorption spectrum is close to that of the human body.

Humans can coexist with many microorganisms without any harm for themselves; on the contrary, they derive much benefit from it; thus, the lactic acid bacillus helps to process the remains of digested food. Bacteria of various species compete with each other, destroying each other, including pathogenic ones, and hindering reproduction. Against this background of the tremendous number of various microorganisms coexisting with each other and the body, pathogenic microorganisms are an exception to the rule, the more so because bacteria of one type may contain pathogenic, non-pathogenic and opportunistic varieties.

In certain conditions opportunistic microorganisms can also give rise to pathology. Thus, after the administration of antibiotics destroying most other microorganisms the fungus *Candida* that is part of the normal microflora of the oral cavity can in the absence of competition multiply unchecked and cause a severe mycotic condition.

Another factor that raises the risk of body intoxication by metabolic products and can bring on an illness such as migraine is impaired microcirculation in the intestine area that leads to blood and lymph congestion. This, in turn, results in the autointoxication of the organs and tissues, including the brain.

It is necessary to normalize intestinal function when treating all manner of diseases. The treatment is done even in the absence of any signs, if EAV reveals that the patient has readings at acupunctural points deviating from normal. This technique is carried out at all the points of the meridians of the large and small intestine, including the point of the rectum (at the meridian of the kidney). It is often the case that without normalizing

intestinal function it is impossible to restore the balance of the autonomic nervous system.

The intestinal microflora is normalized by exposure to the **GI(s)** emitter in the abdominal area (the emitter is rotated about the navel). The procedure is accompanied by a massage of the intestine. The massage is done with circular movements and light pressing movements along the courseof the intestine (it is necessary to ensure that the beam from the emitter falls on the abdomen rather than the physician's hand).

The schedule of administering treatment

When there are manifestations of an intestinal disorder:

1. The intestinal area should be exposed to the **GI(s)** emitter for 10-20 minutes. The treatment should be repeated three times a day after a meal.

2. The **ZB(s)** emitter should be prescribed to improve microcirculation in the intestinal blood vessels and also to loosen the intestinal contents. The length of exposure should be 10-15 minutes. This emitter should immediately follow the **GI(s)** emitter. In constipation the length of exposure can be extended to 30 minutes with the maximum exposure given to the area of the sigmoid colon.

It should be pointed out that no antibiotics should be administered during the course of normalizing the intestinal microflora, since it would destroy useful microflora.

If there are no manifestations but EAV reveals deviations from normal, as well as for prophylaxis:

1. The **GI(s)** emitter should be administered in the intestinal area for 5-10 minutes; the treatment should be done 2-3 times a day after a meal.

2. The **GI(s)** emitter should be immediately followed by the **ZB(s)** one for the same area, and the treatment should last 3-5 minutes.

During treatment aimed at normalizing the intestinal microflora prior to administering the **GI(s)** emitter an **R**-line emitter should be tested for effect, since the patient may have viral infection in the intestine. If this is the case the **GI** emitter should be preceded by an **R**-line emitter; however, this does not affect the schedule of application of the other emitters.

When there are manifestations:

The RC(s) emitter should be administered in the intestinal area for 10-15 minutes; the treatment should be done 2-3 times a day.

The RV(s) emitter should be administered in the same area for 7-10 minutes; the treatment should also be done 2-3 times a day.

If there are no manifestations but EAV reveals deviations from normal:

The RC (s) emitter should be administered in the intestinal area for 2-3 minutes; the treatment should be done once or twice a day.

The RV(s) emitter should be administered in the same area for 1-2 minutes; the treatment should also be done once or twice a day.

If the patient has a pathogenic mycotic flora the treatment should be by exposure to the AF(s) emitter.

Administration of chemo- or radiation therapy leads to a complete disturbance of the intestinal microflora and thus to a disruption of intestinal function. Administering the GI emitter in such cases enables intestinal function to be restored within 5-15 days if done 3 times daily for 10 minutes after chemotherapy, and after radiation therapy, within 30-90 days in the same manner. In patients that have not received other types of treatment it is possible to completely restore intestinal function in 1-2 days.

95% of patients that have suffered from allergic disorders for many years have completely recovered after their intestinal function was normalized. Identical results have been obtained with more than a half of patients with psoriasis and other skin disorders.

WOUNDS

A wound is a mechanic injury of the skin or mucous membrane. No universally accepted theory of its treatment has yet emerged. A hundred years or so ago microorganisms were isolated from a wound, and ever since wound purulence has been regarded as an infectious complication. This means that the same means should be used to treat and prevent wound purulence as to treat infectious diseases, that is, to prevent the patient from coming into contact with the infectious agent and destroy microbes.

Antisepsis has played a crucial role in the emergence of modern surgery. Sterile instruments and surgery clothes, the treatment of the surgeon's hands and the surgery field all made it possible to greatly reduce the incidence of postoperative suppuration. A vast number of bactericidal medications appeared. And yet in treating already infected, accidental wounds rather than postoperative ones they did not live up to expectations. The advent of sulphanilamide drugs and antibiotics revived the eternal hope of defeating infection, and the number of postoperative complications, especially lethal ones, declined. But then, as their use has become widespread, the incidence of suppuration has bounced back to levels typical of the beginning of the century, and the number of lethal outcomes in sepsis is 80%.

What are the causes of it? First, infection is continuously mutating and adjusting to the environment. In the past it was sufficient to keep an instrument in boiling water for some time in order to sterilize it, whereas now even treatment with steam at 132°C or in a dry atmosphere at 160-180°C does not produce reliable results. Besides, such treatment causes the instrument to corrode, which, in turn, leads to undesirable consequences. Account should also be taken of such factors as the overall deterioration of the environment, impaired blood circulation due to the sedentary lifestyle and disturbed cholesterol metabolism, food intake surpassing energy expenditure, an imbalance between the main components of the diet, a changed intestinal microflora leading to constipation and colitis as a result of toxic substances being absorbed into the bloodstream. All these contribute to a drastic impairment of the immune status, which opens the door to various illnesses.

Recent years have seen a spate of publications about antibiotics being not sufficiently effective in preventing suppuration; besides, they are toxic, can give rise to severe allergic reactions and suppress immunity, thus raising the risk of developing more severe forms of diseases. The reason for this is that in the human body there is a balance between the mycotic and bacterial microflora. The bacteria destroy the fungi, and these, in turn, produce antibiotics that are lethal to the bacteria. The indiscriminate use of antibiotics has shifted the balance towards the mycotic microflora, which is why we observe an ever-increasing number of intractable mycotic disorders.

As is known, first the use of a new antibiotic produces a very potent effect, since the illness has been caused by pathogenic bacteria. With a prolonged subsequent use of the antibiotic the balance is already shifted towards the mycotic microflora, the illness changes its course and virtually does not respond to treatment with antibiotics.

Let us find out how much suppuration resembles an infectious disease such as dysentery. They share such features as the obligatory presence of microbes or the possibility of transmitting infection from one patient to another, e.g. when the wound is being dressed (so-called nosocomial infection). But there are differences as well. Thus, the agent of an infectious

disease is always strictly specific. Every infectious disease is caused by a specific microorganism, whereas different wounds may contain different microorganisms. Moreover, a single wound may contain several microbial species at once.

If a patient is found to have pathogenic microorganisms it is, as rule, a clear indication of a disease. On the contrary, the presence of microbes in a wound is by no means always accompanied by suppuration. The examination of smears taken from the surface of surgical wounds at the end of an operation has found microbes in 80-90% of the cases. However, the incidence of postoperative suppuration was mush lower. During World War II Soviet surgeons sewed up infected wounds and in four cases out of five they healed without suppuration.

One more difference between suppuration and an infectious disease, this time an evolutionary one. The encounter of an organism with a microbe that causes an infectious disease is a random event, it may well not happen, and then a human being (or an animal) will not fall ill. Being wounded is quite another thing. Since microbes are ubiquitous, they are bound to get into the wound, and so in the course of evolution a mechanism must have emerged that would prevent every wound from giving rise to a life-threatening condition, or a symbiosis with microbes. The latter is more likely, since at any stage up to recovery, even if the process of healing takes the easiest course, microorganisms can be found in the wound.

An accidental injury brings all manner of microbes into the wound. However, after the lapse of some time the wound microflora has undergone a dramatic change: it has become similar to the flora typical of the skin, mucous membranes and intestine. It consists of staphylococci, blue pus bacilli, and various anaerobic bacteria. Of course, not all microbes can multiply in the wound but only those that find the most suitable physicochemical conditions there.

A characteristic feature of the microbes present in the intestine and wound is that they have a powerful enzymatic system capable of splitting proteins. Intestinal microorganisms hydrolyze the food remains using enzymes and make them easier to digest. As to the wound, if it contains necrotic tissue it will never heal until it gets rid of such tissue. The only mechanism nature can offer is the enzymatic degradation of it. To be sure, the enzymes to this end are produced by the body, but the microbes also take part in the process.

Any wound, be it a scratch or extensive injury to tissues, immediately triggers a neurovascular response resulting in a swelling. From the very outset the tissues become acidified, with the pH dropping to below 5. In the surrounding tissues the salt concentration rises, as does osmotic pressure in the wound itself, and it begins to be supplied with plasma and formed elements: red and white blood cells and platelets. Two types of cells – neutrophils and eosinophils – in the very first days undergo degradation and release proteolytic enzymes into the wound that are capable of splitting proteins. It should be reminded that these are unviable, dead tissues. As to live cells, they contain antienzymes that suppress the activity of the proteolytic enzymes.

These stereotypic changes are usually regarded as a result of the departure from normal. Thus, acidification is explained as arising from disturbed metabolic processes and a buildup of lactic acid, the increase in osmotic pressure is linked to disturbed water and salt metabolism, and the swelling, to impaired microcirculation and increased capillary permeability. These processes occur always and involve every wound. Is it not an indication that they, like inflammation, have emerged in the course of evolution and are therefore basically rational? What is the purpose of a wound becoming acidified? An acid medium prevents the development of a pathogenic microflora, including a mycotic one. The increase in osmotic pressure helps to eliminate nonviable cells out of the tissues, and the increased enzymatic activity speeds up their breakdown and rejection.

A wound will not close until all the dead, necrosed tissues is removed. If there is little such tissue the macrophages and other cells remove it like a foreign body and the wound heals. But when there is too much necrosed tissue and the macrophages cannot cope with it microbes being to multiply in the wound. Until there are few of them (up to 10^5 per gram) no suppuration occurs. But when there is too much necrosed tissue in the wound and the few macrophages present cannot cope with it, the way is open for bacterial proliferation. In response to the burst in microbial reproduction the wound is supplied with increasing numbers of white blood cells, which engulf the microorganisms and die with them, forming pus. On disintegrating the white blood cells release their proteolytic enzymes into the wound.

So, from a biological point of view the presence of microbes in a wound is beneficial in that by promoting the breakdown of dead tissue they speed up the cleaning and healing of the wound. If this is the case, then by trying to kill microbes at all costs, even when the wound contains necrosed tissue, we go against a mechanism designed by nature. By means of antibiotics and sulphanilamide drugs we disturb the intimate relationship that has formed between microbes and wounds in the course of evolution.

Surgical treatment is by no means possible with any wound, but even if it has been done, it is not always possible to excise all the necrosed tissue. Therefore, suppuration prevention and nonsurgical methods of wound treatment remain as relevant as ever.

What is then to be done? It is necessary to speed up the breakdown of necrosed tissue, preserve the capacity of normal tissue to regenerate, and suppress microbial growth.

The use of the resonance infrared emitters enables treatment to be done more efficiently and without suppuration.

The **GI** emitter is effective in treating wounds. The length of exposure of the wound area to this emitter is 10 minutes, and the treatment should be repeated every hour. The length should be gradually extended to 30 minutes and the treatment done three times a day.

In view of a large number of biologically active substances and free radicals forming as a result of the breakdown of the tissues and microorganisms, **R**-line emitters should be used for wound treatment. The length of exposure should be 5 to 10 minutes.

Normal blood flow is vital to speed up wound healing, and it can be restored by exposure to **Z**-line emitters. The treatment should last 2-5 minutes and be done 1-3 times a day. These emitters bring about the dispersal of keloid tissue.

At the same time a therapy should be given to normalize the intestinal microflora and boost the immune status.

***Example**. Patient Ya. was admitted to the hospital with a slash wound on the medium third of the left forearm. 40 minutes before admission he had fell on a sharp metal article. At admission he complained of pain in the wound area, an elevated body temperature, and bleeding. Visual examination revealed a slash wound with well-defined boundaries measuring 10×5 cm in the transverse direction. There was venous bleeding from the wound. The wound bottom was formed by damaged muscles. Movement of the limb was limited.*

The patient received treatment by means of the GI(s) emitter in the area of the wound and intestine for 10-15 minutes twice a day, and of the KL(s) emitter in the area of the pancreas and hypothalamus for 5 minutes twice a day.

As a result of the treatment conducted on the 5^{th} day the wound healed by first intention.

TYPES OF ENERGY EXCHANGE AND ITS SIGNIFICANCE IN TREATING VARIOUS DISEASES

Three types of metabolic pathways are characteristic of the human body:

1. The ATP pathway
2. The glycolytic pathway
3. The creatine phosphate pathway

The creatine phosphate cycle is very short, lasting only 6-9 seconds. It occurs anaerobically, is powered by the breakdown of creatine phosphate and accompanied by the release of a great amount of energy. This pathway is involved in doing very intensive work such as sprinting, high jumps, weight lifting and so on.

The ATPase pathway occurs in the body always in the presence of oxygen.

The glycolytic pathway involves breaking down glycogen. It is this type that the human body principally uses in illness. Since it makes great demands on the pancreas to keep going, it is vitally important to conduct a therapy aimed at raising its functional activity.

Everybody knows that glucose is a necessary component of food. Its oxidation supplies more than a third of the energy used by the body. The nerve cells, including those of the brain, use only it in their metabolism. They account for 20-30% of the overall energy consumption, which translates into more than 50% of the overall glucose consumption. Nerve cells need glucose every second, since the proper functioning of the nervous system is crucial to recovery. It should now be clear why it is necessary to stimulate pancreatic function.

Another important source of energy is fats, but the roles played by glucose and fats, respectively, in the energy balance of different organs are different. For example, the heart uses almost exclusively lipid acids – a product of lipid breakdown – as fuel. The skeletal muscles need glucose only to get going, but the bulk of work they also do using the energy from burning lipid acids.

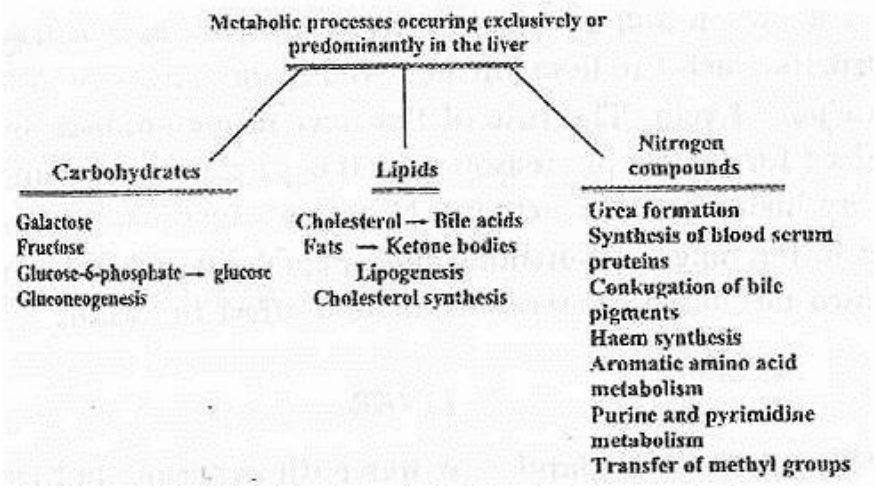
The stimulation of pancreatic function is done by exposing it to the **KL** emitter. It is positioned in three projections so as to irradiate the head, body and tail of the gland. The length of exposure is 5 minutes at each angle. The treatment can be done a few times a day.

When treating the pancreatic area it is necessary to pay attention to the condition of its ducts. If **EAV** reveals deviations from normal (ultrasonic diagnosis is strongly recommended), the appropriate emitter should be selected (the **RC, RV, GI** or **ZB**).

RELATIONSHIP BETWEEN TISSUES AND ORGANS

In some cases the biochemical processes occurring in cells are very specialized and the cell functions severely limited. Red blood cells are one such example, where only the aerobic catabolism of glucose occurs. In other cases cells are multipotent, that is, they are capable of carrying out widely different enzymatic transformations. Thus, hepatocytes take part in anabolism, catabolism, in the mutual transformations of carbohydrates, lipids and proteins, and also perform other metabolic functions.

Metabolic processes are carried out first of all by the liver. Some processes occur in other organs and tissues: glucose dephosphorylation and gluconeogenesis in the liver and kidneys, lypogenesis in fatty tissue, cholesterol synthesis in the mucous membrane of the gastrointestinal tract, haem synthesis in the reticuloendothelial system, aromatic amino acid metabolism in nerve tissue, purine and pyrimidine metabolism and methyl group transfer in some other tissues.



All the cells of one organism have identical DNA molecules. At a certain stage of the lifecycle of every cell it expresses the DNA by replication in dividing or by transcription in protein synthesis during growth. Cells lose (to different extents) the ability to express a gene as they differentiate to assume their final specialization within the body, and the DNA gradually becomes as if mute until it is lost altogether, as in white blood cells. Another example is the loss of the ability to replicate by mature neurons.

In many types of cells only part of the total DNA undergoes transcription, that is, it ensures the assembly of a messenger RNA that corresponds to the enzymes and other proteins characteristic of the cell. In other types of cells reading the DNA to build certain informational sequences is impossible if a repressor – a special substance – is not removed. The extent and duration of impact of these complex regulatory factors determine the course of biochemical specialization of a tissue and the development of organs. Partially losing their metabolic capacities in the course of specialization, such differentiated tissues become dependent on other types of cells for the supply of the necessary metabolites and the removal of the metabolic waste.

Metabolism, starting with nutrients entering the body, includes the stages of digestion and absorption in the gastrointestinal tract. Then the nutrients reach the liver through the main ‘gateway’ very aptly named a portal vein. The role of the liver in metabolism should be emphasized for the simple reason that this primary processing ‘plant’ has a very high metabolic activity. No other organ can compare with the liver in the range of functions and adaptabil-

ity, where complicated interrelated metabolic processes occur that affect the whole body.

LIVER

The liver acts as a gland that has both exocrine and endocrine functions. A product of exocrine secretion is bile released by the liver into the gastrointestinal tract. This is a solution containing such metabolic-waste products as bile pigments as well as bile salts that act as important accelerators of lipid digestion. The salts are the main products of steroid oxidation; the reabsorption of the bile salts in the gastrointestinal tract is an important autoregulation mechanism acting on the principle of feedback, since cholesterol oxidation in the hepatocytes is suppressed by the bile salts returning from the intestine. Of great significance is also the intensity of cholesterol biosynthesis, which occurs in the gastrointestinal tract. This process is also regulated by a feedback mechanism, since cholesterol biosynthesis is to a large extent blocked by the bile acids, which are absorbed by the cells of the mucous membrane.

The products of the *endocrine* secretion of the liver are metabolites rather than hormones, which are carried by blood flow and used by other cells, thus regulating their functions. Among such metabolites are:

1. **glucose**, secreted predominantly during fasting, under the influence of glucocorticoids or glucagon, as well as during vigorous exercise. This satisfies the glycolysis requirements by brain and muscular tissues;

2. **triglycerides**, released after carbohydrates enter the gastrointestinal tract or after insulin stimulation, and contributing mainly to lipogenesis in fatty tissue;

3. **ketone bodies**, formed in excessive amounts during fasting and in eating food high in fats or low in carbohydrates; these compounds can be used by nerve and muscular tissue as energy sources.

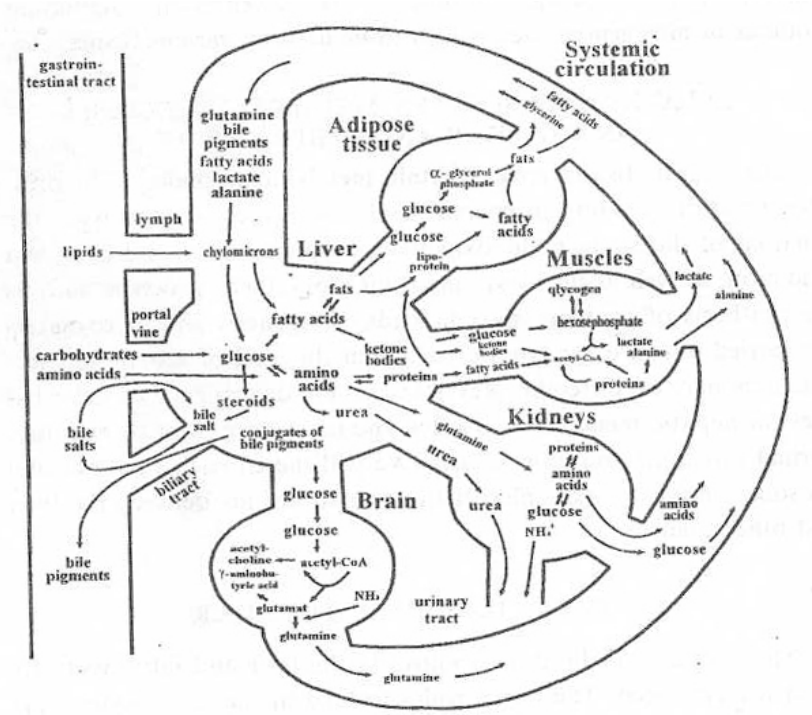
To be sure, these are just a few of the general ways of the metabolites formed in the liver influencing biochemical reactions in other tissues. Besides, the liver is responsible for the synthesis and secretion of albumen, serum lipoproteins and clotting factors, as well as other important products of nitrogenous metabolism to be used by various tissues.

RELATIONSHIP BETWEEN METABOLIC PROCESSES IN THE LIVER AND OTHER TISSUES

Extrahepatic tissues have a certain metabolic autonomy. The principal reactions leading to energy production, such as glycolysis, the reactions of the Krebs cycle, oxidative phosphorylation, and lipid acid oxidation, as well as the most important biosynthetic processes such as the synthesis of proteins, nucleic acids, lipogenesis and glycogenesis are carried out in other types of cells, but the level of activity of these reactions may be different. Nevertheless, the dependence of these tissues on hepatic metabolism is often the most important to maintain normal functions and homeostasis. We will therefore discuss and sum up some important examples of these relationships between the liver and other tissues.

FATTY TISSUE AND THE LIVER

The processes of lipid metabolism in the liver and fatty tissue are inextricably linked. The triglycerides formed in the hepatocytes serve as an important source of fat stored in fatty deposits. Another source of such fat is the newly formed triglycerides of the lipocytes themselves. Since glucose contributes carbon atoms to the fatty acids and glycerol residues synthesized in fatty tissue and since the liver plays a key role in regulating glucose levels in the blood, lipogenesis in the fat depots is doubly dependent on the metabolic processes going on in the liver.



The flow of carbon atoms that is characteristic of a period of ample nutrition from the hepatocytes to fatty tissue cells reverses direction when the amount of energy supplied to the body decreases. Then the activation of hormone-sensitive lipase in the lipocytes triggers a release of glycerol and fatty acids into the bloodstream. These products of triglyceride breakdown are used to satisfy the energy requirements of the liver in fasting, when the oxidation of lipid acids drives the formation of NADN and ATP necessary for gluconeogenesis. On the other hand, fatty acids can be used directly instead of glucose in such extrahepatic tissues as muscle tissue.

MUSCLES AND LIVER

The existence of a direct relationship between the metabolic processes in muscle and hepatic tissues is detected at several levels. In ample nutrition both tissues eliminate glucose from circulat-

ing blood, which is accompanied by the excess glycogen depositing in them. Vigorous exercise, which provides the most important stimulus for glycogenolysis in the muscles, promotes the breakdown of the glycogen to a lactate that diffuses into the bloodstream. A similar distinction between these tissues is observed in the ratios of glycolysis and gluconeogenesis. Muscle tissue, where the levels of activity of phosphofructokinase and pyruvate kinase are high but those of fructose-bisphosphatase, pyruvate carboxylase and phosphonol pyruvate carboxykinase are low, the equilibrium is shifted towards the glycolysis of the glucose supplied to form ATP and the lactate. In the hepatic tissues, with the enzymatic activities reversed relative to the muscle tissue, the equilibrium is shifted towards gluconeogenesis. By using other intracellular ATP sources, such as the oxidation of fatty acids, it is possible to regenerate glucose from the lactate supplied to satisfy the requirements of the muscles.

In a prolonged fasting, when the muscle proteins undergo catabolism, the skeletal muscles by transferring the amino groups transform large amounts of pyruvate into alanine, which can then replace the lactate as a source of carbon for gluconeogenesis in the liver. This lactate-glucose cycle involves the liver and skeleton muscles. It should be borne in mind that the heart muscle is aerobic tissue rich in mitochondria and having a lactate dehydrogenase enzymatic system that tends to consume the lactate rather than produce it.

Both the skeleton and heart muscles function thanks to the liver, using ketone bodies – β-oxybutyrate and acetoacetate. Since the liver lacks an enzyme that activates acetoacetate by forming its CoA derivative, large amounts of ketone bodies are released into the bloodstream when eating low-calorie, carbohydrate-poor or lipid-rich food, when the rate of oxidizing fatty acids in the liver exceeds its capacity to facilitate the removal of acetyl-CoA. Muscles, as well as the kidneys and some other extrahepatic tissues activate acetoacetate at the expense of succinyl-CoA and derive energy by oxidizing the resulting acetyl-CoA. Even at rest there is a constant flow of acetoacetate and other ketone bodies from the liver to peripheral tissues, where they are used to generate a substantial amount of energy, e.g. heat energy. However, the heart and skeletal muscles, although dependent on the metabolites formed in the liver for proper operation, in normal conditions largely satisfy their needs for ATP by oxidizing the fatty acids that are mobilized from the fat depots.

KIDNEYS AND LIVER

The process of gluconeogenesis occurs in both the kidneys and the liver, but the kidneys produce only a small part of the total glucose, about a tenth. However, with impaired hepatic function or in conditions of acidosis with an extensive breakdown of amino acids to α-keto acids, which are glucose precursors in the kidneys, their contribution to gluconeogenesis greatly increases.

The kidneys are dependent on glutamine being supplied from the liver, which is a source of the ammonia necessary to neutralize the hydrogen ions being excreted. On the other hand, hepatic function depends on the excretory function of the kidneys responsible for eliminating urea and other metabolic-waste products from blood as it passes through them while preserving such substances produced by the liver as glucose, amino acids and proteins.

BRAIN AND LIVER

Lastly, the metabolic processes in liver and brain tissues are also intimately connected. First of all, it is absolutely vital that nerve tissue be supplied with glucose without interruption, which is done by the liver. The processes of glucose catabolism generate:

1. energy to be used by the brain cells for active transfer of the ions that take part in excitation processes;

2. acetyl-CoA for synthesizing lipids, myelin and acetylcholine;

3. material for the formation of the carbon chains of glutamate, γ-aminobutyrate and other amino acids.

Since brain tissue carries out brisk amino acid metabolism and the brain is at the same time particularly sensitive to the toxic effects of ammonia, it has developed effective protection mechanisms ensuring NH_3 binding; this occurs predominantly via the formation of glutamate and glutamine. Ultimately, the liver eliminates the NH_3 from the brain and other peripheral tissues by forming urea. Impaired hepatic function or metabolic disturbances involving the urea cycle reactions have a significant effect on brain development and thus on higher nervous activity precisely because there is such a dependence of the brain on the liver, which should ensure the elimination of ammonia and other metabolic-waste products toxic to nerve tissue.

VERTEBRAL COLUMN

Any intoxication, be it caused by infection, poisons, metal ions, gases, stress and so on, results in a disturbance of the circulatory system by blocking vessels and upsetting the hormonal equilibrium. First of all this process affects the vertebral column. The impossibility of supplying the cells, tissues and organs with structural and energy-containing materials and oxygen causes a hypoxia of the brain, primarily its cortex, which in turn upsets the systems of control, nutrition and elimination of metabolic-waste products from the organs.

The vertebral column plays a key role in human life: it provides support for the skeleton and imparts the necessary shape to the body, maintaining its upright posture and keeping all vital organs in place. It consists of 33 vertebrae, each being made up of two parts: a body and an arch. The top and bottom of a vertebra are covered with cartilage. Sandwiched between the bodies of two vertebrae is an elastic intervertebral disc which in turn consists of an outer fibrous mass (annulus fibrosus) that surrounds a central gelatinous mass (nucleus pulposus). The nucleus pulposus contains collagen and a small number of chondrocytes and collagen fibres that confer elasticity. The annulus fibrosus is made up of dense bundles of connective tissue intertwining in various directions.

The discs allow the column to move in various directions and absorb shocks, whereas the arches form a canal housing the spinal cord, which is the control centre for an extensive and intricate neural network spread throughout the body. The source of this innervation is 31 pairs of nerves that control certain parts of the body and organs. All the reflex and automatic actions of the organs are controlled by the spinal cord (except for those controlled directly by the brain). A pathological process in the spinal column results in the nerves being compressed and the organs they serve being disturbed.

Only one person out of 150 of medium development has a pliant and therefore healthy vertebral column. Disc syndrome that develops predominantly in people aged 30 to 50 is a cause of long-term and sometimes permanent invalidity.

First and foremost among the diseases of the vertebral column is osteochondrosis, which most often afflicts its lumbosacral part. The reason for such selectivity is perhaps the peculiarities of the anatomy and functions of the region, that have developed after humans, unlike their predecessors, assumed a vertical posture, which greatly increased load on the vertebral column, particularly its lumbar part. The situation is exacerbated by lifting weights, adynamia, and an imbalanced diet.

Degenerative processes in the inververtebral disc begin by afflicting the nucleus pulposus, which dries up, loses its turgor and undergoes necrosis. Then the fibres of the annulus fibrosum disintegrate from centre to periphery and it undergoes fragmentation, primarily of its inner layers. The degeneration of the nucleus pulposus results in the load greatly increasing on the annulus fibrosus, and its outer regions experience nonuniform distension at the places where resistance to it is the lowest. The herniation in turn causes dilatation of the inververtebral foramen, which decreases the height of the disc and thus the vertebra above gets nearer to that below, moving a little backward in the process. This loosens the vertebral segment. The vertical dimensions of the intervertebral foramen also decrease. Osteochondrosis can greatly aggravate the constriction of the intervertebral foramina if the remains of the nucleus pulposus herniate through breaks in the annulus fibrosus.

The constriction of the intervertebral foramina and the development of swelling and aseptic inflammation in their vicinity cause irritation and then compression of the spinal radices and cords, giving rise to local radicular symptoms.

People suffering from osteochondrosis come to the physician usually complaining of pain syndromes. As a rule, the pain is localized to the lumbosacral region (lumbago) and along the course of the peripheral nerves originating from the lumbosacral plexus, most often along the course of the sciatic nerve (lumbomyalgia). It can be unilateral or bilateral, have an acute onset, being often triggered by lifting weights or making a sudden movement, or come on gradually, and be caused by exposure. The chronic illness is accompanied by pronounced radical symptoms.

As to manifestations, the pain can be sharp, dull, nagging, stabbing, shooting, sometimes throbbing, and intensifies in trying to move. It causes reflectory tension of some muscles, restricts the patient's mobility and makes him adopt protective postures where the pain is less acute.

Involvement of dorsal roots and funiculi results in hypotrophy of the corresponding muscles, reduction in their strength, and impaired sensitivity, whereas affliction of elements of the sympathetic nervous system is accompanied by a lowered skin temperature, impaired trophism, and trophic ulceration.

In severe osteochondrosis, accompanied by herniation of the intervertebral disc towards the vertebral column, the pain syndrome can be persistent.

Diagnosis by the Voll method in this pathology most often detects deviations at the points of the vertebral column and on the following meridians: the nervous system (the point of the lumbosacral region of the spinal cord, the point of the autonomous nervous system), blood vessels, large and small intestine, liver, and gallbladder.

TREATING DISORDERS OF THE VERTEBRAL COLUMN

To relieve the inflammatory process and normalize metabolism in the area involved a twin apparatus should be used consisting of the GI and KL emitters for 20 minutes daily, followed by a massage by Rakhimov's method using the ZB or ZC lamp combined with a pipe along the course of the vertebral column along the paravertebral lines and, below the scapular angle, along the linea scapularis. A ceramic has been developed with negative conductivity that can pump energy into the system, including in the form of an electric charge of either polarity. A system built on its basis is a pipe without any moving parts which acts as a hair dryer. According to purpose, what is blown out of the pipe is charges of either polarity or neutral air which by passing through it is purged of any microorganisms as well as toxins, organic poisons, and exhaust fumes.

A massage of the vertebral column in case of scoliosis is done on both sides along the column simultaneously with exposure to the **ZB** emitter by making light rotating movements 10 turns at each point. The pressures should be very light, since pressing hard can give rise to inflammation and blockage of microcirculation in the blood vessels supplying the vertebral column. Such a massage returns the column to normal by normalizing circulation, softening the intervertebral discs, and eliminating breakdown products, and the patient's muscles are also made use of to achieve symmetric straightening.

In case of lordosis or kyphosis a massage is done separately, first on one side, then on the other. The patient's muscles begin to stretch the vertebral column on one side, then on the other, thus straightening it. No other method than ours enables the column to be restored, since all types of stretching cannot normalize circulation and restore the elasticity of the disc.

Normalizing columnar microcirculation, by relieving the nervous system, allows one in a matter of minutes to stop acute processes and normalize circulation in many organs, and to eliminate a chronic process in a few sessions. It is recommended to do a massage 2-3 times per session.

Vertebral column disorders are treated simultaneously with correcting intestinal function by means of the **GI** and **ZB** lamps for 20 minutes daily to normalize the status of the microflora.

To normalize metabolic processes it is recommended to expose the pancreas to the **KL** and **ZB** emitters in three projections for 5 minutes each during 5-7 days.

To purge the body of toxins and clean the vessels a **Z(b)-**line lamp is used for 20 minutes every other day in combination with the **KL(b)** lamp to set up favourable conditions for natural toxin removal from the body.

To improve the efficacy of treating vertebral column disorders, it is recommended during the last week of treatment to use twinned **GI+KL** lamps in the 'CT' apparatus so that the radiation should first propagate along the column, entering at the coccyx.

A necessary condition for treatment is to restore the equilibrium between the sympathetic and parasympathetic parts of the autonomic nervous system.

Examples: *Patient K., female, aged 39, presented complaining of pain in the back caused by spinal curvature. Case history data: had been ill for 30 years, had repeatedly received treatment from manual therapists as well as from physical therapists, without much effect. Examination revealed a pronounced kyphosis of the thoracic spine and a lordosis of the lumbar spine. A course of infrared treatment was prescribed: the GI(b) and KL(b) emitters for 30-45 minutes daily, a massage of the vertebral column combined with exposure to the ZB(s) emitter for 5 minutes. 10 days of therapy greatly reduced the back pain and virtually eliminated the manifestations of the kyphosis and lordosis.*

Patient P., female, aged 54, presented complaining of severe pain in the back which prevented her from walking. Had been ill for many years, had been noticing the pain intensifying and becoming constant for the last 2 years. She was overweight; paravertebral palpation in the sacral region triggers a painful sensation. The X-ray image revealed dislocation of the L5-S1 vertebrae.

She was exposed to the GI(s) emitters for 10 minutes in the area of the vertebral column, focusing on the lumbar region, then a massage was done for the column by Rakhimov's method twice a day simultaneously with exposure to the ZB(s) emitter. The treatment has enabled the patient to walk for 1 hour at a time, without experiencing any back pain.

MAINTAINING EQUILIBRIUM

The organism of an adult, if healthy, is in equilibrium with the environment. Such equilibrium implies timely suppression of growth processes, which seems to be as important as the ability of cells to grow and divide. A disturbance of the normal mechanisms of suppression can lead to gigantism, obesity or the runaway growth of a malignancy. It is entirely possible that we will be able to understand the mechanisms of malignant transformation not as a result

of looking into the particular reasons for the rapid growth and invasiveness of malignant cells but by investigating the reasons for the absence of these in normal cells.

In the organism of an adult the main factor determining the normal equilibrium of metabolic processes is the balance between food intake and energy expenditure. Insufficient nutrition rapidly leads to a reversible mobilization of the energy depots; however, prolonged malnutrition or fasting causes irreversible tissue degeneration. Systematic overeating can also give rise to a pathologic condition – obesity – as a result of overstretching the tissue depots. Before discussing these two extreme manifestations of metabolic imbalance, let us consider the mechanisms for maintaining homeostasis in tissues and organs, as well as the properties of the factors controlling anabolic and catabolic enzymes.

ANABOLIC HORMONES

Somatotropin is a polypeptide secreted by the anterior lobe of the pituitary gland; it stimulates RNA and protein biosynthesis in virtually all cells. Such acceleration in the buildup of nitrogenous compounds is accompanied by an increased absorption of amino acid from the bloodstream. One of the factors triggering somatotropin secretion is a rise in amino acid levels in the blood, so that the maximal boost to tissue protein anabolism is provided by the availability of as large amounts of precursors as possible.

Insulin is secreted by the pancreas in response to a rise in the blood levels of glucose or amino acids. It stimulates glucose and amino acid uptake by the tissues; besides, it promotes increased glucose consumption for glycogenesis, lipogenesis and glycolysis, at the same time limiting gluconeogenesis in the liver and suppressing lipolysis in the fat depots. This hormone enhances the anabolism of tissue proteins, at the same time suppressing the catabolism of amino acids.

Thyroxin, which is secreted by the thyroid gland in response to the action of thyrotropin produced by the anterior lobe of the pituitary gland, promotes tissue growth and differentiation. Such action is usually manifested in enhanced protein synthesis and particularly the formation of the mitochondrial oxidative enzymes. Thus, thyroxin controls oxygen uptake and the overall intensity of tissue metabolism.

Specific anabolic functions are more typical of steroid hormones – **oestrogenes**. They are secreted in the female organism by the ovaries and promote RNA and protein synthesis in certain target cells (as in the uterus). Male sex hormones – **androgens** – are synthesized in the testicles and cause a similar rise in RNA and protein anabolism in many tissues including skeletal muscles.

CATABOLIC HORMONES

Many hormones take part in regulating the processes that compensate for increased energy expenditure in stress or malnutrition.

Glucagon is a polypeptide secreted by the pancreas in response to a drop in the blood glucose level, that is, it counteracts the hypoglycaemic effect of insulin. Glucagon specifically raises the rate of liver glycogenolysis, which increases glucose levels in the bloodstream. Besides, glucagon stimulates gluconeogenesis and lipolysis in the liver. The fatty acids released under the influence of lipase serve as another energy source and promote gluconeogenesis.

The hormones belonging to catecholamines –**noradrenalin**, released by sympathetic nerve termini after excitation, and **adrenalin**, secreted by the adrenal medulla – in their effect somewhat resemble glucagon, but affect other tissues besides the liver. They activate glycogenolysis in the muscles and liver, and promote lipolysis in fatty tissue, which raises the levels of glucose and fatty acids in the plasma.

Such glucocorticoid hormones as cortisol are secreted by the adrenal cortex in response to the action of adrenocorticotropic hormone released by the anterior lobe of the pituitary gland. Cortisol counteracts many insulin effects, suppressing the uptake of glucose by cells and its conversion into lipids and slowing down protein synthesis in peripheral tissues. At the same time it stimulates the liver to produce the enzymes that take part in amino acid catabolism and gluconeogenesis. This depletes the protein depots in extrahepatic tissues, since the hydrolysis of proteins continues while their synthesis is suppressed. This means that there is a flow of amino acids from the periphery to the liver, which increases both the amount of carbon involved in glucose formation and the level of nitrogen used in urea formation.

INANITION

By inanition is meant a condition resulting from the body being inadequately supplied with substances essential for normal metabolic processes to occur, such as a deficiency of proteins, trace minerals, vitamins and other active substances against a background of overall food surplus.

Very often protein deficiency is a consequence of inadequate nutrition, when the essential proteins and fatty acids are not supplied to the body but food is adequate in caloric value, provided mainly by carbohydrates. In such cases one can talk of protein insufficiency accompanied by overall obesity.

Inanition can be observed even in cases where a patient receives all the necessary components in the right amounts. This is usually caused by disturbances in the composition of the intestinal microflora, which supplies structural and energy-rich materials, vitamins, nutrients, antibiotics and so on. If it cannot ensure the absorption of these substances, then even with a surplus of essential amino acids in the food consumed the body will be markedly deficient in them.

***Example**. Patient A., aged 49, male, was hospitalized with a diagnosis of intestinal dysbacteriosis. He complained of frequent stools of undigested food and a weight loss. Had been ill for two years; had repeatedly given faecal specimens – no pathogenic microflora had ever been detected; had taken medications, which had produced short-lived improvements. Examination results: a weight deficiency of 21% (for a height of 188 cm the body weight was 70 kg), the skin was pale, its turgor reduced, and the patient himself was sluggish and apathetic.*

The patient was treated by exposure to the GI(s) emitter in the intestinal area for 15 minutes, the GI CT one for 20 minutes, and a combination of the GL(b) and KL(b) ones as a general course for a week. The stool was normalized after the first session, and stamina improved after the 5th. The patient received a 2-week therapy course. Observation for a year has revealed that no intestinal disorders have occurred and the patient has gained 14 kilograms.

According to manifestations, dietary deficiencies are classified into **kvashiorkor**, resulting mainly from consuming food low in proteins, and **marasmus**, a condition arising from an overall protein-calorie deficiency. In full-blown cases kvashiorkor occurs in children aged 1-3 and is characterized by swellings, fat retention (especially in the liver, which becomes considerably enlarged), a flabby skin, scant, non-pigmented hairs, apathy and petulance. In marasmus, the growth arrest is already pronounced at 6 months to 1 year; unlike children with kvashiorkor, who often look swollen and round-faced due to oedemata, children with marasmus are, as it were, shrivelled: their muscles are atrophied and the bodies lack fat. In typical cases of marasmus the liver, skin and hairs are not involved; the child is restless, reactive but not petulant. There are many intermediate forms between these extreme manifestations. In practice it is difficult to distinguish between them, but from the point of view of treatment it is important to establish what the child has been lacking in: proteins, calories, or both.

The main principle overarching all these phenomena makes use of an idea of equivalence between the energy provided by different types of nutrients and that contained in tissue components. When the total calorie supply with the most important nutrients – carbohydrates and lipids – becomes less than energy expenditure, the body begins to break down proteins, both supplied with food and its own. This leads to overall malnutrition involving muscles and other organs, which occurs in marasmus. Thus, starvation can be regarded as a condition where the body digests itself to meet its energy requirements. Before this grave, often lethal, state sets in a whole number of changes in metabolic processes depending on the nutrition conditions in the period preceeding starvation.

Let us consider the processes that will occur in the body of a healthy adult of normal weight if he is suddenly deprived of food. This will at once reduce the blood glucose level, which slows down insulin secretion and raises that of glucagon by the pancreas, and glycogenolysis stimulation in the liver. If no food has been eaten for 24 hours, the glycogen depots in the liver essentially run out, and new mechanisms must kick in on the following day. Thus, a prolonged secretion of glucagon activates hormon-sensitive lipase, which results in the release of more fatty acids that are oxidized in the liver. Likewise, catecholamines, adrenocorticotropic and other hormones released in response to stress stimuli coming to the regulatory centres promote the activation of the lipase of fatty tissue. The mobilization of the forming fatty acids from the depots provides energy for the peripheral tissues, liver and other internal organs. Unlike short-term energy supplies provided by the glycogen depots in the liver, fatty tissue triglycerids can provide the body with enough ATP for a few weeks.

As the body adapts to prolonged fasting (during the few first weeks) there is a sharp rise in the amount of ketone bodies produced by the liver, since the oxidation of fatty acids predominates, whereas the supply of pyruvate and oxaloacetate is reduced, which leads to an insufficient supply of metabolites through the Krebs cycle. After a few weeks such organs as the heart and brain get used to supplying most of their energy needs with these ketone bodies. However, if more ketone bodies form than are used up metabolic acidosis sets in, which both the respiratory organs (by eliminating CO_2) and the kidneys (by excreting NH_4^+) try to compensate for. At the same time, as they switch to mobilizing and oxidazing fatty acids, the liver and fatty tissue gradually use the enzymes involved in the biosynthesis of fatty acids: acetyl-CoA carboxylase, the synthetase of fatty acids, and the enzyme splitting the nitrate.

If the fasting continues further, tissue proteins are mobilized and used as energy sources. Paradoxical as it may seem, the first to be requisitioned are the labile proteins of the gastrointestinal tract and the digestive enzymes of the pancreas, which impairs the assimilation of what little food enters the gastrointestinal tract. Then the proteins of internal organs such as the liver and spleen are broked down followed by the functional proteins of the muscles and ultimately those of the nervous system. The sequence corresponds to the turnover rates of the proteins in the steady state described above.

Amino acid catabolism promoted by the enhanced secretion of the glucorticoids and the reduced secretion of insulin is the direct sourse of ATP for peripheras tissues and ensures that carbon is supplied for glucose formation in the liver and kidneys. During the first weeks of fasting, inspite of enhanced overall protein catabolism, there is a considerable increase in the amounts of such enzymes involved in gluconeogenesis as aminotransferases, phosphatases, and those catalysing the transformation of puryvate into phosphoenolpyruvate. In prolonged fasting, when the brain satisfies its energy needs by using p-oxibutyrate rather than glucose the rate of gluconeogenesis gradually decreases. At the same time the mass of musclular tissue, the overall activity of the body and, consequently, energy expenditure also decrease. Eventually, when all the fat stores are depleted, the body begins to use even the vital proteins of the heart, lungs, blood cells and so on; the last stage is death by collapse.

OBESITY

Whereas in developing countries about a third of the population suffer to some extent from undernutrition, the most serious problem faced by people in the developed world is overeating. Recent studies conducted in the USA and Canada show that a third of the adults in these countries have a body weight exceeding the norm by 20%. This group has much greater mortality from the deseases considered the most frequent causes of sudden death. Since the most important factors predisposing to ischemic heart disease are smoking, a sedentary lifestyle, hypertension, lipemia and obesity, and the last four factors often go hand in hand in overweight people, the risk becomes evident. There are other symptoms and signs as well: dyspnoea, quick fatigability, pain in the joins, and fractures.

The two most important types of obesity have been described differing in their causes and the age groups involved: obesity in children, where overnutrition at an early age leads to an increase in the number of cells (lipocytes) in fatty tissue, and obesity in adults, where an insufficient expenditure, or an excessive intake, of calories with food leads to an increase in size of the lipocytes but leaves their number unchanged. The most insidious is obesity syndrome developing in early childhood, not only because it predisposes to such diseases as respiratory infections but also because it usually leads to obesity in the adult state, because the numerous fat cells remain in the body for life. A conjecture has been made about the role of the genetic factor in the development of obesity in children, since its incidence is especially high in the offspring of overweight people (but this obviously has more to do with family traditions). When obesity syndrome develops in adults it can be difficult to pin down the right one among many causes.

People suffering from obesity are familiar with a paradox: feeling hungry when food is abundant. It is possible that the hypothalamic centre controlling appetite is set too high. Other people suffering from obesity consume no more food than lean people but they are considerably less active. Although they have to do the tremendous extra task of carrying their weight around, one gets the impression that fat people are much less active and spend less energy on carrying out normal physiological functions. Unfortunately, the mechanisms of energy conservation are too efficient in obesity.

The actuall accumulation of fats in the depots occurs when lipogenesis, which is caused by excessive amounts of carbohydrates and fats supplied with food, predominates over the mobilization and oxidation of fatty acids to meet the energy needs of peripheral tissues. Lipogenesis is promoted by overeating and enhanced insulin secretion, whereas vigorous exercise and an enhanced secretion of the lipolytic hormones (catecholamines and glucagon) facilitate lipid expenditure. Since all bodily processes are interconnected, it would be a mistake in considering obesity to focus all attention on what is going on in fatty tissue. The accumulation of fat in the depots is no more than the last stage in a chain of metabolic disruptions.

The fats entering the body with food make a direct contribution to building triglycerid stores in fatty tissue. This is borned out by the fact that the composition of unsaturated fatty acids in the fat depots gradually comes to resemble that of unsaturated fatty acids in the exogeneous fats of the food. However, the principal factor of lipogenesis in obesity is carbohydrates. Glucose released into the bloodstream (as a result of intestinal absorption) in amounts ex-

ceeding the needs of the liver or the capacities of the process of glycogen deposition is spent first of all on synthesizing fatty acids. The most important site of formation of endogenous, mainly saturated, fatty acids is liver cells. The excessive glucose and triglycerids coming from the liver swamp the cells of fatty tissue where additional amounts of fatty acids are synthesized. The esterification of fatty acids penetrating the cells of the fatty tissue, as well as of fatty acids synthesized in the fatty tissue itself, depends on converting the glucose being supplied into an acceptor, α-glycerophosphate. In the fatty tissue of obese people the enhanced conversion of glucose into α-glycerophosphate is combined with the inhibition of its oxidation by mitochondrial dehydrogenase. This results in a rise in the amount of glucose used to form glycerol, and the esterification of fatty acids begins to predominate over the amount of free fatty acids leaving the cells.

The effects of insulin are, as it were, superimposed on the imbalance created by overnutrition. People suffering from obesity have significantly increased insulin levels in the bloodstream, as well as an excessive response to glucose entering the gastrointestinal tract. The combination of overnutrition with hyperinsulinism not only facilitates glucose absorption by the fatty tissue but also induces the synthesis of a number of enzymes, such as that responsible for breaking down the nitrate, acetyl-CoA carboxylase, and fatty acid synthesase in the cells of the liver and fatty tissue, which stimulates lipogenesis. Besides, the increased insulin concentration inhibits hormone-sensitive lipase, which further tips the balance towards fat deposition.

Treating obesity by conventional methods is an extremely difficult and unrewarding task, especially considering that the results will not be immediate. By making great efforts and sacrifices one can reduce one's body weight, which will stay that way only a few months, until a change of habit or a nervous breakdown completely reverse the trend, and one will begin to gain weight again. This biochemical mechanism is easy to understand by taking account of the fact that the adaptive increase in the activities of the lipogenic enzymes occurs for a few hours after a meal, whereas deadaptation will take many weeks of fasting. The feeling of hopelessness is exacerbated by cruel jokes frequently made by the people around, as well as the prevalent opinion that all fat people are gluttons.

To drastically reduce body weight, people have resorted to complete fasting monitored by a physician in hospital conditions, but the data given in the previous chapter emphasizes the risks stemming from it. The most important problem arises, of course, from the fact that in complete fasting the weight loss can occur not so much at the expense of the fat depots as the organs and tissues that do not contain fat stores. Since in obesity fat accumulates to the detriment of muscle tissue, such expenditure of tissues affects the overall health status. Therefore, during treatment it seems more reasonable to cut down the total caloric intake to a level that would be less than necessary to maintain vital activity and to provide enough protein required for the synthesis of the constituents of the muscles and other tissues that do not contain fat as well as to prevent the development of a negative nitrogen balance due to the enhanced gluconeogenesis. The reduction in carbohydrate intake will undoubtedly suppress the tendency towards lipogenesis that is triggered by a rise in the blood glucose level and hyperinsulinism. Carbohydrate intake can be restricted by substituting sucrose, which is contained in large amounts in modern highly purified foods, by starch-like natural carbohydrates, which are absorbed more slowly and to a lesser extent. The most important factor in the adaptive enhancement of lipogenesis is a sharp rise in the blood glucose level after a single sumptuous daily meal typical of those prone to obesity. Consequently, it is better to break the daily ration down into several small portions.

A reduction in body weight is facilitated by controlled exercise; a complex of exercises is recommended that gradually become more strenuous. Increased energy expenditure promotes fat catabolism to a greater extent than anabolism. The stimulation of muscle development is conducive to the depletion of the tissue depots, at the same time speeding up a compensatory increase in the weight of tissues free of excessive fat. As the exercises get harder the concomitant catecholamine release intensifies the lipolysis and assimilation of fatty acids by muscle tissue. The predisposition to cardiovascular diseases decreases in the course of training, which enhances the strength and stamina of the heart and respiratory organs. Finally, the improved mobility and performance enable the person to take part in all manner of activities, which promotes a feeling of wellbeing.

Example. *Patient D., aged 42, male, was admitted with a diagnosis of obesity. At a height of 164 cm the body weight was 103 kg. He was given a general course of therapy by means of infrared emitter for a month, which brought about a reduction in body weight. There have been no follow-up courses. It is more than 2 years after the treatment, and he now weighs 72 kg and sticks to no diet.*

It should be borne in mind that many poisons, ie dioxin, are soluble in lipids. Therefore, a sudden weight loss brings about a massive release into the bloodstream of the poisons that have been stored in the fatty tissue in an inactive state. As fat is being lost these get into the blood plasma and produce a pronounced effect of intoxication. It follows, then, that the process of slimming should go on very slowly, in pace with the body's capabilities. To eliminate the poisons and neutralize them as quickly as possible it is recommended that slimming be accompanied by a course of treatment by means of the **RC+ZB** emitters.

GLUCOCORTICOIDS

Glucocorticoids are hormones secreted by the body in response to a stimulus such as infection, psychoemotional stress, a trauma, and a meal, along with other active substances and performing an anti-inflammatory function. In norm the body itself adequately steps up the synthesis of the glucocorticoids and converts them from the inactive state into the active one. Fluctuations in their release in response to a stimulus range from 1/50 to 1/200 of the daily output.

What factors affect the levels and release of the glucocorticoids?

Synthesizing the glucocorticoids requires cholesterol, whose blood content depends on the ratio of low- and high-density lipoproteins. An insufficient amount of low-density lipoproteins leads to a drop in blood cholesterol, which may result in not enough glucocorticoids being synthesized. On the other hand, glucocorticoids may be produced in the body in sufficient amounts, but they may be in an inactive state, bound to a protein.

Resonance infrared emitters can bring the concentration of active glucocorticoids back to normal. The treatment is done as follows:

1. The **GI(s)** emitter is used to irradiate the area of the gallbladder and bile ducts for 5 minutes, to remove the inflammation, improve the patency of the bile ducts, dissociate lipoprotein complexes, and release free cholesterol.

2. The **ZB(s)** emitter for the gallbladder area for 5 minutes to dilute bile and activate cholesterol.

These procedures help to balance out the levels of high- and low-density lipoproteins.

3. The **GI(s)** for the adrenal area for 5 minutes to convert the hormones from the inactive state into the active one and stimulate their synthesis from free cholesterol.

4.The **ZB(s)** emitter for the renal area for 5 minutes to improve microcirculation in the renal glomeruli and toxin removal from the body.

5. The **RV(s)** emitter for the liver and kidneys for 5 minutes if there is viral infection and if it is necessary to destroy excessive free radicals in metabolic-waste products.

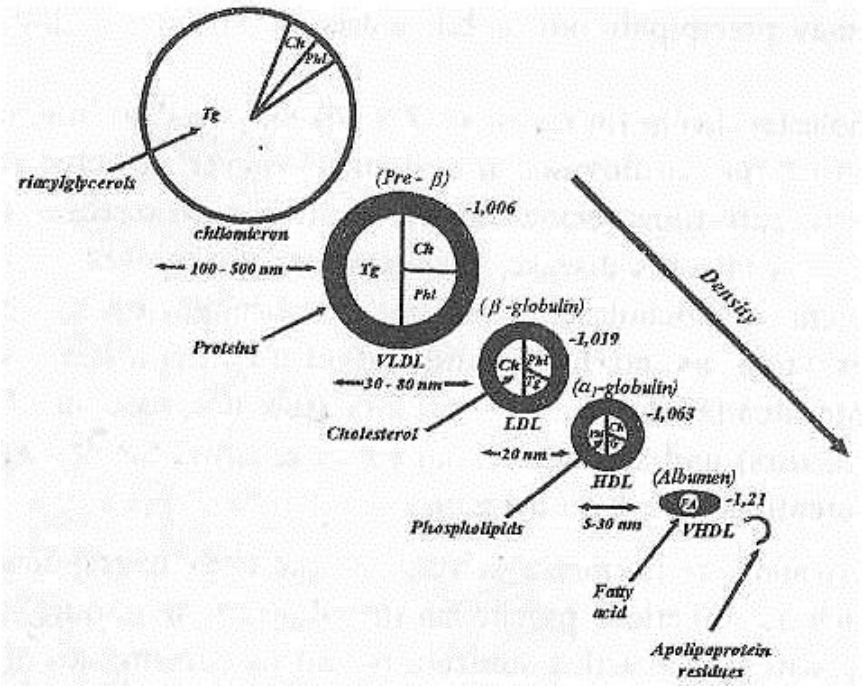
All the procedures listed above should be carried out strictly in the sequence given and without interruption. It is possible to use the **GI** and **ZB** emitters simultaneously for the gallbladder area and then for the area of the adrenals and kidneys.

CHOLESTEROL METABOLISM

Cholesterol occupies a particular place among biological compounds. It is a component of tissues, cells and cellular membranes, controlling their permeability. Cholesterol is a precursor of steroid hormones and bile acids. Its intermediary metabolism occurs in the liver, and it is eliminated in the pure form with bile. Cholesterol biosynthesis occurs in all organs and tissues, but the key role is played by bile.

Cholesterol enters the gastrointestinal tract by two routes: with food and as part of intestinal juice and bile. Its absorbed part, a so-called absorption coefficient, is an important physiological value. Cholesterol is eliminated through the intestine, where it is transformed into coprostanol. The part of it that has entered the body proceeds into the lymphatic system withing chylomicrons and very low-density lipoproteins (VLDL). Then cholesterol gets into the plasma, where it is found in lipoproteins, which fall according to density into 4 types:

- very low density (VLDL);
- low density (LDL);
- high density (HDL);
- very high density (VHDL).



VLDLs transport triglycerids into the blood from the intestine, LDLs take part in supplying cholesterol to the blood, and HDLs eliminate it from the body. The main supplier of cholesterol to the blood is the liver, where its synthesis occurs; the liver is also the first barrier to VLDLs and intestinal chylomicrons. It is not absolute plasma cholesterol content – 1.9-2.1 g/l on average – that is important, but its ratio in LDLs and HDLs, since they carry cholesterol through vascular walls. For this reason the impaired functioning of these lipoproteins gives rise to various diseases.

One such disease is cholelithiasis, which stems from a rise in cholesterol levels. Supersaturation of cholesterol in bile always leads to gallstone formation (mainly cholesterol calculi) in the gallbladder and its ducts. In this case what is important is not so much total cholesterol content in the bile as a change in the bile phase composition.

Bile is a lipid complex made up of phospholipids, cholesterol, bile acids and, in adults, cholic acid. In the norm cholesterol contained in bile is solubilized in bile salt-phospholipid micelles and phospholipid vesicles. When hepatic function is impaired the ratios of bile components change and the bile forms inclusions in the form of fat droplets and cholesterol esters and the cholesterol begins to crystallize. Lipid swelling may give rise to liquid crystals. If bile is kept in this state the cholesterol may precipipate out, ie bile stasis also promotes gallstone formation.

Hypercholesterolemia (in excess of 2.6 g/l) may lead to atherosclerosis and afflict the cardiovascular system. However, lowered serum cholesterol concentrations (below 1.5 g/l) result in such diseases as hypothyroidism, Addison's disease, cachexia, and asthenisation of the nervous system. Hypocholesterolemia may be brought on by hepatic pathologies such as cirrhosis and infectious hepatitis. As to *hyper*cholesterolemia, this may be primary (familial, associated with hereditary factors) and secondary, caused by external factors such as obesity, overeating, and hypodynamia.

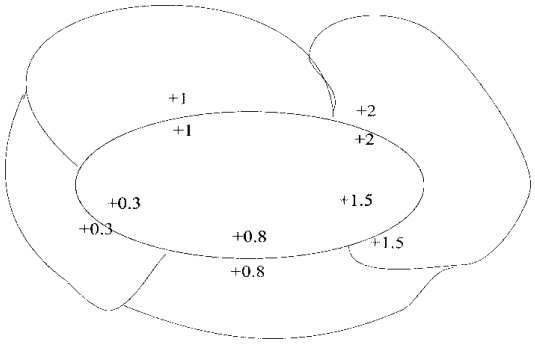
NOTION OF AN ACUTE AND CHRONIC PROCESS

Any chemical processes occurring in the body involve electron transfer, which allows one to say about the existence of an electric charge on the surface of any organ, its part, and a cell. In other words, all chemical processes are based on electrical phenomena. Schematically it can be represented as follows. If an organ is ascribed an arbitrary electric structure, each point will have a certain charge (potential) responsible for maintaining normal metabolism and other functions. The other side of the membrane has the same or similar potential. The development of a pathological process is accompanied by a change in the potential level. If the pathologic

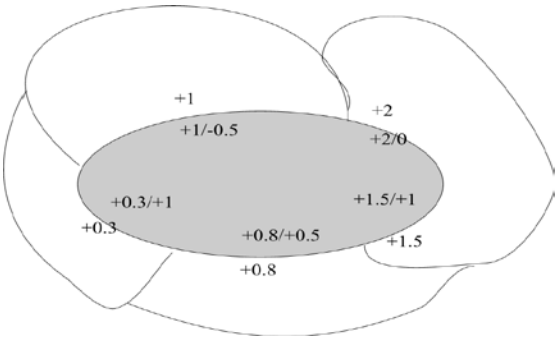
process does not involve surrounding closely or not closely connected organs and tissues, the surface charge will not change. Put another way, the processes in other organs do not change significantly. **A pathological process where a change in electrical potential is localized to one organ only can be considered acute.** Recovery in such cases is quick.

In the course of the illness there may be a change in potential on the other side of the membrane as well (or even on the membranes of other organs functionally connected with the affected one), which causes the pathologic process to spread to other organs that also change their electric potentials. In other words, the metabolic processes in other organs also change dramatically. **A pathological process involving several interconnected organs, where their normal potential topologies are changed, can be considered chronic.** In this case the organs may be associated not only anatomically but also functionally.

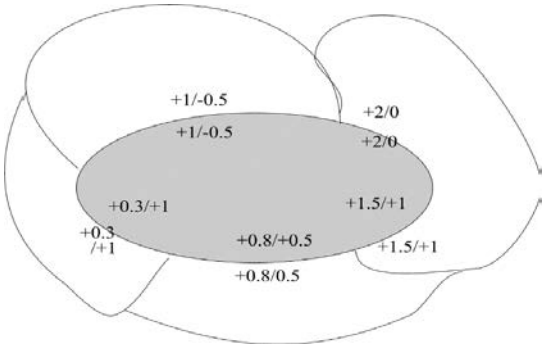
Therapy in these cases should last longer, with a shorter exposure to the emitters, and involve repeated treatment of all the organs affected by the pathological process.



A healthy organ. The potentials at the points associated with other organs correspond to each other.



An acute process. The potentials of the affected organ are changed, but those of the surrounding organs are not (**I** indicates a change in potential in pathology). It is sufficient to restore the function of the affected organ, which means restoring its potentials as well, in order to cure the illness. The potential of the other organs facilitate recovery.



A chronic process. The potentials of the affected organs and surrounding ones are changed. Restoring the affected organ (and its potentials) does not restore the function of the other organs. The changed potentials of the other organs contribute to a recurrence of the illness. In such cases it is necessary to completely restore all the organs functionally interconnected.

To get a more intuitive picture of a chronic process it is convenient to use this model: a normal organ (with normal potentials) is put in place of a diseased organ (with changed potentials of other organs functionally connected with it). Under the influence of the changed potentials of the organs connected with it the potential of the healthy organ changes, and its functions deteriorate.

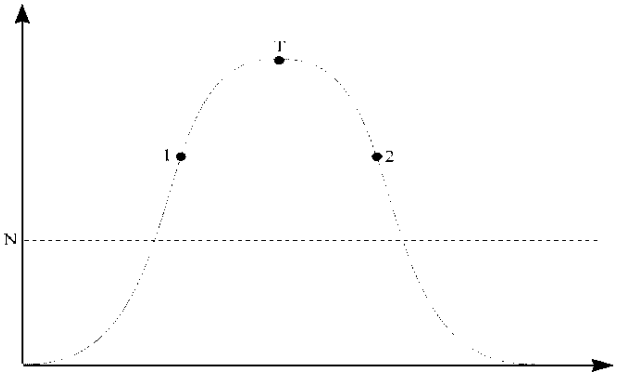
STAGES IN THE COURSE OF A PATHOLOGICAL PROCESS

In the course of any pathological process three principal stages are distinguished:

Interval to point 1

At this stage reversible processes occur that can be normalized by a slight outside intervention.

EAV reveals that in most patients all the readings exceed 75. All bodily processes are balanced out, all organs and tissues cope with the load and strive to bring the body into a phase of dynamic equilibrium.



Example. *Running an EAV test on a patient produces readings below normal at the control point of the renal medulla. The patient makes no complaint of pain in the renal area, and urinalysis is normal. The GI, AF and RV emitters produce no effect at the point of the renal medulla, which indicates the absence of a pathological process in the organ. On the other hand, the ZB emitter has been found to produce an effect at the point of the arteries, and exposure to it improves the readings at the points of the renal medulla.*

Thus, the main pathological process is localized to the blood vessels, and the kidneys, although not yet involved in the process, are not coping with the load, which stems from impaired blood flow. They may subsequently develop an inflammatory process, and the ***GI*** *emitter will have an effect at the points of the kidneys.*

Interval from point 1 to point 2

At this stage one or two organs are detected that have **EAV** readings below normal, with readings at the rest of the points within normal. Readings above normal may indicate a compensatory increase in functional activity brought about by the presence of a pathological process in an organ that has low **EAV** readings.

Example. *A patient complains of frequent headaches. EAV produces readings above normal at the points of the vessels and below normal at the point of the large intestine. Checking whether the emitters have an effect at the points of the large intestine reveals that exposing the area of the large intestine to the GI emitter brings the readings to normal, which indicates an inflammatory process going on in it. At the same time the readings at the points of the blood vessels go back to normal. A few sessions of exposing the intestinal area to the GI emitter raise EAV readings at the points of the large intestine and normalizes those at the points of the blood vessels. The headaches have also became much less frequent and severe.*

Interval below point 2

Patients complain of pain in various organs. **EAV** reveals an increase in the number of points where the readings are below normal, which indicates an increase in the number of organs involved in the pathological process. At the first stages the drop in the bioelectric potential of the organs may be caused not so much by the pathological process as by impaired compensatory capabilities.

Example. *Patient M., female, aged 42 presented with complaints of an increased thyroid gland, weakness, sleepiness, and skin dryness. EAV produced readings below normal at the points of the thyroid gland, intestine and lungs and reading within normal at the rest of the points. Testing failed to find emitters that could normalize thyroid function by direct exposure. The GI emitter to irradiate the lung region normalized readings at the points of both the lungs and the thyroid gland. This suggest an impaired compensatory capability of the thyroid gland, associated with a pathological process in the lungs.*

GENERAL PRINCIPLES OF OPERATION AND SELECTION OF INFRARED EMITTERS

The choice of emitter depends on the diagnosis made after an examination as well as the nosodes of toxins, infections and diseases detected by **EAV**. Its type can also be determined during the **EAV** testing.

- To make the correct choice of infrared emitter, it is necessary to positione one in a projection of the affected organ and simultaneously to measure by means of the Voll meter the biological potential of the point reflecting the state of the organ or its part, the control point on the EPED meridian, or the point on this meridian corresponding to the level of the affliction. If **EAV** produces initial readings above or below normal, the correct emitter will respectively lower or raise them back to normal. If irradiating the affected area for 15-20 seconds does not change the readings on the Voll meter, or they deviate even further, the emitter has been chosen incorrectly.

- T The length of exposure to the emitters depends on the condition of the patient, the resistance and adaptive capacities of his body, and the extent of the pathological process (its stage and severity can be determined by means of **EAV).**

- T The sequence of using the emitters in the treatment schedule is determined by the type, stage and phase of the pathological process.

- T The general and topical emitters can be used simultaneously (while being monitored by the Voll meter).

- T Daily treatment should be given after: normalizing the status of the sympathetic and parasympathetic parts of the autonomic nervous system (by exposing the hypothalamus to the **K**-line emitters); determining the state of the body's resistance and adaptive capacities; normalizing the state of the intestine, lipid metabolism and adrenal function.

- When there are infections, inflammatory processes, circulation disturbances and so on, depending on the patient's condition, a **general course of therapy** is prescribed:

Day of treatment	Lengh of exposure, minutes		
	GI(b)	KL(b)	ZB(b)
1	20	10	-
2	25	10	-
3	30	10	-
4	35	10	-
5	40	10	-
6	45	10	-
7	-	10	5

Note*: a general course may last 1-3 weeks, the length of exposure to the ZD emitter during the 2nd week is 10 minutes, and on the 3rd week should be gradually increased to 15 minutes, so as not to cause acute intoxication.*

COMBINING INFRARED THERAPY WITH DRUGS

Conventional medicine is based on the use of drugs whose purpose is to make the body healthier. Their side effects are widely known but, when there is no real alternative, their administration is justifiable, since they often help the patient and sometimes even save his life. One category of the drugs prescribed most often is antibiotics. One undesirable consequence of their use is a changed intestinal microflora, which greatly impairs the immune status and therefore the ability to resist external and internal destabilizing factors. For this reason treatment by means of the infrared emitters should not be combined with antibiotics.

An article published in New Scientist of 12 June 1999 says that a team of workers headed by Lynda Chin, Doctor of Medicine in Dana-Farber, have created a strain of mice that have a biological 'switch' that turns on and off skin melanoma. When the animals received a widely used antibiotic with the water they drank, it turned on a gene causing cancer, which triggered the development of melanoma in 2-3 months. When the antibiotic was discontinued, the process stopped and the tumour regressed.

Antibiotics (laevomycetin, actinomycin D and so on) and hormones (methyltestosterone, progesterone, prednisolone and so on) can give rise to malignant tumours.

Hormonal therapy is prescribed for patients when other methods fail. Too often patients have to take hormonal medications for a long time, which results in suppressing adrenal hormonal activity and a number of well-known side effects. According to our data, when receiving infrared therapy patients who have been taking hormonal medications can gradually discontinue them as they get better.

Examples. *Patient Z., female, aged 15, presented to the hospital with a diagnosis of dermatomyositis, act 2, stage 2. Personal history: has been ill since March 1996, when she first noticed skin induration on the face, neck, arms, legs and abdomen. She received hormonal therapy for 1.5 years. Signs include skin induration on the skin, hands, shoulders, forearms, back, abdomen, thighs, calves (predominantly on the right and on the extensor surfaces). The body weight was 84 kg at a height of 148 cm. Treatment continued for 3.5 months, with the patient being exposed to the ZC(b) emitter for 5-15 minutes twice a week, the RC(b) emitter on a floating schedule, the KL(b) emitter for 15 minutes daily, the GI(s) emitter in the intestinal area for 15-20 minutes at a time for a month, and the KL(s) emitter in the thymus and pancreatic areas for 2 months. As a result of the therapy, the skin induration has disappeared, the skin colour has gone back to normal, the turgor is preserved, she does not take hormonal medications, and the body weight has decreased to 60 kg.*

Patient D., male, presented to the clinic with a diagnosis of allergic rhinitis. Personal history data: has been ill for 25 years, repeatedly received outpatient treatment; periods of remission lasted for up to 4 months, then decreased to 1 month and by the time of presentation had stopped completely. He has to take drugs that improve nasal breathing – naphthyzinum, halazolinum, sanorinum – as well as kenalogum parenterally. Treatment continued for 2 weeks; he received a course of exposure to the GI(s) + ZB(s) emitters in the areas of the gallbladder and adrenal glands, a general course, the GI(s) emitter in the intestinal area, and the ZB(s) for the vertebral column combined with a massage. The treatment has enabled him to discontinue the drugs, and nasal breathing is now unimpeded.

Patient A., female, aged 42, was hospitalised in a grave condition with a diagnosis of rheumatism, activity 1-2, recurrent rheumatic carditis, aortomitral valvular disease, and rheumatoid arthritis. She complains of severe weakness, dyspnoea, malaise, bouts of tachycardia relieved only by cardiac glycosides, markedly reduced mobility in all the joints – hip, knee, ankle, as well as shoulder, elbow and wrist. Was brought in accompanied by relatives and could not serve herself. Blood pressure was 180/120 – 160/100 mm Hg. Personal history: has been ill for 5 years, repeatedly received inpatient treatment, and been receiving hormonal therapy for 3 years (5 pills of prednisolonum daily).

She has received exposure to the GI(s) and ZB(s) emitters for the intestine, the RC(s) for the areas of the liver and spleen, followed by the GI(s) and ZB(s) emitters for the area of liver and then for the area of the adrenal glands on both sides, and the RC(s) and ZB(s) emitters for all the joints for 10-15 minutes. The first course continued for a month, followed by a break of 2 weeks. As a result of the treatment, the swellings around all the joints had gone away, the patient was able to dress herself and move unassisted; blood pressure had stabilized within 130/80 mm Hg, and bouts of tachycardia had stopped. After the break the patient came to continue the treatment. It was conducted on the same schedule, but the attention was focused on normalizing hepatic and adrenal function. The therapy enabled the hormonal dosage

to be reduced to 0.25 pill a day. The patient is active, can move easily, and her condition is satisfactory. The treatment is continued. At present she can do without hormonal medications.

VITAMINS AND 'VITAMINS'

A comprehensive and thorough study of vitamin deficiencies – diseases brought on as a result of the complete lack of one or another vitamin in the diet, and the inclusion of vitamins in their therapy have made it possible to eradicate scurvy, rickets, pellagra, beri beri, pernicious anaemia and so on.

The absence of signs of vitamin deficiency should not be taken to mean that the body is fully stocked up with the vitamins. Their partical deficiencies, so-called hypovitaminoses, lead to a disturbance of the normal course of metabolic processes, an impaired body resistance, functional and even organic changes. This has given rise to studies that aim to determine optimal need for various vitamins. It has turned out that daily need for vitamins depends on many factors. Thus, to eliminate signs of scurvy the daily dosage of vitamin C is 10 mg. This amount has been termed the human dose of vitamin C. Further studies have shown that to provide for the normal course of metabolic processes an adult needs 70 mg of vitamin C a day. But even this dose does not prevent vitamin C deficiency, which may occur in many diseases or when somebody is exposed to hazards.

These studies brought about a universal recognition of the favourable effect of vitamins and a craze for them. An expression even came into being: 'vitamins are life'. But there were hypervitaminoses as a result of taking excessive amounts of vitamins. Many see them as a panacea. They are confident that vitamins in the form of a pill are effective for myocardial infarction, insomnia, frayed nerves, arthrosis and even cancer. But are they really that useful?

Recently medical workers have raised an alarm and the press has begun featuring articles with titles like 'Vitamin A Results in Malformations of Unborn Children' and 'β-Carotene in Conjunction with Vitamin A Raises the Probability of Developing Cancer in Smokers.' Finnish scientists have abruptly discontinued tests they were conducting on volunteers. The conclusion they have come to is unfavourable: neither pills containing β-caroten nor vitamins A, C and E will protect us against cancer.

The mechanisms of metabolic processes are adapted to assimilating nutrients in a bound condition. This applies to vitamins as well, since they are extremely active substances with a broad spectrum of effects on the enzyme system. No scientist has any doubts that vitamins play a key role in metabolic processes, but the fact persists that vitamin pills can have adverse effects, which virtually never happens when vitamins are consumed with natural products. In all likelihood, this has something to do with the fact that plants contain up to 10,000 various compounds, some of which prevent the vitamins from taking effect immediately.

When taken in normal doses, purified vitamins can be combined by the body into complexes and stored. But if the doses greatly exceed the need and the body cannot convert all the surplus into an inactive form, one or another form of hypervitaminosis will manifest itself. A surplus of vitamins can do grave and sometimes irreparable harm to health. By contrast, in natural compounds most vitamins are in an inactive form, and so the level that can trigger a hypervitaminosis is much higher.

Vitamin D. Children all over the world are given lipid-soluble vitamin D to prevent or treat rickets. The statistics show that when it has been given in large doses to children suffering from the disease their condition has worsened instead of recovery.

How can the paradox be explained? It is known that rickets develops when a growing organism experiences a lack of vitamin D, which tips the normal balance of calcium and phosphorus salts in the blood and reduces calcium accumulation in bone tissue. The total content of mineral salts in bone tissue is about a third of its weight. Calcium accounts for 95% of that amount. In rickets the depletion of bone tissue in calcium is accompanied by a change in bone structure. The bones soften and in infants the fontanelle does not close up for a long time and dentition is delayed.

Prescribing vitamin D in the right amount usually restores the normal ratio of calcium and phosphorus salts and sufficient calcium accumulation in the bones. Excessive vitamin D triggers calcium removal from the bones and they soften again. The signs resemble vitamin deficiency, but there is one important difference: in hypervitaminosis the calcium is not eliminated from the body, since it builds up not in bone tissue but in internal organs such as the kidneys, heart muscle, vascular walls and other tissues. Therefore, if vitamin D administration is not discontinued promptly, the bones and internal organs may suffer permanent damage due to bone decalcification and the calficication of internal organs and tissues.

Like vitamin D, **vitamin A** belongs to the group of lipid-soluble vitamins. Vitamin A hypervitaminosis brings on symptoms and signs of severe poisoning: a headache, alopecia, nausea and weakness. German specialists maintain that vitamin A softens bones, and Swedish medical workers have established that a daily dose of 1.5 mg reduces the density of the femur by 12%. There have been cases of hypervitaminosis as a result of eating polar bear liver, which contains the maximal concentration of all known compounds containing vitamin A – 100,000 and more units. Large amounts of the vitamin are also contained in seal and cod liver. The optimum daily dose has been found to be within 1.5 mg. It can easily be met by eating ordinary food, but if the intestinal microflora is disturbed it can be taken up poorly, which is the case with other vitamins as well. Besides, as has been said, vitamin A is lipid-soluble, so it needs fat to be absorbed properly. Without fat it is assimilated only for 6-10%, whereas in its presence, for 96%.

Vitamin C is the most popular with the general public. Its recommended dose for an adult is 75 mg a day. The first reaction of the body on ingesting it in large amounts (0.5-1 g) is a sharp rise in enzymatic activity. This dose taken for 2 days can be effective in preventing influenza during epidemics. It is also recommended in stressful situations.

Hardly anybody can be found who is afraid of an excess of vitamin C. The pharmaceutical industry also does its best to provide people with enough drugs containing vitamin C, made as additives to glucose, juices, other drinks and so on. Physicians recommend using it in large amounts during colds and most people heed the advice.

Enough data has accumulated on the physiological role of vitamin C in metabolic processes. It has a broad spectrum of protection for the body. The activities of many enzymes depend on the availability of vitamin C in the body, which is used in the synthesis of their protein part. Thus, the activities of the detoxifying enzymes in the liver are directly dependent on the amount of vitamin C in the hepatic tissue. Since one of the most important functions of the liver is to detoxify toxic substances, its role in body defences becomes evident.

Vitamin C is essential to the formation of protein-containing hormones and nucleid acids. It has a direct effect on the synthesis of collagen, a protein that accounts for much of the body protein content. The distribution of vitamin C in various tissues is also directly dependent on the rate of synthesis of protein-containing

compounds such as enzymes and hormones in a particular organ or tissue. Much of it is contained in the endocrine glands. Thus, the adrenal glands contain about 400 mg%, whereas muscle contains only 2-3 mg%.

In the norm, no matter how much vitamin C is administered, even if the amount is great, its content remains optimal for a particular tissue. Its surplus is broken down and eliminated from the body. Adapting so as to eliminate excessive vitamin A when large doses are taken, the body continues for some time to break down and eliminate it at the same rate even after the vitamin doses have returned to normal. As a result, all tissues become greatly depleted of vitamin C. Thus, hypervitaminosis C, like other types, becomes a hypovitaminosis, and the pathological changes in the body develop very rapidly.

Two groups of guinea pigs received a minimal dose of vitamin C just sufficient to prevent hypovitaminosis. Then one group was given twice the optimal dose, which led to a rise in the ascorbic acid level in various organs reaching a peak on the 20^{th} day. After vitamin C was eliminated from the diet of both groups the animals that had been given the larger doses were the first to die of scurvy.

Hypervitaminosis C causes profound changes in the body. It is typical that subjective impressions in it are such that they can be associated with many other causes. Hypervitaminosis C can be accompanied by insomnia, increased nervousness, anxiety; at night tachycardia can often occur. If patients are taking barbiturates and are prescribed up to 0.5 g of vitamin C, spontaneous symptoms of the hypervitaminosis come on such as hotness, a headache, insomnia, nervous excitement, and cold sweat. In experiments on guinea pigs, which like humans develop scurvy it has been demonstrated that if the ascorbic acid content in the food has been 2-4 times the norm for 3 months, the electrocardiogram is changed, revealing an impaired nutrition of the heart muscle.

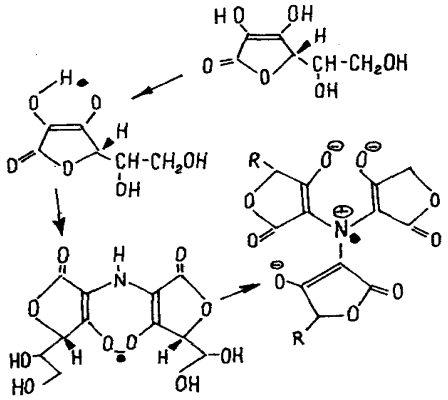
Vitamine C overdose brings about disturbances in metabolism, particularly carbohydrate metabolism. This is especially hard for people suffering from diabetes mellitus. Vitamin surplus exacerbates the already inadequate supply of the heart muscle with energy-rich and structural materials. This is hardly surprising: excessive collagen, whose synthesis is boosted by vitamin C, promotes the progress of vascular diseases.

Recent studies show that an excessive uptake (more than 1,000 mg) of vitamin C promotes the formation of renal calculi.

Animal experiments conducted more than 40 year ago showed that large doses of vitamin C lead to infertility and the birth of dead young. Professor Ya. Podmor maintains that taking more than 500 mg of vitamin C damages the molecules where genetic information is stored. Other research has shown that excessive vitamin C has an adverse effect on the DNA. A daily intake of 500 mg impairs hereditary mechanisms and may even give rise to cancer.

Ascorbic acid is widely used not only in medicine but also in the food industry. It is known that nitrates, after entering the body with food, interact with the hydrochloric acid of the gastric juice, transforming into nitrous acid ($HN0_2$), which easily gets into the bloodstream and is carried throughout the body. On entering cells it reacts with the nucleoproteins to form oxi derivatives. This introduces defects into the nucleotide triplets, which may result in undesirable mutations. To neutralize the harmful effects of nitrites, meats have come to be treated with ascorbic acid. This, in turn, leads to the formation of dehydroascorbic acid. Unfortunately, before the acid in question is available, a lot of intermediate products emerge, mainly free radicals. These resemble vitamin C to such an extent that the cell is deceived and engulfs the aggressive molecules capable of damaging tissues. The consequences include myocardial infarction, cancers, and so on.

Additions of ascorbic acid to meats can give rise to other effects as well. In the presence of ferric ions it can generate free hydroxyl radicals which, if present in excessive amounts, can produce mutagenic effects. The use of vitamin C included in combined mineral supplements, especially if it gets into the body with iron, is equivalent to administering a poison.



Free radical formation from ascorbic acid

Multiple vitamin supplements are now in widespread use. The most popular, especially with elderly people, are Hendevitum and Undevitum. The daily dose of vitamins contained in Undevitum is 3-6 times that necessary to a healthy person. After taking Undevitum a person becomes more active, but this lasts only for a few days, followed by oversaturation, which may produce unpleasant and often dangerous consequences (of which the disturbance of adrenal function is one).

Vitamin B_1 is the most toxic of all water-soluble vitamins. In large amounts, especially if administered parenterally, it suppresses cholinenterase and histaminase, which triggers an allergic reaction and may even result in an anaphylactic shock.

Vitamin B_6 in large amounts can cause rashes and vertigo accompanied by cramps and, if administered for a long time, suppress the anticoagulant mechanisms.

Vitamin B_{12}, especially in conjunction with vitamin B_1, often gives rise to allergic reactiosn, inflammation of the oral cavity, and polycythemia.

A distinction should be drawn between vitamins and 'vitamins'. This means that synthetic vitamins and vitamins contained in foods, while not differing in their effects in normal amounts, can produce a hypervitaminosis in excessive amounts.

The same goes for other synthetic products. Decaffeinated coffee is one such product. If one drinks more than 2 cups of such coffee a day one runs a certain risk. On switching from 2 cups a day to 4 cups the cholesterol level rises by 20%, and to 5 cups, by 50%. Regular coffee has no perceptible effect on the development of coronary disease, since caffeine is a natural protective factor that prevents blood cholesterol levels from rising.

The thing is that the body treats active substances very carefully, since otherwise undesirable processes may be catalysed. It is known that pepsin or trypsin breaks down proteins to the necessary condition. The same enzymes take part in cleaning a wound of necrosed tissue without affecting healthy tissue. This is down to the fact that live tissue contains an antienzyme that inhibits enzymatic activity. *For example, such an antienzyme as ovomucoid is contained in egg and, if one consumes raw eggs, their protein will virtually not be assimilated. By contrast, hard-boiled eggs are also assimilated poorly, but for another reason. Ovomucoid loses its activity at 70 °C. Boiling eggs hard makes the proteins so dense that the enzymes cannot penetrate them and begin digestion. Therefore the optimal method is to eat eggs soft-boiled or poached. For this*

they should be kept in boiling water for 3 minutes (soft-boiled) or 3.5 minutes (poached). The process inactivates the ovomucoid, but does not make the proteins too dense.

Most hormones, enzymes and other active substances are in a combined form, as a complex. As and when necessary the control system can break these complexes down or create them again. *A simple example will suffice: it is inconvenient for the body to keep the energy stores in the form of glucose, since it dissolves in water and is largely lost with urine or sweat, as happens in diabetes mellitus; therefore, the body converts it into fat and, when necessary, this back into glucose.*

We recommend combining therapy by means of the infrared emitter with consuming natural juices and various salads containing vitamins in a natural form, and with using biopreparations that normalize the status of the intestinal microflora (bifidumbacterinum, lactobacterinum, collibacterinum and so on).

OXYGEN

Stress is part and parcel of life, a special state of the body, that occurs as a result of a negative emotion, overeating, overexertion, infection, too high or too low an ambient temperature, and so on. It is also caused by such oxidants as ozone, peroxides, and paramagnetic oxygen derivatives.

Strange as it may seem, oxygen that is so essential to vital activity is toxic to any organism. Animals do not die of exposure to the air only because of the sophisticated biochemical defence mechanisms nature has endued them with. But the protection is not absolute; it has its limitations. So no organisms have evolved on Earth that would thrive in an atmosphere containing more oxygen than the air does. In an atmosphere of pure oxygen any mammal dies relatively quickly. There are also anaerobic creatures that die in an atmosphere containing very little oxygen where a 'normal' organism dies of hypoxia. Is this the reason why the majority of longlivers have been born in mountains, where the partial pressure of oxygen is lower than at sea level?

The chemical bonds in molecules are as a rule formed by electron pairs whose spins are aligned in an antiparallel fashion. Oxygen is an exeption, since its molecule contains two electrons aligned in a parallel fashion. This feature prevents it from entering into typical chemical reactions involving both electrons at a time. In most cases such transformations turn out to be unfavourable for it; otherwise neither free oxygen nor organic matter in its usual forms could exist. However, this does not apply to reactions involving the transfer of one electron. Its capture by an O_2 molecule results in the formation of a superoxide anion-radical which triggers a chain of reactions that produce free radicals $HO_2^{\bullet}$ and $HO^{\bullet}$ followed by hydrogen peroxide H_2O_2 and the above-mentioned unpleasant consequences of their transformations.

On contact with oxygen organic materials undergo oxidative destruction, during which other, carbon-containing radicals form. Especially quick to oxidize are vegetable oils and animal fats. Even when kept in air they build up peroxides, hydroperoxides, epoxides, carbonyl compounds and other hazardous products. There are grounds for suspecting that such oxidative transformations of cellular lipids may have rather serious consequences for the body.

As a result of the oxidation of the lipoproteids by peroxides in the body over time there is a buildup of wear-and-tear pigments – lipofuscins (which are manifested as liver spots on the skin). The older a person, the more lipofuscins are deposited in the tissues. This happens in spite of active protection by enzymes such as catalase, glutathione peroxidase, superoxide dismutase that shield the cell from free radicals that can damage and even kill it.

Let us take one kind of cell – red blood cells. They live only 120 days, by the end of which they become old, more susceptible to hydrogen peroxide, and die easily. Is it possible that the different susceptibility of RBCs of different age to oxidation is a feature enabling the body to promptly recognize an aged cell and replace it with a new one? Maybe, something similar happens to an old animal that has fulfilled its life programme? If it is viewed as a constituent cell of a superorganism termed a biological species, the comparison ceases to seem so far-fetched.

Experiments carried out on human tissue cultures demonstrate that in an atmospere of pure oxygen the most intensive peroxide oxidation resulting in a buildup of wear-and-tear pigments occurs in the tissues of the lungs, heart and kidneys. In the heart muscle, eg, their amount grows by 0.6% of the total intracellular volume every 10 years. These same organs are the ones most often involved in a pathological process.

The most prevalent external sign of old age, wrinkled skin, appears as a result of the free-radical polymerization of elastin, a protein contained in it. The reaction is initiated by oxygen. The adverse effects of oxygen manifest themselves on its partial pressure rising by as little as one atmosphere, let alone so-called hyperbaric doses nowaday widely used in health-care facilities in many countries.

In recent years some countries have seen a spate of campaigns promoting oxygen therapy (oxigenation) at home, which cannot but give concern. It should always be borne in mind that even a very good medicine, when used uncontrollably, may cause irreparable harm.

In view of the adverse effects increased oxygen levels may have on the body, one should exercise restraint in using hyperbaric therapy. Further, it has been found that in some people hyperbaric oxygen therapy, like slight irradiation, leads to adaptation. Why this happens is yet unknown; one can only speculate that the oxygen activates prostaglandin synthesis (via a free-radical mechanism) and boosts the antimicrobial defences through interferon.

Final conclusions about the causes of a reduced, and in some cases an increased, body resistance to oxidative stress can be made only after deciphering the mechanisms that give rise to it at the molecular level.

The peculiar nature of oxygen is also manifested in the fact that the state standard for other molecules, where all the electrons are paired, the so-called singlet state, for it is not stable, passive, but on the contrary an active, aggressive one. Usual molecular oxygen $^3O_2$ can be converted into active $^1O_2$ by means of light in the presence of sensibilizers.

The increased activity of $^1O_2$ arises from the fact that it is prohibited from taking part in bielectron reactions. It can therefore very easily add to the multiple bonds of organic molecules such as lipids or carotenoids. For this reason the best protection from its action can be β-carotene, a pigment contained in carrot and the skin of ripe tomatoes. It has been proved that the photosensitivity of a body can be reduced by a simple ploy of ingesting carotene. This method is considered the most effective in treating various porphyrias (photodynamic disorders), even very grave ones.

Singlet oxygen can react with saturated molecules as well, if these contain sulphide groups or ammonia residues, for example, with amino acids and proteins. Moreover, its adverse effects is greatly exacerbated by so-called xenobiotics – substances that get into the body from the surroundings. These include the products of tobacco dry distillation, ethanol, and some chlor-containing compounds. This is another argument against the permissive attitude

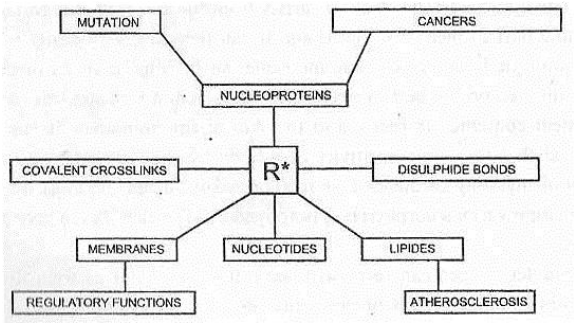
towards smoking and alcohol drinking that still persists in many unenlightened people.

It is the cells of the liver, kidneys and spleen that specialize in detoxifying foreign substances entering the body. The simplest model of the processes that occur there and that employ mechanisms of single-electron oxidation and reduction can be the reaction of carbon tetrachloride with primary amins. Its first step is as follows:

$$CCl_4 + NH_2R \text{ ---- } [^{\cdot}CCl_4 \ldots {}^{+\cdot}NH_2R] \text{-----} {}^{\cdot}CCl_3 + Cl^- + {}^{+\cdot}NH_2R$$

It produces a couple of radical species: a cation radical of an amino acid, one of those making up the protein chains, and a trichloroethane radical. The fate of the latter is extremely multifarious. The particle may be detoxified by the enzymatic protection mechanisms, but at the same time it may give rise to harmful substances forming as a result of quite ordinary chemical reactions. Among these are atomic chlorine and the $HO^{\bullet}$ radical, the same as forms in the course of hazardous oxygen transformations, as well as phosgene, hydrogen chloride, and carbon monoxide known for their toxicity…

Then is it not the case that aging is a result of the progressive degradation of the enzymatic protection mechanisms and uncontrollable, destructive processes increasingly come to the fore?



Excessive exposure to oxidants, including air, can give rise to pulmonary, vascular and other disorders. Factor in the fact that urban air contains not only the oxidant but also incomplete combustion products, lead compounds and other contaminants that can act as xenobiotics, and the paradoxical conclusion suggests itself that the more deeply we breathe the faster we age. Each of us comes into direct contact with this air 25,000 times a day at the entire surface area of the lugns, which is about 80 m^2.

The processes of breathing and energy exchange, although dependent on a number of factrors, are controlled by the hormonal systems of the body and the nervous system. First of all it is thyroid hormones, thyroxine and triiodothyronine, that come to mind. It is known that patients suffering from thyroid hyperfunction – hyperthyroidism – consume 1.5 times as much oxygen as healthy people. By contrast, in thyroid hypofunction – myxoedema – oxygen consumption is greatly reduced.

However, the thyroid hormones are by no means the only components of the endocrine system that affect gas exchange and oxygen utilization. These processes are very actively stimulated by noradrenalin responsible for homeostasis, as well as histamin, glucagon, somatotropin, and the male sex hormone testosterone. On the other hand, the 'figth or flight' hormone adrenalin and other stress hormones – adrenocorticotropic, cortisol, corticosterone, aldosterone – greatly suppress oxygen utilization and lower maximal oxygen consumption in humans and animals. Evidently, rather than the localized action of one or another substance, there is an entire sophisticated system of hormonal regulators that are in turn controlled by the central nervous system.

This point of view was formulated and substantiated by V. S. Gorozhanin, a researcher of the National Research Institute for Physical Culture. He classified all people, regardless of training and health status, into two polar types. The first is an aerobe that responds to prolonged exercise by abruptly raising the levels of noradrenalin, somatotropin, thyrotropin, testosterone, glucagon and so on. Such a person needs a lot of oxygen, and he has high maximal oxygen constumption. The second type, an anaerobe, in response to exercise greatly increases the levels of adrenalin and all the stress hormones – ACTH, β-endorphine, cortisol, and aldosterone. The blood of such people quickly builds up the lactate, their heart rate greatly increases, and the maximal oxygen consumption falls.

Neither type should be considered good or bad. Each is matched by a peculiar type of activity of the nervous system. Aerobes – usually not very sensitive people – are hyposensors; by contrast, anaerobes are restless and sensitive and hypersensors. To aerobes belong sportstmen whose sport demands stamina, as well as people suffering from bronchial asthma, allergy, hyperthyroidism, and to anaerobes, sptinters, weight-lifters and people suffering from neuroses, hypertension, obesity, and atherosclerosis.

ULTRAVIOLET IRRADIATION

Exposure to UV radiation gives rise to free radicals with high activation energy which will produce the same effects as result from exposure to hyperbaric oxygen concentrations. Besides, UV radiation promotes the formation of ozone, a powerful oxidant. Therefore exposure to UV radiation automatically results in an oxidative stress.

It should be pointed out that we produce our own infrared radiation without which life would be impossible. Its wavelength is 9.36 μm. As is known, quantum energy is inversely proportional to wavelength. The UV range extends from 0.18 to 0.44 μm. Consequently, the quantum energy of this radiation may exceed our own fiftyfold. This is equvalent to a bomb exploding inside the cells. The human enzymatic system can withstand UV radiation to a certain extent. Again, it depends on whether the UV radiation is used alone or in combination with other regions of the spectrum. The natural radiation spectrum (of the sun) has an IR range as well, which activates the body defences; therefore, natural UV radiation is not as harmful to the body as that generated artificially, since mercury or xenon lamps do not generate IR radiation.

CONCEPT OF DRAINAGE AND ITS POSSIBLE MANIFESTATIONS

By drainage is meant the elimination of toxins, including metabolic-waste products, from the body. Physiologically, it is eliminated with urine, faeces, sweat and exhaled air. Therapeutic exposure to infrared emitters releases into the bloodstream large amounts of toxins, the products of degradation of bacteria, viruses, connective tissue, tumours, atheromata, and so on.

What can the consequences be? It depends on what route it is easier for the patient to eliminate the toxins by. In other words, what type of drainage proceeds in them the most easily. If it is through the skin, the manifestations that occur most often are skin disorders such as psoriasis, eczema, and so on. If it is easier to proceed via the gastrointestinal tract, there will be disorders of the corresponding organs.

A normal response by the body is to eliminate foreign substances as quickly as possible. This increases cardiac output and the patient's blood pressure rises and the heart rate becomes faster. If the adaptive capacities are high enough the body can cope with the stress and the toxins formed as a result of exposure to the emitters are easily removed from the bloodstream. This does not change the patient's overall status. However, if resistance is too low and the body cannot handle toxin removal, autointoxication develops. The manifestations include increased weakness, sleepiness, headaches, nausea, vomiting, diarrhoea, skin rashes, increased diuresis, and a possible recrudescence of a current or past disease. If body defences (the body's adaptive capacities) are suffi-

cient, patients can cope with these symptoms easily enough and do not need corrective action.

Decreased readings at the points of the pancreas, adrenals, sympathetic and parasympathetic parts of the nervous system according to EAV during treatment indicate impaired adaptive capacities of the body. In this case appropriate infrared emitters should be prescribed. To alleviate the intoxication phenomena, patients are strongly recommended to drink copiously (green tea, juices, water). The liquid should be sipped slowly (a glass in 15 minutes). On average it is enough to drink a glass an hour, which translates into 1-2 litres a day, and 2 hours before going to bed the consumption should be reduced or stopped altogether. If the intoxication phenomena persist, detoxifying solutions should be prescribed intravenously (such as Ringer's, haemodesum, rheopolyglucinum, acesolum, dissolum).

Patients with low adaptive capacities respond inordinately even to small changes in homeostasis. In them, drainage produces signs of various disorders. Thus, if it occurs via the kidneys, patients may have urine clouded and increased diuresis. Urine should be closely monitored in order to prevent undesirable consequences such as the appearance of WBCs, casts and protein in the urine.

An affliction of the vascular system may give rise to changes in the heart rate or blood pressure. Patients suffering from hypertension have an increased blood pressure. With a disturbed cardiac rhythm or tachycardia even small increases in heart rate lead to a marked deterioration of the overall status and arrhythmia. After the appearance of such symptoms and signs the length of exposure should be reduced, and the function of the adrenals, pancreas, sympathetic and parasympathetic nervous systems closely monitored. The length of exposure and type of emitter should be determined only by testing according to EAV and monitoring the heart rate and blood pressure.

Patients may run a temperature, which is the body's response to the release of a large amount of degradation products in the bloodstream. If the temperature does not exceed 38°C, it is necessary to drink more liquid and have a cleansing enema. If it does exceed 38°C and the patient copes with it relatively satisfactorily, no antipyretics should be given. These are necessary only if the patient's condition is grave.

Skin manifestations can be in the form of various rashes – vesicles, papules, pustules, and urticaria. Those suffering from skin disorders may experience a recrudescence of the process, since the drainage in them is mainly through the skin.

It is virtually impossible to cover all manifestations of drainage, since the response of every patient is individual. If some signs come on indicative of a deterioration of the overall status, it is necessary to take readings at the points of the adrenals, sympathetic and parasympathetic nervous systems, pancreas, and carbohydrate, protein and lipid metabolism.

The treatment depends on the parameters listed.

If they do not differ from the initial ones, a cleansing enema, diuretic teas, rehydronum, juices and green tea are recommended. The therapy schedule should be changed: a break is taken for a day or two, and only the **KL** or **KH** emitter should be used, which alleviates the patient's condition. If the treatment cannot be discontinued, the length of exposure should be determined by means of **EAV**.

In a pronounced intoxication the general emitters **RC+ZB** should be used. The first drastically reduces the number of free radicals, and the second promotes a quick elimination of the degradation products from the body. Usually, a 10-minute exposure is enough for detoxification. The same ploy produces splendid results in case of intoxication for other reasons not associated with treatment.

If readings at the points of the endocrine system exposure are decreased, the exposure to general emitters should be discontinued. If the treatment cannot be suspended, the length of exposure should be determined by testing according to **EAV.** The type of emitter and length of exposure for the adrenals, pancreas, sympathetic and parasympathetic nervous systems should be chosen on the basis of **EAV** readings.

Reduced **EAV** readings at many points are associated with a functional decrease in organ activity and caused by intoxication. First of all emitters should be chosen to restore carbohydrate, protein and lipid metabolism, adrenal and pancreatic function, and the balance between the sympathetic and parasympathetic nervous systems. Treatment should be done together with close monitoring by means of the Voll meter (by testing the effect of the emitters and length of exposure).

It should be pointed out that treatment by means of infrared emitters may change blood composition. However, this is not pathology but is caused by a great expenditure of structural material on processes intended to restore the body. Moreover, low haemoglobin levels may be the cause of increased blood pressure. This arises from the fact that at low haemoglobin concentrations blood is depleted of oxygen. So as not to experience hypoxia, the brain activates its regulatory mechanisms, which increase blood flow by raising blood pressure. Systolic pressure ensures increased blood flow, whereas diastolic pressure enhances glomerular capacity.

'CT' APPARATUS

The 'CT' apparatus is successfully used to treat various disorders of the small pelvis and intestine.

It consists of three emitters: **R**-line, **GI/AF**-line and **ZB**-line ones. According to the cause of the disease, the appropriate emitters are activated.

The emitters of the 'CT' apparatus directly irradiate the perineum and organs of the small pelvis.

The right combination of the emitters fitted into the 'CT' apparatus enables one to achieve considerable effect in treating colpitis, vulvovaginitis, proctitis, paraproctitis, endometritis, adnexitis, prostatitis, cistitis, urethritis, prostatic adenoma, myoma, benign and malignant tumours of the genitals, cervical erosion, anal fissures and other disorders of the organs of the small pelvis and intestine, without resorting to medications. Affecting the pathological process through the anterior abdominal wall and perineum simultaneously significantly reduces the time necessary for the signs of the disease to disappear.

Combining general and topical emitters with the 'CT' apparatus enables one to achieve favourable treatment results in a short time.

The efficacy of treatment by exposure to the 'CT' apparatus is determined by the combination of general and topical emitters and the length of exposure, as well as the body's adaptive capacities.

Therapy by means of the 'CT' apparatus is done while monitoring by means of EAV (as to the length of exposure, types and combinations of emitters).

It has been found that the use of this apparatus normalizes the immune system:

Exposing the rectal and sigmoid colon, urinary bladder, genital organs and glands to infrared radiation not only relieves the inflammation, destroys viruses, improves circulation in these organs, but also boosts the production of IgA, which is formed in the mucous membrane of the urogenital organs and gastrointestinal tract. It is known that a drop in the levels of IgA promotes the active growth of pathogenic microflora in the intestine and genitals. IgA is responsible for the local immunity of mucous membranes, including those of the female genitals, and has an antiviral and antibacterial effect.

Supplementing this by exposing the thymus to the KL(s) emitter promotes the production of IgM or γ-macroglobulin, whose synthesis involves messenger RNAs at the ribosomes of the granular endoplasmic network of lymphocytes and plasmocytes. IgM has antiviral and antibacterial activity, which is important for the body as a response to a foreign body entering through the so-called portal of entry.

Given below are approximate treatment schedules for some disorders using the 'CT' apparatus.

- Acute prostatitis: 10-15 minutes 2-3 times daily for 8-10 days (to RC/RV+GI+ZB).

- Chronic prostatitis: 15 minutes once or twice a day for 15 days, first to RC/RV+ZB+GI, then to RC/RV+GI+ZB.

- Urethritis: 20-25 minutes 2-3 times daily for 7 days (in case of viral aetiology to RC/RV+ZB+GI, in case of bacterial aetiology to GI+ZB).

- Impotence: 10-20 minutes once or twice a day for a month to RC/RV+GI+ZB.

- Haemorrhage: 10 minutes twice a day for 3-4 days to GI+ZB.

- Enuresis: 10-15 minutes once a day for 7-10 days to GI+ZB; if EAV has revealed a virus, this should be supplemented with an R-line emitter.

- Myoma: 10-15 minutes once or twice a day for 3-4 weeks to RC/RB+ZB.

- Ovarian cyst: 10 minutes once or twice a day for 2-3 weeks to RC/RV+GI+ZB.

- Acute endometritis: 15-20 minutes 2-3 times a day for 7-8 days (in case of viral aetiology to RC/RV+ZB+GI, in case of bacterial aetiology to GI+ZB.

- Chronic endometritis: 10-15 minutes once or twice a day for 2-3 weeks to RC/RV+GI+ZB.

- Postpartum endometritis: 15-20 minutes 2-3 times a day for a week to RC/RV+GI+ZB.

- Uterine bleeding: 10 minutes 3-4 times a day for 3-4 weeks to GI.

- Infertility: 10-15 minutes once or twice a day for 3-4 weeks, first to RC/RV+ZB, then to GI+ZB.

- Bartolinitis: 15-20 minutes 2-3 times a day for 8-10 days to GI+ZB.

- Frequent and spontaneous (habitual) abortions: 20 minutes once or twice a day for 2-3 weeks to GI+ZB.

- Diabetes mellitus (glucosuria): 10-15 minutes once or twice a day for 10-12 days to GI+ZB.

- Angiopathy: 10 minutes once or twice a day for 2 weeks to GI+ZB.

- Intestinal colics: 10-15 minutes 2-3 times a day (in case of viral aetiology to RC/RV+ZB, in case of bacterial aetiology to GI+ZB)(the aetiology is determined by means of EAV).

- Cholecystitis: 10 minutes 2-3 times a day for 8-10 days to GI+ZB (to alleviate the pain symptom).

- Colitis: 10-15 minutes once or twice a day for 5-6 days to GI+ZB (to alleviate the pain symptom).

- Cachexia, lassitude, postoperative conditions: 10-15 minutes once or twice a day for 10-12 days to GI+ZB.

- Endarteritis: 10 minutes once or twice a day for 2 weeks to GI+ZB.

- Varicosis: 10-15 minutes once or twice a day for 2-3 weeks to RC/RV+ZB.

- Osteochondrosis of the lumbosacral spine: 10-15 minutes once or twice a day for 2 weeks to RC/RV+ZB or GI+ZB.

- Neurasthenia: 10 minutes once or twice a day for 2 weeks to GI+ZB.

- Polyneuritis: 15 minutes 2-3 times a day for 2 weeks to RC/RV+ZB, followed by GI+ZB.

Examples. *Patient G., male, aged 18, was hospitalized with a diagnosis of posttraumatic stricture of the urethra. Case history: on 21 September 1996 he met with a car accident where he sustained a combined injury (fractures of the ischium, tibia, fibula and femur at two points). He stayed for a long time at the traumatology ward, where he had two operations for the fractures. During the postoperative period he noticed that he had become unable to void the urinary bladder unaided, and had to have the urine eliminated through a catheter. At discharge he was recommended to have further surgery at the urology ward. He had urethrocystography, which revealed a large bend in the prostatic part of the urethra and a fracture of the ischium at two points, with the lower part dislocated. He visited the hospital for bougienage every 5 days and complained of a weak flow of urine, a double stream, and difficult urination. He was recommended to have urethroplastics or, barring that, bougienage once a week for life. He came to the clinic after he had flatly refused to be operated upon.*

After the first session of exposure to the ZB emitter (in the 'CT' apparatus) + KL emitters he had a sensation of increased heat in the urethra during urination. After the third session the stream became thicker, with an admixture of blood. Bougienage was done every 7 days. After the sixth session of exposure to the ZB emitter he felt that in passing the bougie the obstacle, that had had at least 3-4 bends, now had only one. When he had urges to urinate he had to urinate immediately, and the stream became full. After the ninth or tenth session the bougie could pass unimpeded except for a small obstacle at the end. Then he was sent to have a control urecystomgram, which revealed a marked smoothing out of the bend and at the point where the prostatic part of the urethra transitions into the hanging part. The bougienage came to be done once every 18 days. A repeat course was done as follows: 10 exposures to the ZB emitter, 6 to the KL emitter, and 1 exposure to the KB emitter in the area of the fracture for 1-2 minutes, after which it was decided to discontinue the bougienage. The stream became full, and the act of urination unimpeded. A control picture of 30.04.1997 revealed that the bend had become smoother.

Patient H., female, aged 39, presented with complaints of abdominal pain and frequent liquid stools for 5 hours. EAV testing produced readings at the point of the small intestine ranging from 82 to 90 and detected nosodes of B.streptococcum and B.salmonella. She received treatment by exposure to the GI emitter (within the 'GT' apparatus) for 20 minutes. The abdominal pain went away after 10 minutes of therapy. The stool became normal after the first session.

Patient P., male, aged 45, presented to the clinic with complaints of asymptomatic haematuria; the examination (ultrasound, X-ray tomography, excretory urography, cystoscopy, per rectal examination) revealed prostatic cancer. The treatment schedule was as follows: the RC emitter (within the 'CT' apparatus) for the prostate 5 times a day, the RC(b) emitter once a day, and the RV emitter (within the 'CT' apparatus). While monitored by the Voll meter, topical exposure was given to the liver, kidneys, lungs, intestine, head and vertebral column. The course lasted 3 months. The outcome: the prostate size is within normal; no data has been found to suggest prostatic cancer, chronic colitis or vasomotor rhinitis.

Patient S., male, was hospitalised with a diagnosis of a recrudescence of chronic prostatitis, complaining of lower abdominal pain and dysuria. The treatment consisted of exposure to the 'CT' apparatus fitted with GI+KL emitters for 10 minutes and the ZB(s) emitter in the area of the urinary bladder for 10 minutes (simultaneously). The treatment continued for 10 days, which resulted in a complete remission of the condition.

Patient D., female, was hospitalised with signs of acute cystitis. After one session that included topical exposure of the urinary bladder through the anterior abdominal wall and of the perineum to the 'CT' apparatus fitted with RV+GI+ZB emitters. 30 minutes was enough to alleviate all the symptoms of acute cystitis: frequent painful urination, lower abdominal colics, and urination in small portions.

Patient K., male, was hospitalised with a diagnosis of prostatic adenoma. The treatment consisted of exposure to topical emitters RC+ZC+KL for the lower abdomen and to the same types fitted into the 'CT' apparatus. Such manifestations adenoma as difficult urination and unpleasant sensations in

the lower abdomen he had suffered from for 5 years went away in 12 sessions.

Patient M., female, aged 22, is described in the case history as having had two late spontaneous abortions accompanied by hepatosplenomegaly and anasarca. In both cases pregnancy terminated at the 6-7th month. The examination detected antibodies for cytomegalovirus, and ultrasonography, signs of chronic endometritis. At admission she complained of severe lower abdominal pain, a discharge streaked with blood from the vagina, and frequent headaches. She received 12 sessions of exposure to general and local emitters – RV+AF+ZC+KL – as well as to the 'CT' apparatus for the perineum (simultaneous irradiation of the uterus through the anterior abdominal wall and perineum). After 6 sessions the vaginal discharge completely stopped and the lower abdominal pain disappeared. After 12 sessions the patient was tested for blood antibodies for cytomegalovirus, and the result was negative. Ultrasonography reveals a uterus of the usual shape, structure and size without any signs of acoustic pathology.

ELECTROACUPUNCTURE ACCORDING TO VOLL (EAV) AND CRITERIA FOR ASSESSING READINGS

The German scientist Reinhart Voll has devised a method of electroacupuncture diagnosis of the status of the organs and systems making up the body. It is based on a concept of informational and functional interdependence between the electroacupuncture points combined into meridians and the associated anatomical and morphological structures of organ and tissue functional systems responsible for the body's adaptive capacities. Every organ, tissue, or regulatory system has an intrinsic potential. This potential of the organ determines its energy state. In other words, the processes occurring in an organ or its part give rise to the potential.

The biochemical reactions occurring in the body are chemical reactions, and a chemical reaction always involves electron transfer. Any electron transfer is accompanied by the generation of an electrical charge, a number of which make up a specific electric signal for every process in any organ. With a biologically normal energy state of an acupuncture point there is an equilibrium between the diagnostic current and the countervailing force made up of the intrinsic potential of the meridian and the organ-tussue system associated with it. This is reflected by the position of the indicator in the meter. The development of a pathologic process changes the rates of the chemical processes going on in the body and thus the current measured on the meridian that is associated with that organ. As a result, the equilibrium is upset, as manifested by various deviations of the indicator. This is regarded as a change in the compensatory and adaptive mechanisms showing up as pathologies of organs and systems. A rise in rate of chemical reactions occurs in inflammatory processes, which translates into increased readings. As an organ develops degenerative changes and grows connective tissue the rates of chemical reactions drop, which results in the indicator dropping below normal.

The significance of data obtained by means of EAV for medicine can hardly be overestimated. By the body's response and a group of active points one can detect the presence of a pathological process, the allergic reaction to medicaments and foodstuffs, and the efficacy of the medicaments and homeopathic preparations prescribed by the physician. EAV allows one to choose optimal infrared emitters and length of exposure in treating various diseases.

EAV measures the average quantitative potential of a point reflecting the state of a particular organ. A virtually healthy organ has a reading of 50 to 60 arbitrary units depending on the calibration of the meter used.

A reading of 50-60 corresponds to processes occurring normally and the absence of pathology.

Readings above normal suggest a rise in rates of chemical processes, which is observed after the organ is attacked by infection, toxins (endogenous or exogenous), allergens, as a result of stressing the central and autonomic nervous systems.

- When there is a pathological process in an organ or its part, the appropriate point can test positive for nosodes of diseases, organopreparations and emitters affecting the processes in the area involved.

Example*. Patient S., female, aged 22, presented complaining of pain in the throat and left ear. Testing by means of EAV at the point of the lymph flow of the tonsils and ear on the left produced reading above normal, of 78 and 86. Nosodes of staphylostreptococcus and the GI emitter tested positive.*

A reading of 60 to 70 suggests functional disturbances.

- If the increase in values at the point is associated with a load on the central and autonomic nervous systems, the values will go back to normal after the normalization of the values at the points of the corresponding nerve plexuses, hypothalamus, pituitary gland, and those of the autonomic nervous system.

- In prolonged intoxication the liver, kidneys and spleen are enlisted in the fight against the xenobiotics, and the metabolic processes in them speed up; however, this indicates a compensatory increase in the function of the organs without a pathological process developing in them. With a compensatory increase in the function of an organ or its part associated with a pathological process in another organ or with impaired compensatory capacities of an organ not associated with pathology in it, nosodes of diseases, organopreparations and emitters test negative.

Examples. *A male patient presented complaining of an enlarged thyroid gland. EAV testing at the points of the thyroid gland produced readings above normal. Exposure to infrared emitters in the area of the gland did not bring them to normal. When radiation from the GI(s) emitter was directed to the lung area (where EAV gave readings below normal), the values went back to normal not only at the points of the lungs but also at the points of the thyroid gland.*

Patient P., female, aged 47, presented complaining of pain in the joints. Testing produced high readings (above 75) at the points of the tonsils, joints, liver and kidneys. The points of the tonsils and joints tested positive for the nosode of haemolytic streptococcus. No nosodes of diseases and emitters tested at the points of the liver and kidneys. The increased readings at these points suggest a compensatory increase in activity of the processes in these organs rather than the presence of pathology. Exposure to the GI(b) emitter normalized the values not only at the points of the tonsils and joints, but also at the points of the liver and kidneys.

- Reduced values in the absence of a pathological process occur in cases where a pathological process developing in an organ has resulted in another increasing its functional activity in compensation at early stages of the disease and at the time of the diagnosis becoming unable to cope with it.

Example. *Patient Z., male, aged 50, presented complaining of an increased thyroid gland. EAV produced readings below normal at the points of the thyroid gland and lungs, with nosodes of infections and diseases detected only at the point of the lungs. Further testing revealed that the readings returned to normal at the point of the thyroid gland on exposure to the emitter in the area of the lung. This is explained by the fact that the presence of the disease in the lungs had brought about functional disturbances of the thyroid gland. It had already been performing a compensatory function, which had resulted in its overload and subnormal readings in testing by means of EAV.*

Readings below 50 suggest the presence of atrophic or degenerative changes.

- With a chronic disease the organ begins to develop degenerative changes. EAV testings reveals subnormal readings and the nosodes can be detected of the toxins of diseases present, as well as types of emitters and optimal exposures chosen.

Example. *Patient N., female, aged 55, presented complaining of constipation lasting for 3-5 days and pain along the course of the large intestine. EAV testing produced subnormal readings of 35-40 and detected nosodes of Salmonella. An improvement in the values was brought about by exposure to the GI emitter. The stool went back to normal after 6 sessions.*

The phenomen of indicator drop is a situation where the indicator, on reaching a maximum, immediately drops and settles at a lower position. This occurs in cases where an active process is going on in the organ (caused by increased resistance at the point), which indicates a chronic disease and occurs as a result of the chronic stress reaction of the organ (in the latent phase, when a dominant state forms of hidden excitation in the cortex, which disturbs the autonomic innervation of the organ).

The phenomenon of slow indicator rise suggests the 'fatigue' of the organ, that is, its functional disturbances.

REQUIREMENTS FOR CARRYING OUT EAV TESTING

In carrying out EAV testing attention should be paid to the following factors that affect the results:

1. If medicaments are taken sporadically (such as analgesics and soporifics), they should be discontinued. If the patient is taking medicaments for vital indications or has been taking them for a long time, the testing is done against the background of their use.

2. Jewels, prostheses, cellular phones, watches (which can give rise to, or prolong the course of, a disease) should be taken off before the testing.

3. The presence of other people is undesirable, as is any extraneous noise.

4. Attention should be paid to the emotional and physical state of the patient and physician (if either has had psychic or emotional stress, the testing should be postponed to the following day).

5. It is forbidden to take coffee, alcoholic beverages and narcotics on the day of testing and the day before.

6. The physician should have cotton gloves on.

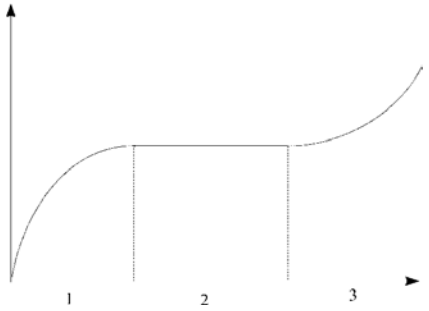
TECHNIQUE FOR LOCATING POINTS AND TAKING READINGS

On the hands and feet the acupunctural points are located at the bases of the heads of the phalanges along a line beginning at the corner of the nail bed and running the whole length of the finger.

The probe is positioned perpendicular to the tissue at the points in the vicinity of the nail bed, perpendicular to the point and at 45° to the tissue at the other points on the hands and feet, and perpendicular to the convexity, concavity, and muscles at the points situated on the head and trunk.

DETERMINING THE PROBE PRESSURE IN MEASURING AT A POINT

If the probe is positioned at a point and pressure is applied to it, it can be seen that at the beginning there is a rise in conductivity on the meter (region 1 in the figure) – a phase of insufficient pressure. This is followed by a period when increasing the pressure on the probe does not cause the indicator to deviate (region 2 in the figure), and readings are independent of the pressure. Further increasing the pressure increases the reading (region 3 in the figure) – a phase of excessive pressure, and a hike in the readings in this region is caused by damage to the epidermis.



If in taking readings the second phase does not occur, this means that the probe is positioned incorrectly.

The probe should be kept pressed to a point for 1-1.5 seconds, with an average force of 500-700 g. In areas of skin with indurations resistivity is higher, necessitating an increase in the pressure. In taking readings at facial points the pressure on the skin should be less than in measuring at the points on the feet.

ASSESSING THE EFFECT OF EMITTERS

Infrared radiation, being in resonance with a pathologic process, changes the rates of chemical reactions, normalizing them, which translates in EAV readings approaching the norm.

If the pathological process and emitter are not in resonance, the indicator will not deviate.

If exposure to an emitter causes a reduction in low readings, increase in high readings, or an indicator drop, the emitter is contraindicated.

Rules for testing for the effect of infrared emitters:

1. A reading is taken at the organ to be tested.

2. An emitter is positioned in a projection of the organ and a one-off reading is taken at the point representing the organ.

Interpretation of testing results:

- if exposing an organ to an emitter does not change the reading on the meter, the organ is not sensitive to the emitter;

- if the indicator approaches the norm or settles at the norm, the use of the emitter is indicated;

- if the indicator deviates from the norm in either direction, the emitter should not be used.

DETERMINING THE STATE OF THE SYMPATHETIC AND PARASYMPATHETIC PARTS OF THE AUTONOMIC NERVOUS SYSTEM

The autonomic nervous system controls interaction between the organs and tissues within the body, performs adaptive and trophic functions, adapting organs and tissues to optimal activity. Functioning in close cooperation with the endocrine system, it preserves the integrity of the body and maintains homeostasis. The autonomic nervous system consists of sympathetic and parasympathetic parts.

The sympathetic part ensures quick mobilization of energy and adaptation of the body to a constantly changing environment. It is predominantly an ergotropic system associated with catabolic processes.

By contrast, the parasympathetic part is responsible for maintaining homeostasis. Through cholinergic structures it control the processes of replenishing energy and nutrients consumed, raising the activity of assimilation processes. it is a tropic system associated with anabolic processes.

The sympathetic and parasympathetic parts of the autonomic nervous system function controlled by the highest autonomic centre, the **hypothalamus**. The hypothalamic region maintains homeostasis and adequate response to various stimuli.

There is a theory of the tonus of the autonomic nervous system being genetically predetermined and of a predisposition to certain diseases depending on the dominance of one of them. It is noted also that a marked imbalance between the parts of the autonomic nervous system is associated with the body being loaded with various kinds of infection and toxin; the tone and resistance of the sympathetic and parasympathetic parts change in the course of a disease, and bringing them to normal speeds up recovery.

Restoring the balance between the sympathetic and parasympathetic parts by means of infrared emitters is achieved by exposing different parts of the hypothalamus to K-line emitters.

EAV testing is used to determine the state of the autonomic nervous system. Measurements are taken at the following points:

- the meridian of the nervous system: the point of the autonomic nervous system;

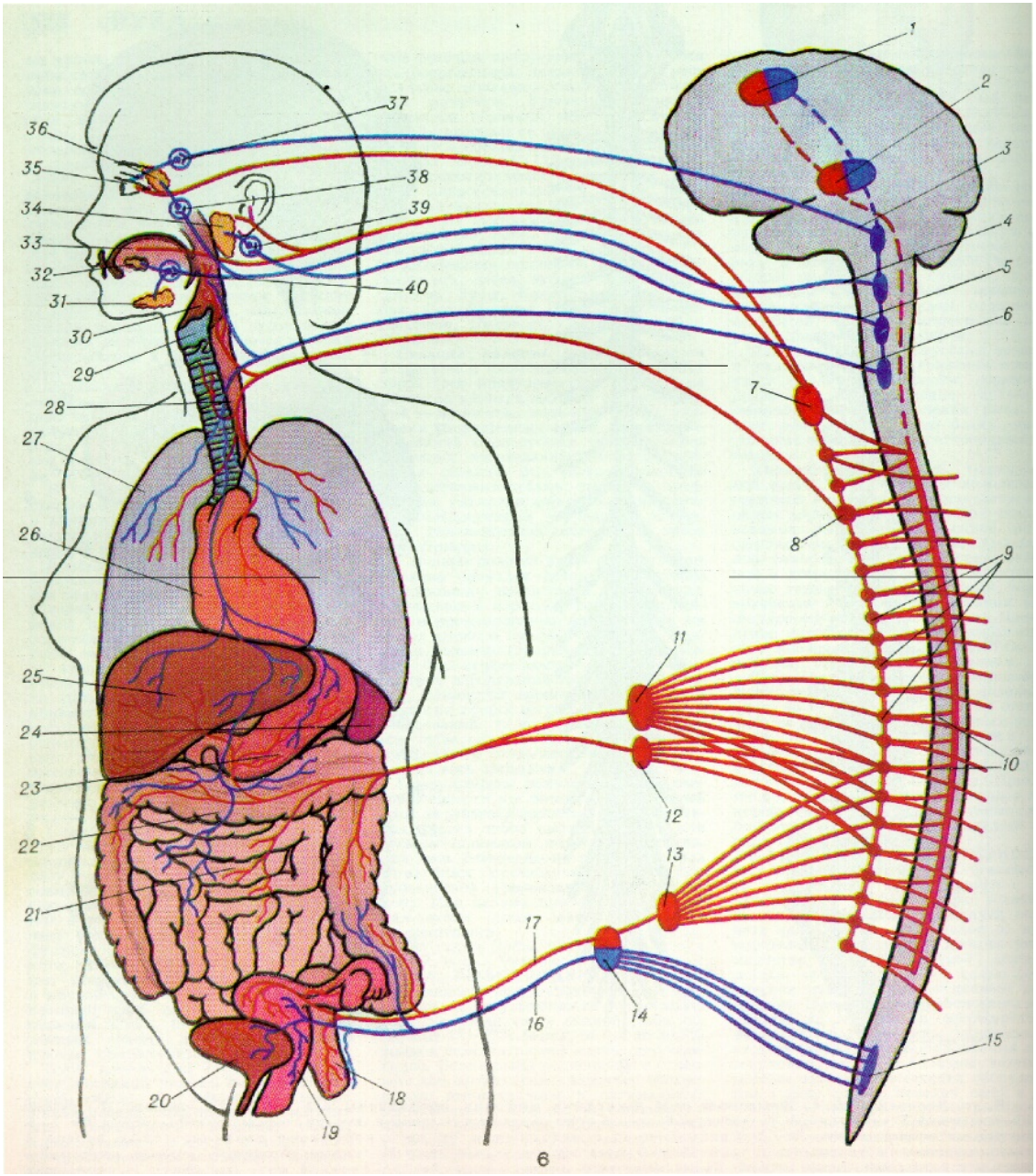
- the EPED meridian: the point reflecting degenerative changes in the autonomic nervous system;

- the allergy meridian: the point characterizing vegetative disorders in allergic reactions;

- the endocrine meridian: at the bioactive point is determined the state of the sympathetic part of the autonomic nervous system;

- the meridian of the nervous system: the point of parasympathetic ganglii of the head, reflecting the state of the parasympathetic part of the autonomic nervous system.

Schematic representation of the structure of the human autonomic nervous system and the organs it innervates (shown in red is the sympathetic nervous system, in blue the parasympathetic one; the connections between the cortical and subcortical centres and the structures of the spinal cord are shown in dotted lines):



1 and 2 – cortical and subcortical centres, 3 – oculomotor nerve, 4 – facial nerve, 5 – glossopharyngeal nerve, 6 – vagus nerve, 7 – superior cervical ganglion, 8 – stellate ganglion, 9 – sympathetic trunk ganglii, 10 – sympathetic nerve fibres (autonomic branches) of the spinal cord nerves, 11 – solar plexus, 12 – superior mesenteric ganglion, 13 – inferior mesenteric ganglion, 14 – subceliac plexus, 15 – sacral parasympathetic nucleus of the spinal cord, 16 – internal pelvic nerve, 17 – subceliac nerve, 18 – rectum, 19 – uterus, 20 – urinary bladder, 21 – small intestine, 22 – large intestine, 23 – stomach, 24 – spleen, 25 – liver, 26 – heart, 27 – lung, 28 – oesophagus, 29 – larynx, 30 – throat, 31 and 32 – salivary glands, 33 – tongue, 34 – parotid salivary gland, 35 – eyeball, 36 – lacrimal gland, 37 – ciliary ganglion, 38 – pterygopalatine ganglion, 39 – otic ganglion, 40 – submandibular ganglion.

In a healthy person with good resistance to stimuli of various force the parameters of the sympathetic and parasympathetic parts of the autonomic nervous system are in equilibrium (within normal according to EAV). In various diseases they deviate from normal.

Let us consider possible variants of these deviations (it should be borne in mind that a choice of emitter and optimal exposure is always made under EAV monitoring).

Values at the point of the sympathetic part of the autonomic nervous system or both parts simultaneously are above normal.

As a rule, the values of the sympathetic and parasympathetic parts are normalized by exposing the hypothalamic area to the KH(s) emitter. It is done under EAV monitoring and lasts until the values return to normal. Maximal exposure, if the values do not become normal under EAV monitoring, is 5 minutes.

The values of the parasympathetic part of the autonomic nervous system or both parts simultaneously are below normal.

As a rule, the values are brought to normal by exposing the hypothalamic area to the KL(s) emitter. The duration is determined under EAV monitoring and continues until the values are normal. Average exposure is 3-5 minutes, with a maximum of 10 minutes if the values do not return to normal under EAV monitoring.

The parasympathetic and sympathetic parts are imbalanced.

The choice of emitter is made under EAV monitoring.

Overall conductivity is above 86

The usual prescription is the KH(s) emitter. Exposure is continued until the values at the points of the sympathetic and parasympathetic nervous system return to normal. If exposure to the emitter fails to bring the values to normal, the affected organ must be determined. Irradiating it usually brings them to normal.

If a patient suffers from diabetes mellitus or has pancreatic hypofunction, the KL emitter is prescribed, even if overall conductivity is high.

The process of balancing out the values at the points of the autonomic nervous system is done every time the patient visits the hospital, both before and after the main treatment. If before the treatment the values cannot be normalized, the main treatment should be carried out and then the hypothalamic area should be exposed to a **K**-line emitter.

Failure to normalize the values can result from nerve centres being overloaded with xenobiotics or improper intestinal function. The appropriate schedule of treatment should be applied, followed by normalizing the values of the autonomic nervous system.

DETERMINING BODY RESISTANCE AND ADAPTIVE CAPACITIES

The adaptive responses of the body maintaining the internal medium relatively constant and ensuring the normal function of all organs and systems are characterized first of all by automatism. They are carried out under the control of the hypothalamic area of the brain.

Disease, being a stimulus, triggers a response on the part of the body. Therefore, to assess its adaptive capacities it is necessary to take account of dynamic changes in the functions of systems and organs. The following data are important: the functional activity of the nervous system (the sympathetic and parasympathetic parts, hypothalamus, pituitary gland); endocrine system (adrenals, pancreas); as well as protein, carbohydrate and lipid metabolism.

The functional activity of organs is assessed by measuring the rates and coordination of biochemical processes in determining the biological potential of the point (BPT) by the Voll method. To this end, readings are taken at the following points:

1. The state of the nervous system:

- the meridian of the nervous system: the point of the autonomic nervous system;

- the EPED meridian: the point reflecting degenerative changes in the autonomic nervous system;

- the allergy meridian: the point characterizing vegetative disturbances in allergic reactions;

- the endocrine meridian: the BPT is used to determine the state of the sympathetic part of the autonomic nervous system;

- the meridian of the nervous system: the point of the parasympathetic ganglii of the head, which determines the state of the parasympathetic part of the autonomic nervous system.

2. The state of the hypothalamus:

- The 20th point of the meridian of the triplet heater.

3. The state of the endocrine system:

- 1a (not classic) point of the meridian of the pancreas: a control point, provides information on all the functions of the pancreas;

- 1 b (not classic) point: the peritoneum of the pancreas;

- 3a (not classic) point on the meridian of the pancreas: the pancreatic duct;

- 1 c – point on the meridian of the endocrine system: the tail – on the left, the body – on the right.

4. The state of metabolic processes:

- 1st point on the meridian of the pancreas: synthesis and secretion of the protein-splitting enzymes (proteolytic enzyme, trypsin, chemotrypsin, erepsin);

- 2nd point on the meridian of the pancreas: formation of nuclease, nucleoproteins (purines), uric acid metabolism;

- 3rd point on the meridian of the pancreas: the point of formation of the carbohydrate-splitting enzymes, carbohydrate metabolism;

- 4th point on the meridian of the pancreas: the point of measuring lipase formation – the endocrine function of the pancreas.

- Determining body resistance is done during each visit before carrying out the main treatment.

ASSESSING MEASUREMENTS

1. The level of adaptive capacities high enough: the values are normal or slightly deviate from normal.

The tactics of treating by means of infrared emitters:

- during the first visit the length of exposure is prescribed based on the treatment schedules;

- in the course of treatment the length of exposure may be kept constant or increased.

2. Adaptive capacities are reduced: the values are below normal.

The tactics of treating by means of infrared emitters:

1. During the first visit infrared emitters are used that bring low values back to normal.

If as a result of the measures taken the values are back to normal at all the points of the organs mentioned above, minimal exposure is given as indicated in the treatment schedules.

If the treatment fails to bring the values to normal, the length of exposition is determined under EAV monitoring.

2. In the course of treatment the functions of some organs deteriorate as a result of an incorrectly chosen emitter or exposure. Then it is necessary to give therapy aimed at normalizing the function of these organs.

The length of exposure to infrared emitters is determined under EAV monitoring. If necessary, in case of pronounced intoxication signs, detoxifying therapy is given.

The status of the body as a whole can be assessed by pulse. The pulse is measured in the morning while lying in bed, then standing. If the difference between the two is 8-12 beats a minute, the body has quite coped with the load caused by releasing the decomposition products into the bloodstream after the therapy by means of infrared emitters, and sufficiently recovered. If it is more than 12 beats a minute, steps should be taken to speed up the recovery processes and the treatment schedule chosen more precisely (by reducing exposure to the emitters favouring the release of decomposition products into the bloodstream; by increasing exposure to the emitters correcting the rates of metabolic reactions and thus the immune system; by restoring the hormonal background by

affecting the hypothalamus; and by reducing the number of free radicals). If infrared therapy is combined with a complex of exercises (loads), it is necessary first of all to reduce their intensity and duration).

SEQUENCE OF USING EMITTERS

The sequence of applying general and topical emitters depends on the disease in question.

In prescribing general infrared emitters one should adhere to a certain sequence:

1. An **R**-line emitter
2. The **GI** or **AF** emitter
3. A **K**-line emitter

- **Z(b)-**line emitters should be used at least once a week before, or simultaneously with, the **KL(f)** emitter. As a rule, on the day this emitter is used no exposure to general R-line and GI/AF emitters is given.

In using topical emitters the sequence of their application also depends on the disease in question.

- In treating diseases of the gallbladder and its ducts and the kidneys:

1. An R(s)-line emitter
2. The GI(s) emitter
3. The ZB(s) emitter

- In treating intestinal diseases:

1. An R(s)-line emitter
2. The GI/AF(s) emitters
3. The ZB(s) emitter

- In treating nasopharyngeal diseases:

4. A R(s)-line emitter
5. The GI(s) emitter
6. The ZB/ZC(s) emitters
7. The KL/KH(s) emitters

- In treating diseases of the genitals:

1. An R(s)-line emitter
2. The GI/AF(s) emitters
3. The ZB(s) emitter
4. The KL(s) emitter

- In treating systemic diseases and injuries of blood vessels:

1. A Z(s)-line emitter
2. An R(s)-line emitter
3. The GI/AF(s) emitters.

It should be pointed out that, if the state of a patient does not require prescribing the first emitter, the treatment should be started with the second one, and so on.

SIMULTANEOUS APPLICATION OF DIFFERENT EMITTERS

The treatment being carried out produces quicker results if two or more emitters are used simultaneously.

The GI(b)+KL(b) emitters should be prescribed for treating patients suffering from acute bronchitis, pneumonia, bronchial asthma, radiculitis and so on. The topical application of these emitters is indicated for acute arthritis, trophic ulcers and other topical inflammatory processes; it is necessary to test GI(s)+KL(s)+KH(s) by means of EAV.

If there is a chronic sluggish pathological process, but the body retains high adaptive capacities, it is recommended to simultaneously use the following emitters: RC(b)+ZB(b)+AF(b)+KL(s)(for the heels). The same schedule should be prescribed: when blood vessels are affected; for people that are receiving preventive treatment; after vigorous exercise; in nervous and psychic overfatigue; in acute viral infections. The treatment should be done once or twice a day on the schedule: ZB(b)+AF(b)+RC(b)+KL(s) for 5×5 minutes, followed by ZB(b)+AF(b)+KL(s) for 5×5 minutes (the patient lies on the abdomen for 5 minutes, then turns over on the back and also lies for 5 minutes). The treatment should be preceded by taking EAV readings. If there are too low values at the points corresponding to many organs the treatment should be done while monitored by means of EAV (the length of exposure depends on the change in readings). The range of susceptibility to the KL(s) emitter is also determined by means of EAV.

The ZB(b)+RC(b) emitters should be prescribed: for patients with a persistent viral infection; when the vascular system is affected; to relieve an intoxication reaction; and in bronchial asthma. The length of the first exposure should be 4-6 minutes, with a maximum of 40 minutes, once or twice a day.

Z(s)+RC(s)-line emitters should be prescribed for patients with bronchial asthma, microcirculation disturbances, and in severe intoxications.

GI(s)+KL(s)+a Z(s)-line emitter should be prescribed: in treating trophic ulcers; to speed up the process of wound cleansing and healing; in treating postoperative conditions; for scar formation by first intention (to prevent the development of secondary complications and commissure process); in haemorrhoids (in this case the 'CT' apparatus should be used). The type of Z-line emitter should be chosen by means of EAV.

GI/AF(B)+RC/RV(b) should be prescribed in acute respiratory diseases, with a length of exposure of 45 minutes.

If EAV reveals that a patient has all acupuncture potentials above 75, RV(b)+ZB(b) will be effective, with a length of exposure of 3-10 minutes. The treatment should be done while monitored by means of EAV.

DETERMINING OPTIMAL EXPOSURE

The length of exposure to emitters is determined by means of EAV and depends on the state of the patient. Exposure should last until the indicator begins to drop below the level of the norm. if no drop occurs, the length of exposure should be as set out in the treatment schedules.

1. Initial readings are above normal.

Exposure to the emitter should continue until the EAV reading begins to drop below normal. The maximal length of exposure in this case should not exceed the values set out in the treatment schedules.

2. Initial readings are below normal.

The reading is be taken at the control point of EPED or the point reflecting the function of the affected organ or its part, then the emitter is positioned near the affected area. The value representing the activities of the processes at that point (if the emitter has been chosen correctly) will begin to rise and, reaching a plateau, will begin to drop again. At that moment the emitter is switched off.

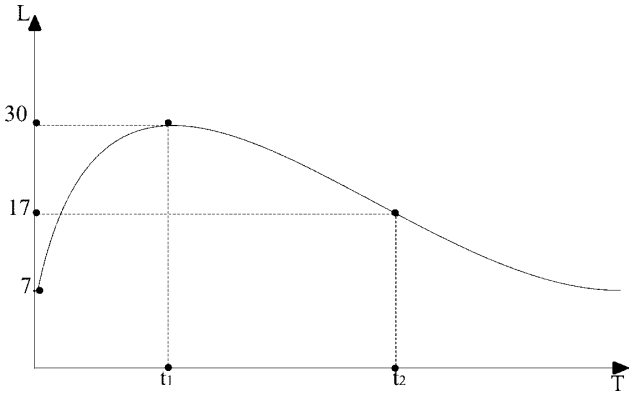
If a patient is in grave condition the adaptive capacities and resistance are reduced, and the initial EAV readings will be below normal. Exposure to the emitter will first raise them, then they will drop. The overall length of exposure may be very short (a few seconds). This usually indicates a chronic process or one involving many organs.

Such short exposure is insufficient to produce a therapeutic effect. Then its length should be calculated according to the equation:

((R2 – R1):2) + R1

where R1 is the initial reading as taken by means of EAV

R2 is the maximal value attained by the parameter.



where L is the EAV reading, T the length of exposure.

The equation should be used if the indicator drop occurs in less than 10 seconds after turning the RV emitter on, in 30 seconds with the RC, ZB and ZC emitters, in 3 minutes with the AF emitter, and in 5 minutes with the GI emitter.

For example, patient N., male, aged 44, had pancreatic cancer. The overall state was extremely grave, he was asthenic, and the consciousness impaired. The skin was pallid, dry, and cold to the touch, with reduced turgor. The body temperature was 35.6℃. The abdomen was very painful on palpation, and the liver could not be detected. EAV produced a reading of 12 at the bioactive point on the EPED meridian.

Exposure to the RC emitter raised the reading at the bioactive point on the EPED meridian from 12 to 24 and the indicator began to drop in 10 seconds, but the exposure should be continued until the indicator has dropped (according to the equation above) to 18 ((24-12):2)+12). This improves the parameters of the functional activity of the organ or its part and increases the length of exposure.

For people suffering from hypertension the length of exposure to the ZB emitter can be determined while monitoring blood pressure, which should be measured before the emitter is used, and several times during treatment. Exposure to the emitter reduces it, but after some time it rises again, and it is at this moment that the emitter should be switched off.

GENERAL SCHEDULES OF TREATMENT BY MEANS OF THE EMITTERS

TREATMENT OF DISEASES OF VIRAL AETIOLOGY

1. Treatment should begin with prescribing the antiviral emitters RC or RV. Topical emitters should be used before, or simultaneously with, general ones.

Length of exposure to RV(s)

Organ	Length of exposure, minutes		
	1	2	3
Tonsils	5-7 x 5-7	1-3	30 s each
Ears	5-7 x 5-7	1-2	
Nose (paranasal sinuses)	5-7	1-2	
Bronchi (front and back)	5-7 x 5-7	2-3	
Stomach	3-7	1-2	
Liver	3-10	1-2	
Spleen	3-10	1-2	
Pancreas	3-10	1-2	
Kidneys	5-10 x 5-10	2-3	
Spinal cord	5-10	1-2	
Genitals	5-10	2-3	
Urinary bladder	5-10	2-3	

Note:

1 – if a patient has high EAV readings and there are signs of disease, treatment should be done 3-4 times a day;

2 – if a patient has high EAV readings and there are no signs of disease, treatment should be done once or twice a day;

3 – if EAV readings are normal, and there are no signs of disease, but testing reveals that the emitter has an effect on other organs (preventive treatment), treatment should be done once a day.

If exposure of an organ to the emitter lowers an EAV reading below normal, the emitter should not be prescribed for the organ.

Length of exposure to RC(s)

Organ	Length of exposure, minutes		
	1	2	3
Tonsils	7 – 15 x 7 – 15	3-5	1 each
Ears	7 – 10 x 7- 10	2-3	
Nose (paranasal sinuses)	до 10	3-5	
Bronchi (front and back)	5-10 for the anterior and posterior surfaces of the thorax	3-5	
Stomach	5 – 10	1-2	
Liver	up to 30, exposure is given at various angles in the front and at the side	2-3	
Spleen	10 – 30	2-3	
Pancreas	10 – 30	1-3	
Kidneys	10 -15 x10 –15	2-5	
Spinal cord	10 – 30	1-2	
Genitals	10 – 30	3-5	
Urinary bladder	10 – 30	3-5	

Note:

1 – if a patient has high EAV readings, signs of disease, or disease in the case history, treatment can be repeated every 1-2 hours (the optimal number depends on the state of the patient);

2 – if a patient has EAV readings deviating from normal, but no signs of disease, treatment should be done once or twice a day;

3 – if EAV readings are within normal, there are no signs of disease, but testing reveals that the emitter has an effect on other organs (preventive treatment), treatment should be done once a day.

If exposure of an organ to the emitter lowers EAV readings below normal, the emitter should not be prescribed for the organ.

The RV(b) emitter should be prescribed on a floating schedule (every day the length of exposure varies). This is necessary to keep the body at the optimal level of stress to prevent adaptation: if the body has been exposed to a stimulus of the same strength, it ceases to react to in a desired manner. There are two modes of changing the length of exposure. For weak patients, those with poor body resistance, and those with large numbers of points where EAV readings are below normal, treatment should begin at a minimal exposure of 1-2 minutes (in such cases the length of exposure should preferably be determined by means of EAV) with daily increments of 1-3 minutes. Maximal exposure varies from person to person and should be determined by means of EAV.

For patients with good body resistance, and in acute inflammatory processes, maximal exposure should be prescribed at the very first visit and is 10-20 minutes (5-7 minutes in a prostrate position and 5-7 minutes in a supine position). On the second day exposure should be ½ that of the first day, and on the third, 2/3. Then the cycle is repeated, beginning with the exposure of the first day.

The treatment schedule by means of RV(b) for patients with good adaptive capacities is: the first day 10-15 minutes (5-7 minutes in a prostrate position and 5-7 minutes in a supine position), on the second, 2.5-4×2, on the third, 3.5-5×2, and on the fourth the exposure of the first day is repeated, and so on. Maximal exposure should be 20 minutes.

The schedules given for RV(b) should be adhered to in using the RC(b) emitter. Maximal exposure should be 40 minutes (20 minutes in a prostrate position and 20 minutes in a supine position).

An approximate schedule of treatment by means of RC(b) for patients with good adaptive capacities should be as follows: 30 minutes on the first day (15 minutes in a prostrate postion and 20 minutes in a supine position), 10 minutes on the second (5×5), 20 minutes on the third (10×10), and the exposure of the first day is repeated on the fourth.

2. Treatment by means of the antiviral emitters should be followed by an antinflammatory emitter GI(b). In using GI(b) exposure should begin with 15-20 minutes with daily increments of 5 minutes. Maximal exposure (45 minutes) should be given for 2-3 days and then the cycle is repeated, if necessary. For patients with low adaptive capacities during the first days of treatment, exposure should begin with 5-10 minutes with an increment of 3-5 minutes per session. Maximal exposure should be determined on a case-by-case basis by means of EAV.

Good effect can be achieved during the first three days of a viral disease by simultaneously using RV(b)+GI(b) for 30 minutes once or twice a day, or RV(b)+ZB(b) for 15 minutes once or twice a day (optimal exposure should be chosen by means of EAV).

3. In prescribing the KL(b) emitter the length of exposure should be 5-10 minutes. In acute processes accompanied by rises in temperature it is possible to use GI(b) and KL(b) simultaneously. The length of the first exposure for people with good adaptive capacities should be 20-30 minutes, with a maximum of 40 minutes.

4. To normalize microcirculation the ZB(b) emitter should be prescribed, at least once a week, before or simultaneously with KL(b)(after 5-7 days of treatment). The first exposure should be 5-7 minutes with subsequent increments of 3-6 minutes. Maximal exposure should be 15 minutes.

Examples. *Patient A., male, aged 11, presented with a diagnosis of acute respiratory viral infection. He had been ill for 2 weeks, after he developed a severe headache against a background of elevated temperature, coryza and lacrimation. He had been taking antibiotics and painkillers, with no improvement. Examination results: an engorged fauces, swollen tonsillar arches, an engorged conjunctiva, and a mucous nasal discharge. EAV produced high readings (above 78) on virtually all the meridians. Treatment was done by means of RC(b) on a floating schedule for 7 days, RC(s) in the area of the brain and spinal cord for 3 days, GI(b) for 15 to 30 minutes on the schedule, and KL(b) for 15 minutes during 7 days. As a result of treatment, after the first session the headache disappeared and the body temperature returned to normal. The nasal discharge stopped on the third day.*

Patient R., male, aged 40, presented with a diagnosis of Herpes genitalis aggravated by a secondary immunodeficiency. The case history, taken from his words, says that 4 years ago, after a casual sexual encounter, the glans penis had broken out in a vesicular rash, accompanied by a burning sensation and itching. He had taken antiviral preparations, but with no perceptible effect. Presenting complaints were of a vesicular rash on the glans penis, a burning sensation, itching, painfulness after an intercourse, an elevated body temperature, and frequent protracted acute respiratory viral diseases. On examination the glans penis was swollen, an erythematous background with grouped vesicles with transparent contents, in places bursting to form very painful erosions. Treatment was as follows: RC(b) for 7 minutes, RC(s) in the inguinal region for 10 minutes, KL(b) for 15 minutes, and KL(s) in the hypothalamic region for 5-7 minutes during 10 days. The swellling, erythema and itching went away on the 3rd day, the vesicular rash completely resolved on the 5th, the temperature went back to normal on the 8th, and the erosions formed epithelium on the 10th.

TREATING DISEASES OF BACTERIAL AETIOLOGY

In treating diseases of bacterial aetiology the optimal GI- or AF-line emitter should be selected by means of EAV.

1. Treatment begins with therapy to enhance body resistance. Readings are taken at the points of the sympathetic and parasympathetic nervous systems, pituitary gland, hypothalamus, adrenals and pancreas.

2. This should be followed by topical emitters.

Length of exposure to GI(s)

Organ	Length of exposure, minutes	
	1	2
Tonsils	10-15 x10-15	3-5 x 3-5
Ears	10-15 x10-15	2-3 x 2-3
Nose (paranasal sinuses)	10-15	3-5
Bronchi (front and back)	10x10	5x5
Stomach	10-15	-
Liver	5-15	-
Gallbladder and its ducts	Up to 5	Up to 5
Spleen	3-10	-
Pancreas	3-10	-
Kidneys	5-15 x 5-15	5-10 x 5-10
Brain and meninges	3-10 in several projections	3-5 (not always)
Spinal cord	1-5	-
Genitals	5-10	3-5
Urinary bladder	5-10	3-5

Key:

1 – length of exposure when there are signs of disease; treatment is done 2-3 times a day;

2 – length of exposure when there are no signs of disease but EVA readings deviate from normal; treatment should be done once a day.

3. GI(b) should be used simultaneously with, or after, topical emitters. Exposure should begin from 15-20 minutes with daily increments of 5 minutes. Maximal exposure should be 45 minutes and kept at that level for 2-3 days, then the cycle is repeated, if necessary.

Patients with poor adaptive capacities should begin treatment from 5-10 minutes with an increment of 3-5 minutes per session. Maximal exposure should be determined on a case-by-case basis by means of EAV.

4. The GI(b) emitter should be followed byKL(b), with an exposure of 5-10 minutes. For such diseases as pneumonia and bronchitis using the GI(b) and KL(b) emitters together gives good results. The first time, exposure should be 20 minutes, maximal exposure 40 minutes.

5. At least once a week the ZB(b) emitter should be used, after 4-7 days of treatment, prior to or simultaneously with the KL(b) emitter. The first exposure should be 5-7 minutes, with increments of 3-5 minutes. Maximal exposure should be 15 minutes.

When the AF emitter is used, the schedules should be prescribed as given in Chapter *Treating Diseases of Mycotic Aetiology*.

Example. *Patient T., female, aged 23, presented with a diagnosis of toxoplasmosis, complaining of a headache, overall weakness, pain in the lumbar and inguinal regions, frequent rises in blood pressure to 130/90 – 140/80 mm Hg, pain in the joints, and nausea. Examinaton results: the joints had no visible changes, were painful on palpation, the Wright-Huddleston test was positive, (1:100), the test for toxoplasmosis 1:80. Treatment: RC(b) on a floating schedule, RC(s) for the areas of interest, GI(b) for 10-40 minutes on a schedule, GI(s) in the areas of the stomach, intestine, kidneys, liver, pancreas for 10 minutes, KL(b) for 10 minutes, ZB(b) for 10 minutes twice a week. As a result of treatment, the headache, weakness and nausea went away on the 3rd-4th day. The joints became painless on the 6th day, and the Wright-Huddleson test and test for toxoplasmosis became negative in 2 weeks.*

TREATING DISEASES OF MYCOTIC AETIOLOGY

1. A topical emitter should be prescribed.

Length of exposure to the topical AF(s) emitter

Organ	Length of exposure, minutes	
	1	2
Tonsils	5-10 x 5-10	3-5 x 3-5
Ears	5-10 x 5-10	2-3 x 2-3
Nose (paranasal sinuses)	5-10	3-5
Bronchi (front and back)	5-10 x 5-10	5 x 5
Stomach	5-10	-
Gallbladder and its ducts	3-5	-
Pancreatic ducts	3-5	-
Kidneys	5-10 x 5-10	5 x 5
Brain and meninges	3-5 in different projections	3-5 (not always)
Spinal cord	3-5	-
Genitals	5-10	3-5
Urinary bladder	5-10	3-5
Foci on the skin	5-15	-

Key:

1 – length of exposure when there are signs of disease; treatment should be done once or twice a day.

2 – length of exposure when there are no signs of signs of disease, but EAV readings deviate from normal; treatment should be done once a day.

2. The AF(b) emitter should be used simultaneously with, or after, the topical emitters. For patients with normal adaptive capacities treatment should begin with 10 minutes, with daily increments of 5 minutes. The maximal exposure of 25 minutes should be given for 2-3 days, then reduced to ½ and, if necessary, the cycle is repeated.

3. KL(b) should be used after AF(b), with an exposure of 5-10 minutes.

4. At least once a week the ZB(b) emitter should be used, after 7 days of treatment. For patients with good adaptive capacities the first exposure should be 5-7 minutes, and then increase by 3-5 minutes each time, until a maximum of 15 minutes is reached. ZB(b) should be followed by KL(b) for 5-10 minutes. On the day that ZB(b) is used AF(b), RC(b), RV(b) and GI(b) are, as a rule, not applied.

It should be pointed out that the treatment schedules can be used for patients with inflammatory processes.

In treating patients with marked angiopathy and systemic diseases of connective tissue the above schemes should not be applied.

The exposures given above should be prescribed for patients that have normal EAV readings at the poins of the adrenals, pancreas, pituitary gland, and hypothalamus. If patients have subnormal readings at points representing the functional activity of organs the length of exposure should be determined on a case-by-case basis while monitored by EAV.

TREATING SYSTEMIC DISORDERS OF CONNECTIVE TISSUE

1. Treatment should begin by correcting EAV values at the points representing the state of the autonomic nervous system, hypothalamus, pituitary gland, adrenals, pancreas, and intestine.

2. An R(b)-line emitter should be used daily. The optimal exposures to emitters are given in Chapter *Treating Diseases of Viral Aetiology*.

3. ZC(b) should be used daily, with the length of exposure determined by means of EAV.

4. KL(b) should be used after ZC(b), with an exposure of 5-10 minutes.

5. GI(s), AF(s), RC(s) and RV(s) should be prescribed depending on the state of a patient and the pathology detected and according to the schedules given above.

6. RV(b), GI(b), AF(b) should be prescribed on a case-by-case basis.

7. ZB(s), accompanied by a massage of the vertebral column area, should be prescribed to improve microcirculation and autonomic control.

8. An R(s)-line emitter should be prescribed when there are viral and bacterial diseases and cancers, together with diagnosing the pathology and determining optimal exposure for a particular organ or its part by means of EAV.

TUNE-UP COURSE OF TREATMENT

A tune-up course of treatment is recommended to increase body resistance, destroy hidden foci of pathogenic infection, normalize blood circulation, eliminate excessive free radicals, prevent cancerous processes, as well as viral diseases, allergic reactions, and so on.

It should be prescribed for:

- those who have had a complete course of resonance treatment by means of infrared emitters, to prevent relapses (once or twice a year);

- virtually healthy people who make no complaints. Running EAV tests on this category gives readings that are virtually normal.

Schedule 1

1. GI(b). The first exposure should last 15-20 minutes, with increments of 5-10 minutes and a maximum of 45 minutes. The number of sessions per course should be 5-7.

2. KL(b) should be used for the last 10 minutes of exposure to GI(b) or after it.

3. After 2-3 days the treatment should be supplemented with ZB(b), to be used after GI(b), or simultaneously with KL(b). The first exposure should be 5-7 minutes, with increments of 3-5 minutes and a maximum of 15 minutes.

Schedule 2

RC(b)+ZB(b)+AF(b)+KL(s), in the area of the heels or where susceptibility to the emitter in question is the greatest, to last for 10 minutes, followed by RC(b) for another 10 minutes. The number of sessions per course should be 5-7.

Schedule 3

1. RC(b) + ZB(b) – 10-20 minutes

2. GI(b) – 20-30 minutes

3. KL(b) – 10 minutes

Treatment should be monitored by means of EAV and last 5-7 days.

TUNE-UP AND PREVENTIVE TREATMENT

Preventive treatment should be done for virtually healthy people who have no complaints but in whom EAV testing has revealed nosodes of (viral, bacterial, or mycotic) infection toxins, and those who have been in contact with infected people.

PREVENTION OF VIRAL DISEASES

A preventive course of treatment should be prescribed for people in whom testing has detected viral toxins or people in danger of contracting viral infection.

Treatment schedule:

1. Therapy is given to normalize the state of the nervous system, pancreas, and adrenals.

2. Antiviral R-line emitters are used, with topical ones applied before, or simultaneously with, general ones.

A topical R-line emitter should be positioned in a projection of the organ where infection nosodes and sensitivity to an R-line emitter have been detected. If testing has detected viral toxin nosodes in an organ, but exposure to an R-line emitter has failed to bring the readings to normal, it is necessary to check K- and Z-line emitters for effect, whose action is to normalize the rates of biochemical reactions, correct

Length of exposure to RV(s)

Organ	Length of exposure, minutes	
	1	2
Tonsils	1-3 x 1-3	30 сек each
Ears	1-2 x 1-2	
Nose (paranasal sinuses)	1-2	
Bronchi (front and back)	2-3 x 2-3	
Stomach	1-2	
Liver	1-2	
Spleen	1-2	
Pancreas	1-2	
Kidneys	2-3 x 2-3	
Spinal cord	1-2	
Genitals	2-3	
Urinary bladder	2-3	

Key:

1 – if a patient has high EAV readings and no signs of disease, treatment should be done once a day;

2 – if EAV readings for an organ are normal but it has been found that the emitter has an effect on other organs, treatment should be done once a day.

If exposing an organ to the emitter lowers its EAV readings below normal, it should not be prescribed for that organ.

Length of exposure to RC(s)

Organ	Length of exposure, minutes	
	1	2
Tonsils	3-5 x 3-5	1 each
Ears	2-3 x 2-3	
Nose (paranasal sinuses)	3-5	
Bronchi (front and back)	3-5 x 3-5	
Stomach	1-2	
Liver	2-3	
Spleen	2-3	
Pancreas	1-3	
Kidneys	2-5 – 2-5	
Spinal cord	1-2	
Genitals	3-5	
Urinary bladder	3-5	

Key:

1 – if a patient has EAV readings deviating from normal, but has no signs of disease, treatment should be done once a day;

2 – if EAV readings are normal, there are no signs of disease, but it has been found that the emitter has an effect on other organs, treatment should be done once a day.

If exposing an organ to the emitter lowers its EAV readings below normal, it should not be prescribed for that organ.

RC(b) should be used on a floating schedule: first-day exposure is 15-20 minutes (7-10 minutes in a prostrate position and 7-10 minutes in a supine postion), second-day 6-10 minutes (3-5×3-5 minutes), third-day 5×5 minutes, and on the fourth day the cycle is repeated.

3. Treatment by exposure to the anti-inflammatory GI or AF emitters.

If GI(b) is prescribed the length of exposure should be 20 minutes on the first day, with daily increments of 5-10 minutes and a maximum of 45 minutes. Exposure to a general emitter can be combined with that to a topical one.

Length of exposure to GI(s)

Organ	Length of exposure, minutes
Tonsils	3-5 x 3-5
Ears	2-3 x 2-3
Nose (paranasal sinuses)	3-5
Bronchi (front and back)	5 x 5
Stomach	-
Liver	-
Gallbladder and its ducts	Up to 5
Spleen	-
Pancreas	-
Kidneys	5-10 x 5-10
Brain and meninges	3-5 (not necessary)
Spinal cord	-
Genitals	3-5
Urinary bladder	3-5

4. The KL(b) emitter should be used after the GI(b) emitter or simultaneously with it for the last 10 minutes of exposure, which is the overall exposure to KL(b).

5. On the 3-4th day of treatment the ZB(b) emitter should be added, to be used after the GI(b) one or simultaneously with the RC(b) one. The first exposure should last 5-7 minutes, with an increment of 3-5 minutes per session and a maximum of 15 minutes for ZB(b) and 30 minutes for ZB(b)+RC(b).

6. Readings should be taken again at the points of the sympathetic and parasympathetic nervous systems and, if necessary, corrected by exposure to the KL and KH emitters.

The course of treatment should be done monitored by means of EAV and consists of 5-7 sessions.

During viral epidemics such as influenza or viral hepatitis a session should be done weekly:

1. **RC(b)** –10 minutes;

2. **KL(b)** – 10 minutes;

3. **RC/RV(s)** – 30-60 second (in a projection of the organ where virus proliferation is likely).

PREVENTION OF BACTERIAL DISEASES

A preventive course of treatment for diseases of bacterial aetiology should be prescribed for:

- people that have had a chronic bacterial inflammatory disease lasting for a long time;

- people that have tested positive for nosodes of bacterial toxins and protozoa, whose overall condition and EAV readings improve after exposure to the GI emitter and who have no signs of disease;

- people that have been in contact with infectious patients.

Treatment schedule

Daily treatment should begin by taking readings at the points of the sympathetic and parasympathetic nervous systems, hypothalamus, pituitary gland, adrenals, and intestine. If necessary, these values are corrected.

1. GI(s) should be positioned in a projection of the organ that has tested positive for infection nosodes and found susceptible to the emitter. If testing an organ has detected bacterial toxins, but using GI(s) has failed to normalize the readings, it is necessary to test K- and Z-line emitters for effect, whose action is to normalize the rates of biochemical processes, correct the immune status and restore microcirculation.

Length of exposure to GI(s)

Organ	Length of exposure, minutes
Tonsils	3-5 x 3-5
Ears	2-3 x 2-3
Nose (paranasal sinuses)	3-5
Bronchi (front and back)	5 x 5
Stomach	-
Liver	-
Gallbladder and its ducts	Up to 5
Spleen	-
Pancreas	
Kidneys	5-10 x 5-10
Brain and meninges	3-5 (not necessary)
Spinal cord	-
Genitals	3-5
Urinary bladder	-

2. The GI(b) emitter should be used before, or simultaneously with, topical emitters. The first exposure should be 15-20 minutes, with daily increments of 5-10 minutes and a maximum of 45 minutes.

3. The KL(b) emitter should be used after GI(b) with an exposure of 10 minutes, followed by taking readings at the points of the sympathetic and parasympathetic nervous system, and corrective action if necessary.

4. On the 3-4th day of treatment the ZB(b) emitter should be used, following the GI(b) one, or simultaneously with the KL(b) one. The first exposure should be 5-7 minutes with daily increments of 5 minutes and a maximum of 15 minutes.

The course should be monitored by means of EAV and consists of 5-10 session.

PREVENTION OF MYCOTIC DISEASES

With mycotic diseases a preventive course should be given to those who have had deep mycoses, onychomycoses, systemic candidiasis, or those who have tested positive for mycotic toxins and in whom EAV values are normalized by means of the AF emitter.

Treatment schedule

1. AF(s) should be positioned in a projection of the organs that have tested positive for mycotic nosodes and that have been found susceptible to it. If testing has detected mycotic toxins, but using AF(s) has failed to bring the EAV values to normal, it is necessary to check K- and Z-line emitters for effect, whose action is to normalize the rates of biochemical processes, correct the immune status, and restore microcirculation.

Exposure should last 7-15 minutes.

2. AF(b) should be used before, or simultaneously with, topical emitters. The first exposure should last 5-10 minutes, with daily increments of 5 minutes and a maximum of 20 minutes.

3. KL(b) should be used after AF(b), with an exposure of 10-15 minutes.

4. Readings should be taken at the points of the sympathetic and parasympathetic nervous systems and, if necessary, corrective action carried out by means of K-line emitters.

The course should be monitored by means of EAV and consists of 5-10 sessions.

CANCER PREVENTION

With neoplastic disorders, prevention should be done for people who test positive for nosodes of these diseases, as well as those whose profession and lifestyle involve factors that may give rise to tumours (smokers, those working with carcinogens, pesticides, herbicides and so on; those receiving high doses of UV or ionising radiation or exposed to the action of oxidants such as oxygen, ozone, peroxides, and epoxides; those exposed to electromagnetic fields, especially pulsating ones; those not receiving enough biologically active substances with food and drink, such as vitamins, enzymes and trace minerals). Treatment by means of infrared emitters should be prescribed only after a thorough examination at a cancer centre.

Treatment schedule

1. Readings are taken at the points of the sympathetic and parasympathetic nervous system, hypothalamus, pituitary gland, adrenals, and intestine. Treatment is done according to the schedules set out in the appropriate chapters.

2. A topical R-line emitter is positioned in a projection of the organ where EAV testing has detected a disease.

Length of exposure to RV(s)

Organ	Length of exposure, minutes	
	1	2
Tonsils	1-3 x 1-3	30 seconds each
Ears	1-2 x 1-2	
Nose (paranasal sinuses)	1-2	
Bronchi (front and back)	2-3 x 2-3	
Stomach	1-2	
Liver	1-2	
Spleen	1-2	
Pancreas	1-2	
Kidneys	2-3 x 2-3	
Spinal cord	1-2	
Genitals	2-3	
Urinary bladder	2-3	

Key:

1 – if a patient has high EAV readings and no signs of disease, treatment should be done once a day;

2 – if EAV readings for an organ are normal, but the emitter has been found to have an effect on other organs, treatment should be done once a day.

If exposing an organ to the emitter results in the EAV value deviating from normal, the emitter should not be prescribed for it.

Length of exposure to RC(s)

Organ	Length of exposure, minutes	
	1	2
Tonsils	3-5 x 3-5	1 each
Ears	2-3 x 2-3	
Nose (paranasal sinuses)	3-5	
Bronchi (front and back)	3-5 x 3-5	
Stomach	1-2	
Liver	2-3	
Spleen	2-3	
Pancreas	1-3	
Kidneys	2-5 x 2-5	
Spinal column	1-2	
Genitals	3-5	
Urinary bladder	3-5	

Key:

1 – if a patient has EAV readings deviating from normal, but no signs of disease, treatment should be done once a day;

2 – if EAV readings are normal and there are no signs of disease but the emitter has been found to have an effect on other organs, treatment should be done once a day.

If exposing an organ to the emitter results in the EVA values deviating from normal, it should not be prescribed for that organ.

3. The RC(b) should be used after, or simultaneously with, topical R-line emitters, with the length of exposure varying on a floating schedule:

- 1st day: 10 minutes (5 minutes in a prostrate position and 5 minutes in a supine position);
- 2nd day: 15 minutes (7×7 minutes);
- 3rd day: 20 minutes (10×10 minutes);
- 4th day: the cycle is repeated.

4. KL(b) should be used after RC(b), with an exposure of 10 minutes.

5. If EAV testing detects readings below normal at points on the vascular meridian and at the point of vascular sclerosis (the allergy meridian), the ZB(b) emitter should be prescribed, to be used after, or together with, the RC(b) one. The first exposure should be 5-7 minutes, with a maximum of 15 minutes. If the emitters are prescribed for simultaneous use, maximal exposure can be increased to 30 minutes.

6. Readings are taken at the points of the sympathetic and parasympathetic nervous system and, if necessary, corrective action performed.

The course consists of 15-20 sessions.

If testing reveals that EAV readings are normal, treatment should be done once a month, with 10-minute exposure to RC(b) and the same amount to KL(b).

PREVENTION OF DISEASES INVOLVING BLOOD VESSELS

In vascular disorders preventive treatment should be done for people with subnormal EAV readings at the points of the blood vessels; people suffering from diabetes mellitus, atherosclerosis, lipid metabolism disturbances, enteric dysfunction, spinal curvature, and so on (which all involve the vascular system).

Treatment schedule

1. Readings are taken at the points of the sympathetic and parasympathetic nervous system, hypothalamus, pituitary gland, pancreas, and adrenals. Treatment is done according to the recommendations set out in the appropriate chapters.

2. The ZC(b) emitter is used after corrective action to enhance body resistance, with an exposure of 10-15 minutes.

3. The KL(b) emitter is used after ZC(b), with an exposure of 10 minutes.

4. Readings are taken again at the points of the sympathetic and parasympathetic nervous system and, if necessary, corrective action done.

Treatment is done once a week until normal readings are obtained at the points of the blood vessels, and once a month if they re normal (or back to normal).

TREATING PEOPLE WITH LOW RESISTANCE AND ADAPTIVE CAPACITIES

The level of body's adaptive capacities can be assessed by the functional parameters of various organs and systems. In doing so we take account of the functional activity levels of the pancreas, adrenals, sympathetic and parasympathetic nervous system, as measured by means of EAV.

The body's adaptive capacities are considered low if EAV readings at the points of the pancreas, adrenals, sympathetic and parasympathetic nervous systems are below normal. Such people should be prescribed the KL emitter, which brings these to normal.

General and topical emitters should be used after treating the pancreas, adrenals, and hypothalamus. The length of exposure to all emitters should be chosen strictly on a case-by-case basis and determined by means of EAV. After treatment is finished readings should be taken again at the points of the pancreas, adrenals, sympathetic and parasympathetic nervous system. If they persist below normal, treatment should be repeated.

TREATING PEOPLE WITH LOW EAV READINGS

People in severe condition have most of the EAV readings well below normal against a backround of markedly impaired general conductivity. How is this to be accounted for?

In the course of a disease the body tries to maintain homeostasis by means of its intrinsic regulatory mechanisms, compensating for the impaired function of one organ by stepping up the activity of others. Gradually, the disease involves more and more organs working at the limit of capacity, and the body can no longer maintain homeostasis within physiological norm. As a result, the person's health greatly deteriorates. In such cases testing detects values dropping at the points of all the meridians. However, indicator drop does not always mean the presence of a pathological process in the corresponding organ, but does suggest that the organ or its part can no longer maintain homeostasis.

First of all, then, it is necessary to give treatment by means of infrared emitters to the organs of the endocrine system (the hypothalamus, adrenals, and pancreas), and then to the organs involved in the pathological process. Therapy should first be done by means of topical emitters, with the length of exposure determined strictly on a case-by-case basis monitored by means of EAV.

Example *Patient I., male, aged 66, presented with complaints of a severe headache, a blood pressure rise to 220/110 mm Hg, dizziness, overall weakness, malaise, and inability to move about unaided. The diagnosis arrived at was: atherosclerosis III, atherosclerosis of the cerebral vessels, a condition resulting from acute disturbance of cerebral circulation, and left hemiparesis. Signs: EAV testing revealed a general conductivity of 20; readings at the control point of vessels were (D)-12, (S)-10, of the pancreas, respectively, 12 and 10, and the EPED, 14 and 16. Treatment was done monitored by means of the Voll meter: the KL(b) emitter was used for 30 seconds; the ZB(s) one in the area of the head and in a projection of the thoracic aorta for 15 seconds each, which raised the values at the points of vessels to 14 and 14; the KL(s) in the area of the pancreas, which raised the values to 16 and 18, respectively, in 1 minute, then the indicator began to drop, and the treatment was discontinued. Blood pressure decreased to 180/95 mm Hg. After the first session overall conductivity rose to 32. On the second day EAV testing showed that it was 26. At the control point of vessels the readings were (D)-14, (S)-14, at the point of the pancreas 14 and 14 respectively, and of the EPED it first rose to 24 and then began to fall. Using the ZB(s) emitter in the area of the head and in a projection of the thoracic aorta for 25 seconds each reduced blood pressure from 200/90 to 175/85 mm Hg. The area of the pancreas was irradiated by the KL(s) emitter, and in 1.5 minutes the values rose to 20 and 18 respectively, then the indicator began to drop, when the treatment was stopped. Overall conductivity rose to 36. The length of exposure was closely monitored by means of EAV. The treatment given enabled blood pressure to be stabilized in 14 days at 140-150/85-90 mm Hg. The patients had no rises in blood pressure. The overall state greatly improved, and he was able to move about unaided.*

TESTING THE EFFECTS OF MEDICAMENTS

The uniqueness of the Voll method is that it allows one to test (ie to measure the efficacy, optimal dosage, and possible side effects) medicaments without actually administering them. This is done by taking readings at the appropriate points, then the drug to be tested is put on an aluminium or copper substrate connected to the passive probe and readings are taken again. If the drug has a favourable effect on the organ, the indicator will settle at the norm, and if a negative one, it will deviate from the norm in either direction. If the drug has no effect, the indicator will not budge.

How can this be accounted for?

As has been said, all things, both alive and otherwise, differ in the makeup of electrical pulses generated in electron transfer processes. EAV measures the averaged values of electric signals at the point associated with a particular organ.

These signals can be displayed on the oscillograph screen. If an organ is infested with an infection (viral, bacterial, and so on), the

infection will affect it, changing the nature and rates of chemical reactions, which is manifested in changed signals. Moreover, a particular type of infection (disease) has strictly specific changes it produces in the signal.

Voll has recorded the signals of several infections and diseases and termed them nosodes. If these nosodes of infections (or diseases) are connected in parallel to a measuring circuit and fed in antiphase, the signal of the infection (or disease) is, as it were, subtracted from the signal of the affected organ, and what we get is the signal of the healthy organ. This is manifested as an indicator deviation towards the norm. If the nosode of an infection connected to the circuit does not match the signal from an affected organ, the indicator will not approach the norm.

For example, testing the tonsils in a patient gives a reading of 78. Including a nosode with a signal recorded from Streptococcus in the circuit brings the value within the normal range (the indicator approaches 50). This means that the patient harbours streptococcal toxins.

The same principle underlies testing the effect of medicaments, foodstuffs, jewels, infrared emitters, and so on.

In testing medicaments it is necessary to measure the following points:

- the organ which is affected by the medicament;
- the organs on which the medicament may have side effects;
- the meridian of allergy;
- the meridian of parenchymatous degeneration;
- the endocrine meridian.
- In testing jewels:
- the points on the meridian of parenchymatous degeneration;
- the points on the meridian of allergy;
- the points on the endocrine meridian.

RULES FOR TESTING MEDICAMENTS

1. Readings are taken and recorded at the appropriate points.

2. The medicament to be tested is put in a brass or aluminium bowl connected to the meter, and readings are taken again at the points.

3. The medicament is considered chosen correctly if the readings are back to normal. If the readings are unchanged, it has no efffect on the body. If there is a deviation from normal at one point (or the data deteriorate), it

The same goes for testing jewels and foodstuffs.

DESCRIPTION OF THE ACUPUNCTURE POINTS RECOMMENDED FOR TESTING IN VARIOUS PATHOLOGICAL STATES

NERVOUS SYSTEM

The central and peripheral nervous system – Ne.lb, a control (noncanonical) point (Fig.l).

CENTRAL NERVOUS SYSTEM

- Brain stem and great brain – Ne.3 (Fig.4).
- Lamina of mesencephalic tectum – Du. 17 (Fig.22).
- Cerebellum – Du.19 (Fig.22).
- Meninges – S.J.19 (Fig.22).
- Medulla oblongata – U.B.10 (Fig.22).
- Pons cerebellli – U.B.9 (Fig.22).
- Meninges – Ne. lc (a noncanonical point) (Fig.4)
- Spinal cord Du. 13 (Fig. 19), a summary point. The location of a pathological focus in the spinal cord is determined at the points of nerve degeneration.
- Lumbar and sacral parts of the spinal cord – Ne.l (Fig.4).
- Cervical and thoracic parts of the spinal cord – Ne.l (Fig.4).

PERIPHERAL NERVOUS SYSTEM

- Autonomic nervous system – Ne.l a (a noncanonical point) (Fig.4).
- Cervical ganglia – S.J.la (a noncanonical point) (Fig.6). The ganglia innervate the paranasal sinuses, inner ears, palatine tonsils, pharyngeal ring, thyroid and parathyroid glands, organs of the mediastinum, and heart.
- Peripheral nerves of the upper limb (the brachial plexus) S.l. 7 (Fig. 13).

It makes sense to measure this point together with point 2, that ot nerve degeneration, which provides information about the function of the cervical and thoracic parts of the spinal cord.

- Peripheral nerves of the lower limb – U.B.60 (Fig.18). It is better to measure this together with the 1st point of nerve degeneration, which provides information about the function of the lumbar and sacral parts of the spinal cord.

Measurement points for central and peripheral autonomic regulation.

The status of the points is measured in all pathological conditions. Readings are taken at the points before and after treatment by means of infrared emitters. Readings that are out of line are brought to normal by exposure to K-line emitters.

- Hypothalamus – S.J.20 (Fig.22). It is impossible to measure the point when there is inflammation in the site ot interest, such as eczema, the measurement is then taken at the points of the sympathetic and parasympathetic nerves.

As a result of chemical and toxic blockade of the hypothalamus, or its injury, readings taken at its point in the area of the head will be lower than those on the arms and legs. Deviations may be due to the presence of an odontogenous focus; they are accompanied by changes in the values at points 1,2 and 3 of the lymphatic meridian.

- Control point of the nervous system – Ne.lb (noncanonical) (Fig-1).
- Autonomic nervous system – Ne.la (Fig.4).
- Impaired autonomic regulation in degenerative processes in organs – De. la (Fig.6).
- Impaired autonomic regulation in allergic processes – Al.la (rig.5>.

The status of the point is determined in all allergic conditions, as well as in a hair loss. Readings are taken before and after treatment by means of infrared emitters. Those that are out of line are brought back to normal by exposing sensitive areas to K-line emitters.

- Sympathetic nerve – G.B.20 (Fig.22).
- Sympathoadrenal system – S.J.1.1 (a noncanonical point) (Fig.6).
- Vagus St. 10a (a noncanonical point). It is situated at the intersection of two miraculous vessels on the stomach meridian between the 10lh and IIlh points of the stomach (Fig.22).
- Parasympathetic ganglia of the head – Ne.3a (a noncanonical point) (Fig.6).

By comparing the readings on the sympathicus and vagus one can diagnose the prevalence of sympathico- or vagotonia.

ENDOCRINE SYSTEM

Control point – S.J.lb (a noncanonical point) (Fig. 1). It provides information about all the endocrine glands, including the secretion of the pancreas and mammary glands.

- Adrenals and gonads – S.J.I (Fig.6).
- Endocrine secretion of the head and body of the pancreas – S.J.ls.D on the right (a noncanonical point) (Fig.6).
- Endocrine secretion of the tail of the pancreas – S.J.Ic.S on the left (Fig.6).
- Mammary glands – point S.J.ld (noncanonical) (Fig.6).
- Thyroid, parathyroids, and thymus – S.J.2 (Fig.6).
- Pineal body and pituitary gland – S.J.3 (Fig.6).
- Thymus – St. 11 (Fig.22).
- Thyroid – St. 10 (Fig.22).
- Parathyroids – St.9 (Fig.22).
- Anterior lobe of the pituitary gland – a point of intersection of 3 meridians S.J.I6, S.l. 15, and G.B.21.

In disturbances the pituitary gland often develops a lymphatic tumour in the lateral areas (Fig.22).

- Posterior lobe of the pituitary gland – G.B.12 (Fig.22).

- Pineal body – U.B.8 (Fig.22).

- Gonad – the point of intersection of the meridians of the stomach (St.31), spleen and pancreas (Sp.ll), and liver (Liv.ll) (Fig. 17).

- Adrenal – U.B.22 (Fig.21).

Lymph vessels of all the endocrine glands

- Lim.9 has an effect on the lynaph vessels of all the endocrine glands (Fig. 15).

- Llm.ll has an effect on the lymph vessels of 5 endocrine glands (the pituitary, thyroid, parathyroids, thymus, and gonads) (Fig. 15).

LYMPHATIC SYSTEM

Normalizing lymph drainage does not restore the function of organs themselves but restores the lymphatic function of the organs and tissues, which facilitates recovery.

- Control point of the lymphatic system Lim.1.2 (Fig. 1).

- Impaired lymph dynamics in degenerative processes – Deg. 1.1 (Fig-6).

The lymph meridian is used to assess the status of lymph drainage away from organs and systems.

Palatine tonsil, its bed, peri- and retrotonsilar tissue – Lim.l (Fig.3). Deviations in the readings occur in tonsillitis (follicular, lacunar, abscessed) and recrudescences of chronic processes. The point should also be tested in disorders of the heart, joints and kidneys, since the tonsil can act as the

- central focus of a toxic load on other organs and systerns.

- Lymph drainage from the ears – Lim.l.1. It characterizes the status of the middle and inner ears. The readings may be changed in otitis, labyrinthitis, mastoiditis, and otosclerosis (Fig.3).

- Control point – Lim. 1.2 (Fig.3). The point reflects the status of all the otolaryngological organs. It also provides information on the status of the teeth and eyeballs. It is also important in diagnosing blood disorders and malignant tumours metastasizing (readings at the point below 25). The analysis is done taking account of the readings at the points representing the organs involved in the process, those of the meridian of organ degeneration, and of the meridian of the vascular system.

- Tubal tonsil – Lim.la (Fig.3). It is measured in diagnosing adenoids and atrophic processes in the oral and pharyngonasal cavities, and provides additional information in frontal sinusitis, ethmoiditis, sphenoiditis, and maxillary sinusitis.

In conducting treatment or testing by means of an infrared emitter it is positioned in the area of the base of the nose, the root of the tongue (the patient should bend their head back), and the back wall of the throat (the patient should open their mouth wide).

- Upper and lower jaw – Lim.2 (Fig.3); the point reflects the state of all the teeth and processes in the jaws.

- Lymph drainage from the eye (the anterior and posterior chambers) – Lim.2a (Fig.3).

- Deep-seated cervical lymph nodes, where lymph drains from the paranasal sinuses – Lim.3 (Fig.3).

- Lymph supply of the heart (the point is directly associated with the 5th point of the heart) – Lim.5 (Fig.3); it is situated near Lu.8, 0.5 cm from the last in the direction of the radius, in the angle between the body and distal part of the radius. In fatty degeneration of the heart the readings should be correlated with those at the points of the gallbladder on the gallbladder meridian and the fatty degeneration meridian.

- Lymph vessels of the upper limb – Lim.6 (Fig. 15). The point is important in treating asthma by influencing the lungs, blood circulation and endocrine glands. It is situated 1/4 finger above and 1/4 finger towards the radius from the point of measuring the arteries of the upper limbs (Lu.7), in the acute angle between the terminal tendon of the brachiahs muscle and the abductor pollicis longus muscle. By positioning the probe at this point one can select the right emitter for the lungs. Normalizing the values at the point facilitates lymph drainage from the thoracic cavity and at the same time improves the function of the chylous system. The point is used for testing in all venous and lymphatic congestions in the upper arm and after amputation of the mammary gland.

- Lymph nodes of the small intestine Lim.7 (Fig. 15). The point is situated on the forearm, in the angle between the radial margin of the brachialis muscle and the radial margin of the extensor carpi radialis longus muscle.

- Perilymphatic space – P.8b (Fig.5); the point should be measured in relation to Lim.7.

- Lymph vessels of the large intestine, including the rectum – Lim,8 (Fig. 15); the point is situated at the radial end of the elbow fold near Point 11 of the large intestine towards the elbow.

- Lymph vessels of all the endocrine glands – Lim.9 (Frig. 15), situated close to the forearm, above the muscle angle of the lateral and medial margins of the biceps brachii muscle and the medial margin of the brachialis muscle in the lateral bicipital groove, about halt a linger above point 12 of the intestine. Readings should also be taken at this point in cardiovascular disorders.

- Lymph vessels and nodes of the abdominal cavity, which follow the courses of major blood vessels, affect blood circulation – Lim. 10 (Fig. 15). The point is situated near the shoulder in the angle between the lower part of the pectoralis major muscle and the median margin of the biceps brachii muscle. Readings should be taken it there are trophic ulcers on the lower limbs, since the condition may be due to lymph congestion in the area and cancers of the abdominal cavity. The readings should be correlated with those at the points of the organs of the abdominal cavity.

- Autonomic nervous system, vagus and sympathetic nerves, endocrine glands (thymus, thyroid, parathyroids and gonads), pituitary gland, liver, gallbladder, stomach, spleen, pancreas, and kidneys – Lim. 11 (Frig. 15). The point is situated in the subclavian triangle underthe distal end of the intermediary tendon and the beginning of the muscular part of the second convexity of the omohyoid muscle.

- 5 tonsils of the lymphoid ring – Lim. 12 (Fig.21). The point is situated in the lateral triangle of the neck above the subclavian triangle, in the angle of the median margin of the levator scapulae muscle, or between the posterior margin of the scalenus muscle and the anterior margin ot the trapezius muscle.

- Gallbladder, bile ducts, but not liver function, sympathetic nerve, spinal cord, ethmoid air-cells and sinus, and the joints ot the upper limbs, especially the shoulder joints – Lim. 13 (Fig.21). The point is situated above the transverse bundles of the trapezius muscle on a level with the tip of the spinous process of the 6^{lh} cervical vertebra about 4 fingers away.

- 5 tonsils of the lymphoid ring, gallbladder, bile ducts, sympathetic nerve, spinal cord, ethmoid air-cells and sinus, all the joints ot the upper limbs, especially the shoulder joints, urogenital system, pineal body, and adrenals – Lim. 14 (Fig.21). The point is situated above the trapezium, muscle at the upper margin of the rhomboid minor muscle 3 fingers away from the tip of the spinous process of the 1st thoracic vertebra.

- Lymph vessels of the lower limbs – Sp.9 (Fig. 16). Readings should be taken in all congestions of the lower limbs, including pelvic congestion, which obstructs lymph drainage from-the legs. It also reflects venous congestions in the legs.

- Lymph drainage from the urinary bladder – U.B.66d (Fig. 12).

- Cutaneous lymph vessels – Sk.1.1 (Fig.10).

ORGANS OF THE THROAT

Palatine tonsil with its capsule, bed and peri- and retrotonsillar tissue, and deep deep cervical lymph nodes – Lim.l (Fig.3).

- Tubal tonsil – L.I.18 (Fig.22).

- Laryngeal lymphatic follicles – L.I.17 (Fig.22). Inflammation or involvement of the laryngeal lymphatic follicles may give rise to recalcitrant or recurrent illness of the cervical spine.

NASAL CAVITY AND PARANASAL SINUSES

- The upper wall of the nasal cavity (the boundary between the nasal cavity and frontal sinus) – Ren.23a (Fig.22); the point is important in olfactory disturbances. It is situated between Ren.23 and Ren.24, at the point where the nasal bone transitions into the frontal bone, just above the intersection of the frontonasal and internasal sutures.

- Frontal sinus – U.B.2 (Fig.22).

- Maxillary sinus St.2 (Fig.22).

- Sphenoidal sinus – L.I.20a (a noncanonical point) (Fig.22). It is situated above the nasomaxillary suture, at the point where the bony part of the nose transitions into the cartilaginous one. The point is important in diagnosing olfactory disturbances.

- Ethmoid air-cells – L.I.20 (Fig.22).

EAR

- External ear, including theexternal acoustic meatus – S.1,19 (Fig.22)

- Middle ear, including the tympanic cavity – S.J.17 (Fig.22).

- Internal ear SJ.18 (Fig.22).

EYE

- Anterior part of the eye (the conjunctiva, cornea, frontal portion of the sclera, iris, anterior and posterior chambers, lens, its supporting fibres, and vitreous body) – SJ.21 (Fig.22).

- Posterior part of the eye (the retina with optic intersection with the optic nerve, optic tract, vascular nal part of the sclera) – G.B.I (Pig.22).

- Lateral geniculate body – G.B.I4 (Fig.22).

- Superior colliculus – G.B.4 (Pig.22).

Visual disturbances caused by the pituitary gland result in an indicator drop at:

- the summar$_y$ point of the pituitary gland – pineal body;

- the point where pituitary-related readings are taken;

- point 1 of the gallbladder.

Lower airway including the lungs

- Control point of the lung – Lu.10c („oneanomeal) (Fig.1.) It characterizes the status of the lungs, bronchi, bronchioles, larynx and lower pharynx.

- Larynx — Ren.21 (Fig.20).

- Trachea – Ren.19 (Fig-20) and I.u.9 (Fig.3). Low readmg are more often a manifestation of allergic involvement of the tracheal cosa.

- Bronchi – Ren.17 (Fig.20) and Lu.10 (Pig.3).

- Bronchial plexus – Lu.9a (a noncanomcal point) (Fig.3).

Altered readings are caused by exo- and endotoxins.

- Bronchioles – Lu.10b (noncanonical) (Fig.3).

High readings are typical of bronchiolitis and bronchopneumonia of infectious aetiology, whereas low ones, of bronchial asthma, bronchiectasis, tumours, cysts, and metastases.

- Visceral pleura and pleural lymphatic vessels – Lu.10a (a noncanonical point) (Fig,3).

High readings may be observed in pleural empyema and acute pleurisy Wheraas lot ones, in chronic pleurisy, chronic pleurapncumonta, and tumorous or commissural processes.

- Diaphragm — U.B.17 (Fig.21).

- Lungs: parenchyma of the lungs and alveoli with ducts and vascular network – Lu. 11 (Fig.3).

High readings at the points indicate acute mHamm,lor, processes whereas low ones chronic and degeneratt.e P™ces$_S$.s such as pneumosclerosis, calcinosis, silicosis, emphysema, eysri tjour e noeoccosis, cardiopulmonaty deficiency, and tnfarenon ol the lang).

- Mediastinal plexus – I.u.10d (a noncanomcal point) (I tg-3).

Readings may change in intoxication by exo- and endotoxins, chronic involvement of the oesophagus and pericardium, bronchial asthma, and tumours of the mediastinum.

- Pulmonary lymphatic system – Lim.4 (Fig.3).

CARDIAC ACTIVITY

- Aortic valve – H.9.S (Fig.7). Low readings may be due to pulmonary valve failure.

- Pulmonary valve – H.9.D (Fig.7). Low readings may be due to atherosclerosis, syphilitic involvement, and aortic aneurysm.

- Mitral valve – FI.8.S (Fig.7).

- Tricuspid valve – H.8.D (Fig.7).

- Heart muscle (myocardium) — H.6 (Fig.7). The point is important in infarction and postinfarction conditions, myocardial dystrophy, myocarditis, cardiosclerosis, and myocardial hypertrophy.

- Pericardium – H.8a (a noncanonical point) (Fig.7). Deviations occur in pericarditis and rhythm disturbances.

- Endocardium – H.8b (a noncanonical point) (Fig.7).

- Coronary vessels – P.7 (Fig.5).

- Myocardium – H.6 (Fig.7)

The lymphatic system of the heart is a communal communication network. Lymph moves out of the endocardium into myocardium, and out of the myocardium into the pericardium. If circulation in the lymph vessels is impeded or they undergo a spasm, the heart muscle begins to suffer not only from the buildup of viral and bacterial toxins but from the products of myocardial metabolism as well. It is therefore recommended that, in addition to antiviral and antibacterial emitters, those normalizing microcirculation be prescribed from the first days of treatment – Urn.5 (Fig.3).

- Subendocardial lymphatic system – H.8f (a noncanonical point) (Fig.5).

- Myocardial lymphatic system – H.8d (a noncanonical point), the control point (Fig.5).

- Pericardial lymphatic system (the thoracic duct) – IJ.8a (a noncanonical point) (Fig.5).

Together with the control point, readings taken at the points of the lymphatic system provide information about inflammatory processes in the heart.

Conducting system of heart

- Atrioventricular node – H.7a.D (a noncanonical point) (Fig.7).

- Left crus of the atrioventricular bundle – H.7a.S (a noncanonical point) (Fig.7).

- Conducting system of heart – H.7 (Fig.7).

- Sinoatrial node – H.6a.D (a noncanonical point) (Fig.7).

- Sinoauricular bundle – H.6a.S (a noncanonical point) (Fig.7).

- Cardiac plexus – H.8e (a noncanonical point) (Fig.8).

- Coronary plexus – P.7a (a noncanonical point) (Fig.5).

To diagnose rhythm disturbances it is also necessary to take readings at the points of the cardiac ganglia and thoracic aortic plexus.

- Point of measuring the conductive system of heart – H.7 (Fig.7).

- In circulatory disturbances readings correlate with those at the points of lymph drainage from the heart and of the lymphoid ring; emitters normalizing microcirculation should be tested for a possible effect. Blood circulation

- Summary diagnosis of arterial function should be done at P.9 (Fig.5).

- Summary diagnosis of venous function should be done at P.6.(Fig-4).

- Point of vascular sclerosis – Al.lc (Fig. 5). Low readings are typical of microcirculation disturbances.

- Coronary vessels – P.7 (Figs.5 and 14).

- Lim. 10 affects the lymph vessels and nodes that follow the courses of major blood vessels (Fig. 15).

Status of the arteries

- Control point for all the vessels – P.8d (noncanonical) (Fig.l).

- Arterieis – P.9 (Fig.5).

- Aorta – P.8e.D (a noncanonical point) (Fig.5).

- Thoracic aorta – P.8e.S (a noncanonical point) (Fig.5).

- Abdominal aorta – P.8c (a noncanonical point) (Fig.5).

- Arteries of the upper limbs – Lu.7 (Fig. 14).

- Arteries of the lower limbs – St.32 (Fig. 17).

Status of the veins

- Veins – P.8 (Fig.5).

- Veins of the upper limbs – Lu.8 (Fig. 14).

- Veins of the lower limbs Liv.7 (Fig. 16)

- Pelvic veins – Sp.10 (Fig. 16).

- Veins of the abdominal cavity – St.33 (Fig. 17).

Deviations in the readings at the points of the veins are observed in phlebitis, thrombophlebitis, vasculitis, and posttraumatic impairments of venous outflow.

Lymphatic system

- Lymph nodes of major blood vessels – 8f (a noncanonical point on the meridian of the vascular system).

- Perilymphatic space – P.7b (Fig.5).

- Right lymphatic duct – P.8a (Fig.5).

- Thoracic duct – P.8A.S (a noncanonical point) (Fig.5).

GASTROINTESTINAL TRACT

OESOPHAGUS

- Upper oesophagus – St. 13 (Fig.20) and St.42 (Fig. 17).

- Lower oesophagus – St. 14 (Fig. 20) and St.42a (a noncanonical point) (Fig.9). Readings are taken in diagnosing oesophagitis (reflux oesophagitis) due to insufficient closing of the cardiac valves.

By taking readings at all the points referring to the whole of the oesophagus one can diagnose disturbances in the passage of food by peristalsis (achalasia).

STOMACH

- Control point of the stomach – St.44b (Fig.2).

- Pyloric antrum (pylorus) – St.45.D (Fig.9).

- Left part of the stomach – St.45.S (Fig.9).

- Fornix of the stomach – St.44.S (Fig.9).

- Pyloric antrum – St.44.D (Fig.9).

- Right part of the stomach, viz. the ascending portion of the pyloric antrum St.43.D (Fig.9).

- Cardiac part of the stomach – St.43.S (Fig.9).

- Control point of the stomach – St.44.b (noncanonical) (Fig.2).

Readings below normal at the points of the stomach and solar plexus indicate an impaired acid-forming function of the stomach.

- Peritoneum of the stomach – St.44.a (a noncanonical point) (Fig.9).

Lymph vessels of the stomachy

- Lim.ll (Fig. 14) and Lim.12 (Fig.21).

- St.44d (a noncanonical point) (Fig.9).

Nervous plexuses of the stomach

- Solar plexus – St.44c (a noncanonical point) (Fig.9).

SMALL INTESTINE

- Duodenum (a control point) – S.I.lb.D (Fig.!).

- Jejunum and ileum (a control point) — SI lb S (Fig 1)

Low readings a, point SJ.lb (a control point) can be found in ₍omissural disease, chronic appendicitis, and duodena] ulcers in a state of remission or scar formation.

- Terminal portion of the ileum, situated on the right – S.I.l.D (Fig 7)

- Ileum (refers to the terminal portion of the ileum, situated in the me fossa, and the ileum ascending from the cavity of the small pelvis until it transitions into the caecum) – S.I.I.S (Fig.7)

- Lower horizontal portion of the duodenum – S I 2 D (fig.7.)

- Jejunum – S.I.2.S (Fig.7).

- Descending portion of the duodenum with the major duodenal papilla (the opening of the main pancreatic duct and common bile duct) and minor duodenal papilla (the opening of the accessory pancreatic duct) – this portion is situsted below the head of the pancreas – S.I.3.D (Fig.7.)

- Duodenojejunal flexure – S.I.3.S (Fig.7).

- Hepatopancreatic ampulla – S.I.3a.D (Fig.7).

- Peyer's patches – S.I.3a.D (Fig.7).

Pint S.I.3a is used to diagnose immunosuppressive states of the body. Low readings indicate immune deficiency.

- Point of measuring the upper horizontal part, including the upper fkxure of the duodenum (situated median to the gallbladder) – S.I.4 D

- Ascending portion of the duodenum – S.I.4.S (Fig 7) Reading on the left tad below 50 rule out intestinal dysbacteriosis and enzymatic disorders. Additional readings should be taken at the points of the pancreas.

Lymph vessels of the small intestine

- Lim.7 (Fig. 15).

- Lymph vessels of the initial and middle part of the duodenum and the terminal part of the ileum – S.I.1.1.D (Fig.7).

- Lymph vessels of the terminal part of the duodenum, the jejunum and ileum, and the mesenteric lymph nodes and vessels S.I.1.1.S (Fig.7.)

- Peyer's patches S.I.3a.D (a noncanonical point) (Fig.7).

Nervous plexuses of the small intestine

- Superior mesenteric plexus S.I.la.D (a noncanonical point) (Fig.7).

- Inferior mesenteric plexus – S.I.la.S (a noncanonical point) (Fig.7).

LARGE INTESTINE

Deviations in readings taken at the points of the large intestine may arise from any disease involving the large intestine (helminthiasis, protozoan infections, dysbacteriosis, polyposis, and tumours). The points may reflect the presence of the toxins of typhoid, cholera, tuberculosis, actinomycosis, syphilis, malaria, and candidiasis. Deviations may also be caused by pathological processes going on in the kidneys (glomerulonephritis), liver (cirrhosis), and endogenous intoxication.

- Control point – L.I.lb (Fig.l).

- Right part of the transverse colon – L.I.l.D (Fig.4).

- Sigmoid colon – L.I.l.S (Fig.4).

- Ascending colon – L.I.3.D (Fig.4).

- Left colic flexure – L.I.3.S (Fig.4).

- Right colic flexure and appendix – L.L4.D (Fig.4).

- Left part of the transverse colon – L.I.4.S (Fig.4).

Lymphatic system of the large intestine

- Lymph vessels of the caecum and transverse colon – L.L1.1.D (a noncanonical point) (Fig.4).

- Lymph vessels of the transverse and sigmoid colon – L.L1.1.S (Fig.4).

- Appendix and ileocaecal lymph nodes – L.I.4a.D (a noncanonical point) (Fig.4).

- Colic lymph nodes – L.1.4a.S (Fig.4).

Nervous plexuses of the large intestine

Deviations in readings related to a plexus may be due to intoxication by exo- and endotoxins.

- Superior hypogastric plexus L.Lla.D (Fig.4). The main function of the plexus is to innervate the vessels of the abdominal cavity.

- Iliac plexus – L.I.la.S (Fig.4). Readings are taken in diagnosing sympathetic effects on the arteries of the lower part of the body, including those of the lower limbs.

Rectum – K.6 (Fig. 16), Constipation causes a swelling in the area surrounding the point, and palpation by the index finger is extremely painful.

PANCREAS

- All the functions of the pancreas (a control point) – Sp.1a (noncanonical) (Fig.2),

- Synthesis and secretion by the gland of the protease enzymes (proteolytic enzyme, trypsin, chymotrypsin, and erepsin) – Sp.l.D (Fig.8). High readings are often found in acute pancreatitis, low ones in degenerative changes and tumours.

- Peritoneum of the pancreas – Sp.1b.D (a noncanonical point) (Fig.8). Deviations in readings are due to both inflammation of the peritoneum itself and processes in the organs of the abdominal cavity (the liver, gallbladder, and duodenum).

- Point of forming nuclease, nucleoproteins (purines), uric acid metabolism – Sp.2.D (Fig.8). Deviations in readings may occur in «out obesity, atherosclerosis and other disturbances of purine metabolism. '

- Point of forming carbohydrate enzymes and carbohydrate metabolism – Sp.3.D (Fig.8). Readings may be lowered in diabetes mellitus.

- Pancreatic duct – Sp.3a.D (a noncanonical point) (Fig.8). Deviations in readings can be due to helminthic invasions, calculi, tumours and congenital anomalies.

- Point of measuring lipase formation Sp.4.D (Fig.8). Deviations from normal may be found in lipid metabolism disturbances (fatty degeneration of organs, obesity, atherosclerosis, hyperlipidemia). Readings should be correlated with those on the meridian of fatty degeneration of organs.

Endocrine function of the pancreas.

Low readings may be found in diabetes mellitus.

- Endocrine secretion by the tail of the pancreas SJ.lc.S (Fig.6).

- Endocrine secretion by the body of the pancreas – S.J.lc.D (Fig.6).

- Lymph vessels of the pancreas – Lim.12 (Fig.21) and Lim.13 (Fig.21)

LIVER

- Control point of the liver – Liv.1a (noncanonical) (Fig.2). It is used to diagnose all liver disorders.

- Liver capsule – Liv.1b (noncanonical) (Fig.8).

- Perivascular system of the periportal area (the cells and lobes of the liver) Liv.2 (Fig.8). Deviations in readings may indicate: necrosis of part of the liver tissue caused by viruses, bacteria, their toxins, exotoxins; echinococcosis, lymphocyte aggregations in the liver lobes caused by typhoid and paratyphoid bacteria.

Indicator drops at the points of the liver should be followed by readings taken at the points of degeneration of connective and fatty tissues.

- Interlobular bile ducts – Liv.2a (a noncanonical point) (Fig.8A,8B). Readings below normal indicate cirrhotic manifestations extending beyond a hepatocyte.

Vessels of the liver

- Central venous system – Liv.l (Fig.8). Deviations in readings may be due to changes in the liver itself, right cardiac deficiency, intoxication, and pathological changes in the liver vascular system. Congestive phenomena in the liver may result in the death of hepatocytes and their replacement with cells of fatty or connective tissue.

- Portal vein – Liv.2b (a noncanonical point)(Fig. 8).

- Liver perivascular system – Liv.3 (Fig. 8); it characterizes the state of the interlobular artery.

- Lymph vessels of the liver – Lim.l 1 (Fig. 15).

GALLBLADDER AND BILE DUCTS

The points on the left reflect the function of the bile ducts in the left- lobes of the liver and above the common hepatic duct. The function of the bile ducts in the right lobe of the liver and the gallbladder, including the cystic and common bile ducts, is reflected by the points on the right.

- Control point – G.B.43b (Fig.2).

- Common hepatic duct – G.B.44.S (Fig.l 1).

- Common bile duct – G.B.44.D (Fig.l 1).

Deviations at points G.B.44 may be due to helminthes, calculi, inflammatory processes in the duodenal mucosa, and involvement of the hepatopancreatic ampulla.

- Left hepatic duct – G.B.42.S (Fig. 11).

- Body of the gallbladder – G.B.42.D (Fig.l 1). The point is used to diagnose calculous cholecystitis.

- Bile duct in the right lobe of the liver – G.B.41.D (Fig.11).

- Bile duct in the left lobe of the liver – G.B.41.S (Fig.11).

- If there are deviations at the points of the gallbladder, reading should also be taken at the points of the liver meridioan.

- Low reading at points G.B.42 raise the possibility of liver cirrhosis.

- Lymph vessels of the gallbladder – Lim. 11 and Lim.13 (Fig.21).

- Lymph vesseis of the gallbladder and bile ducts – G.B.43d (a noncanonical point) (Fig.11)

- Nervous plexuses

- Hepatic plexus – G.B.43c (a noncanonical point) (Fig.11.). Deviations may be due not only to gallbladder disorders, but also to processes in the greater curvature of the stomach and the tail of the pancreas.

DIAGNOSING APPENDICITIS

- Pont L.I.4.D (the vermiform appendix) and point L.I.1 (the peritoneum of the large intestine). To distinguish in from adnexitis, perisalpyngitis and pelviperitonits, readings should also be taken at some points on the urinary bladder meridian. Normal readings on the meridian suggest appendicitis. Regardless of where the vermicular appendix is situated, readings should be taken an the right hand.

Mesadenitis is diagnosed using points L.I.4a and L.I.3a (the greater omentum).

Uropoietic system

KIDNEYS

- Control point of the kidney – K.I.3 (Fig 2)

- Kidney pelvis – K.1 (a noncanonical point); it is used to diagnose pyelitis, pyelocystitis, and hydronephrosis (Fig.12).

- Peritoneum of the kidneys – K.l.4 (a noncanonical point).

- Abdominal part of the ureter – K.1a (a noncanonical point) (Fig.12). Low readings may be due to cicatricical changes in the ureter.

- Pyelorenal border area (the inner cortical area with papillae and chalice cells that surrounds the calices adjacent to the papilla) K.2 (Fig.12). Deviations in readings may be due not only to kidney disorders but also to inflammation of the lymphoid ring.

- Renal medulla (collecting tubules) – K.2a (a noncanonical point) (Fig.12)

- Renal cortex (renal corpuscles and convoluted tubules) K.3 (Fig.12)

Renal lymph vessels

- Lim.TI (Fig. 15).

- Lim.12 (Fig.21).

- Lymph vessels of the kidneys and adrenals – K.1,1 (a noncanonical point) (Fig. 12).

Nervous plexuses

- Renal plexus – K.1.2 (a noncanonical point) (Fig. 12).

- Adrenal plexus – K.lb (a noncanonical point) (Fig. 12). The plexus regulates adrenal function.

URINARY BLADDER

- Control point of the urinary bladder and genitals – U.B.66b (noncanonical) (Fig.2).

- Body of the urinary bladder – U.B.67 (Fig. 12).

- Peritoneum of the urinary bladder and genitals – U.B.66a (a noncanonical point) (Fig. 12).

- Triangle of the urinary bladder (the fundus and sphincter of the bladder) – U.B.66 (Fig. 12).

- Anterior urethra – U.B.38 (Fig. 18). Deviations from normal may be due to changes in the diameter ol the urethra caused by polyps or mucosal retroflexion.

- Posterior urethra – U.B.37a (a noncanonical point) (Fig. 18).

Lymph vessels of the urinary bladder and urogenital triangle

- Lymph drainage from the urinary bladder – U.B.66d (a noncanonical point) (Fig. 12).

Nervous plexuses

- Vesical plexus – U.B.66c (a noncanonical point) (Fig. 12).

- Inferior hypogastric plexus – U.B.63 (Fig. 18).

MALE GENITALS

- Penis – U.B.37 (Fig. 18).

- Seminal hillock. – U.B.36a (situated between U.B.36 and U B 37) (Fig. 18).

- Spermatic cord, epididymides – U.B.64 (Fig. 12).

- Seminal vesicle – U.B.54c (Fig.21).

- Deferent duct – U.B.54b (Fig.21).

- Prostate – U.B.36 (Fig. 18). *

- Summary reading of the prostate, seminal vesicle, penis, and urethra – U.B.65 (Fig. 12).

- Epididymis – U.B.54a (Fig.21).

FEMALE GENITALS

- Vagina – U.B.37 (Fig. 18).

- Broad ligament – U.B.36a (situated between U.B.36 and U.B.37) (Fig. 18).

- Uterus – U-.B.36 (Fig. 18).

- Uterine tubes – U.B.64 (Fig. 12).

- Ampulla of the uterine tube – U.B.54b (Fig.21).

- Infundibulum of the uterine tube – U.B.54a (Fig.21).

- Summary reading of the uterus, broad ligament, including the parametrium, vagina and urethra – U.B.65 (Fig. 12).

FUNDUS OF THE PELVIS

- Pelvic diaphragm – Sp.7 on the left (Fig. 16).

- Urogenital diaphragm – Sp.8 on the left (Fig. 16). Readings should be taken if the sphincter of the bladder is too weak in women.

- Pelvic veins – Sp. 10 (Fig. 16).

STATUS OF RED AND WHITE BLOOD CELLS

In disturbances in the status of white blood cells it is necessary to take readings at the points of the spleen and thymus, in addition to those of the bone marrow.

SPLEEN

- Control point of the spleen – Sp.la.S (noncanonical) (Fig.2).

- Function of the white pulp, consisting of splenic lymph follicles, that comes into operation in toxic loads on the lymph nodes of the thoracic cavity and neck – Sp.l.S (Fig.8).

- Function of the white pulp that comes into operation in toxic loads on the lymph nodes of the abdominal cavity and small pelvis – Sp.2.S (Fig.8).

- Splenic peritoneum – Sp.lb.S (a noncanonical point) (Fig.8). Deviations from normal indicate processes going on in the splenorenal and gastrosplenic ligaments. Deviations from normal may be found in ulcerous processes in the area of the greater curvature of the stomach (in this case in selecting an infrared emitter it is positioned in the projection. of the stomach and the probe, at the points of the stomach and splenic peritoneum).

- Function of the red pulp, consisting of terminal arteries, venous sinuses and veins, which is to destroy blood cells – Sp.3.S (Fig.8). The point is used to determine the number of erythrocytes, anaemia, as well as red congestion of the spleen, which may come about in disorders giving rise to blood congestion in the spleen (infectious processes, pericarditis); obliteration of the branches of the splenic artery with anaemic infarction. 1 his should be borne in mind in testing emitters for effect in patients with chronic haemorrhagic diathesis and impaired blood clotting.

- Function of the splenic reticulum, basal tissue of the spleen, and the whole reticuloendothelial system – Sp.4,S (Fig.8). The point provides information in all immunosuppressive and autoimmune processes in the body.

BONE MARROW

- G.B.39 (Fig. 19). The point can be used to measure all toxic loads on the bone marrow, as well as to diagnose leucosis, anaemias, and haemorrhagic diathesis.

THYMUS

- St.l 1 (Fig.22). The gland is also a site of lymphocytopoiesis; readings should therefore be taken in diagnosing immunosuppressive and immunodeficient states.

BLOOD

In bleedings, at the point of blood measurement there is an indicator drop on the side corresponding to the bleeding – K.8 (Fig. 16); (physiological menstrual bleedings do not cause the indicator to drop).

MUSCULOSKELETAL SYSTEM

VERTEBRAL COLUMN

- Summary diagnosis of all the parts of the vertebral column (the vertebrae, intervertebral discs, and ligaments) – U.B.ll (Fig.21).

- Cervical part – S.I.6 (Fig.13).

- Lumbar part – U.B.61 (Fig. 18).

- Sacroiliac joint – U.B.27 (Fig.21).

- Osseous system – U.B.12 (Fig.21). Readings should be taken in fractures and fissures. If there is any, the indicator drops. No indicator drop occurs, however, if a tendon has detached but the bone tissue is intact. If bone is resected there is an indicator drop on the side of the surgery.

MUSCULATURE

- Muscles of the upper limbs – S.I.9 (Fig. 13).

- Muscles of the lower limbs – G.B.34 (Fig. 19).

JOINTS

- Control point of the joints – Jo.l.b (Fig.9).

- Joints of the upper limbs – S.J.15 (Fig. 13).

- Joints of the shoulder girdle and arms – Jo.2 (Fig.9).

- Joints of the lower limbs – G.B.33 (Fig. 19).

- Joints of the pelvic girdle and legs – Jo.l (Fig.9).

- Focal and toxic involvement of the joints – Jo. 1.1 (Fig.9).

- Allergic involvement of the joints – Jo.l.a (Fig.9).

- Synovial membranes of the joints – Jo.l.c (Fig.9).

- Joints of the l^{sl} and 2^{nd} cervical vertebrae – Jo.3 (Fig.9).

Joints of the upper limbs

- Acromioclavicular joint – S.J.14 (Fig. 13).

- Shoulder joint: the anterior part of the joint – L.I.15 (Fig 13)- the interior part of the joint – P.2 (Fig. 14); the posterior part of the joint – S.I.10 (Fig.21).

- Elbow joint: the humeroradial joint (anterior part) – S.I.8 (Fig. 13); the humeroradial joint (posterior part) – L.1.11 (Fig. 13); and the proximal humeroulnar joint – P.3 (Fig. 11).

Joints of the hand

- Wrist joint: the radial joint part of the proximal joint of the hand L 1.5 (Fig. 13); the ulnar joint part of the proximal joint of the hand or data on joint disc function – S.I.5 (Fig. 13).

- Intercarpal joint – S.J.4 (Fig. 13).

Joints of the lower limbs

- Hip joint – St.30 (Fig.20) and Sp.lla (Fig.20).

- Knee joint: Liv.8 (Fig.l 6) for the median part; St.35 (Fig. 17) for the lateral part; and U.B.40 (Fig. 18) for the posterior part.

Joints of the foot

- Upper ankle joint: the interior median part – Sp.5 (Fig. 16); lower part (the trochlea of the talus) – St.41 (Fig. 17); the lateral part – G.B.39a (a noncanonical point) (Fig. 17).

- Subtalar joint (formed by the talus and calcaneus) – U B 62 (Fig. 18).

DIAGNOSING INVOLVEMENT OF JOINTS

If pain in the joints ot the arms is localized frontally, it may be caused by the large intestine (readings should be taken at the points of the large intestine); and if it is at the back, by the small intestine (readings should in this case be taken at the points of the small intestine). If pain is localized to the popliteal fossa, it is caused by a disorder of the urogenital system. It may be an odontogenic involvement of the joint (eg arising from an affected incisor). If pain starts in front and to one side of the knee joint, it is caused by the stomach, and if at the outer side, by the gallbladder. Gallbladder-caused disorders, leading to changes in the joints, arise from changes in the meridian of the gallbladder.

VASCULO-PARENCHYMATOUS-EPITHELIAL DEGENERATION

The meridian of vasculo-parenchymatous-epithelial degeneration reflects the level and nature of degenerative changes in the organs.

- Control point – Deg.lb (Fig. 1) – reflects the overall bioelectric state of the body; it can be used to determine the state of all organs, except for the mammary and endocrine glands. If readings are lowered to the same extent (both on the right and on the left), a contact bioenergetic load should be ruled out. If the difference between the readings on the right and the left exceeds 15, degenerative processes should be ruled out in the organs on the side of the most reduction.

- Epithelium and parenchyma of the organs of the abdominal cavity and small pelvis – Deg.l and Deg.4 (Fig.6).

- Peritoneum – Deg.lc (Fig.6).

- Epithelium and parenchyma of the organs of the thoracic cavity and neck – Deg.2 and Deg.5 (Fig.6).

- Epithelium and parenchyma of the organs of the head – Deg.3 and Deg.6 (Fig.6).

- Pleura – Deg.l.d (Fig.6).

DEGENERATION OF FATTY AND CONNECTIVE TISSUE FATTY DEGENERATION

By taking readings at the point of fatty degeneration we can diagnose the probability of adiposis of the cells of an organ or an early stage of the condition. Fatty degeneration is distinguished from cel! adiposis by the fact that, in addition to the presence of fat in the cells and the volumetric constriction of the cytoplasm due to adiposis, cytoplasmic damage is associated with decreasing cell function until it stops completely. The predisposition to adiposity is observed in the liver, kidneys, heart and intimae of major blood vessels. The point of measuring fatty degeneration should therefore always be correlated with those of these organs.

- Fatty degeneration – F.Deg.lb – a control point of the meridian of fatty tissue (Fig.2).

- Fatty degeneration of the organs of the abdominal cavity (fatty dystrophy of the liver, lipoid nephrosis, and pancreatic adiposis) – F.Deg. 1 – a point on the meridian of fatty tissue (Fig. 10).

- Fatty degeneration of the organs of the thoracic cavity and neck (fatty degeneration of the myocardium, atherosclerosis of the coronary vessels and aorta) – F,Deg.2 (Fig. 10).

- Fatty degeneration of the organs of the head (cerebrosclerosis, encephalomalacia) – F.Deg.3 (Fig. 10).

CONNECTIVE TISSUE DEGENERATION

The points on the meridian provide information about sclerotic, fibrous and cirrhotic processes in organs and tissues caused by chronic or systemic pathological processes. In diagnosing them it is necessary to correlate the readings on the meridian with those on the organs.

- Connective tissue degeneration (CTD) of the whole body, including benign connective tissue tumours (adenomas, angiomas, chondromas, fibromas, fibroadenomas, lymphangiomas) – C.Deg.lb (Fig. 10).

- CTD of the mucous membranes of the whole body, including papillomas and polyps – C.Deg.lc (Fig.10).

- CTD of the organs of the abdominal cavity and small pelvis – C.Deg.l (Fig.10).

- CTD of the organs of the thoracic cavity and neck – C.Deg.l (Fig.10).

- CTD of the organs of the head – C.Deg.3 (Fig.10).

SKIN

The site of measuring skin values is on the 3rd toe on the fibular side.

- Control point – Sk.1.3 (Fig.2).

- Sk.l reflects the state of the skin on the lower parts of the body (the abdomen, back and lower limbs) (Fig.10).

- Sk.2 reflects the state of the skin of the upper part of the body (the chest, upper neck, occiput, and upper limbs) (Fig.10).

- Sk.3 reflects the state of the skin of the entire body, including the scalp. Thus, in pathological alopecia there is an indicator drop at the point.

In allergic disorders readings at the points should be correlated with those 'at the points on the meridian of allergy.

In skin disorders the root cause should be determined.

- Skin scars – Sk.l.A. (Fig. 10).

- Allergic skin disorders – Sk.1.1 (Fig. 10).

Readings related to the skin state may go back to normal as a result of exposing an organ to infrared emitters.

ALLERGY

- Allergy – Al.lb (a control point) (Fig.l).

- Allergy of the skin of the lower part of the body, including the lower limbs and the organs of the abdominal cavity and small pelvis – All (Fig.5).

- Allergy of the skin of the upper body, including the upper limbs and the organs of the chest and neck – A1.2 (Fig.5).

- Allergy of the skin of the head and the organs of the neck, nose and paranasal sinuses – A1.3 (Fig.5).

Readings at these points may go back to normal as a result of exposure to infrared radiation of the organ whose impaired function has given rise to the allergic reaction.

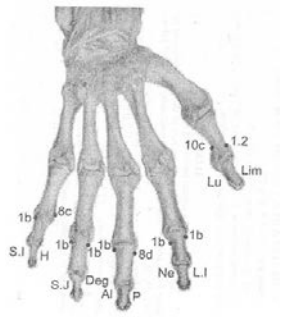


Fig.1. Control points of the meridians
Lim.1.2. – lymphatic system
Lu.10c-lungs
L.I.1b-large intestine
Ne.1b-nervous system
P.8d-blood vessels
Al.1b-allergy
Deg.1b-epithelium and parenchyma
S.J.1b-endocrine system
H.8c-heart
S.I.1b-duodenum

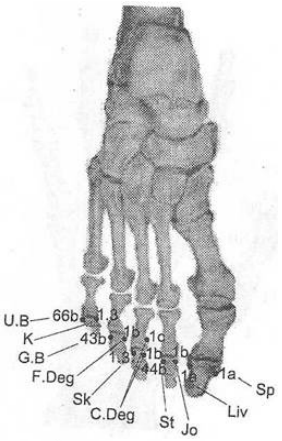


Fig.2. Control points of the meridians
Sp.1aD-pancreas-right side
Sp.1aS-spleen-left side
Liv.1a-liver
Jo.1b-joints
St.44b-stomach
C.Deg.1b-connective tissue of the entire body
C.Deg.1c-connective tissue of the mucous membrane
Sk.1.3.-skin
F.Deg.-1b fatty tissue
G.B.43b-gallbladder
K.1.3.-kidneys
U.B.66b-urinary bladder

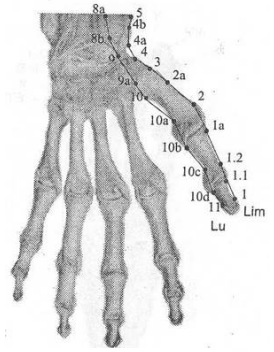


Fig.3. Lymphativ system (Lim.)
1-palatine tonsil
1.1.-ear
1.2.-control point
1a-tubal tonsil, lateral torus
2-maxilla
2a-eyes
3-paranasal sinuses
4-lungs
4a-oesophagus
4b-larynx, hypopharynx
5-lymph drainage from the heart

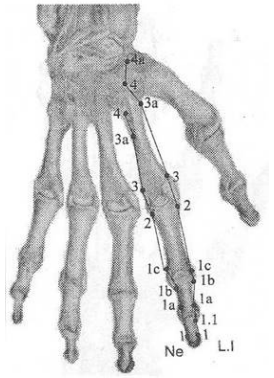
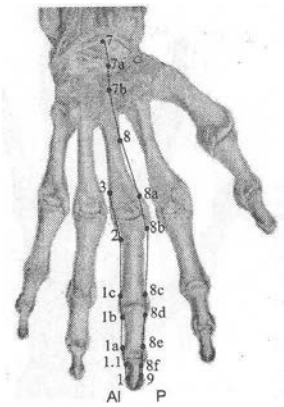


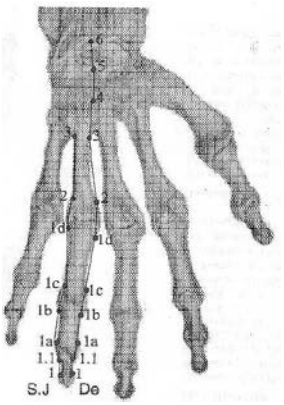
Fig.4. Large intestine (L.I.)
1S-sigmoid colon
1.1S-lymph vessels of the transverse colon and caecum
1aS-iliac plexus
1bS-control point
1cS-peritoneum
2S-left flexure
3S-descending colon
3aS-greater omentum
4S-left part of the transverse colon
4aS-lymph nodes of the transverse colon
Nervous system (Ne.)
1-lumbar and sacral regions of the spinal cord
1a-autonomic nervous system
1b-control point
1c-meninges
2-cervical and thoracic regions of the spinal cord
3-brain stem and greater brain
3a-parasympathetic ganglia of the head

4-craniocerebral nerves
Large intestine (L.I.)
1D-right part of the transverse colon
1.1D-lymph vessels of the transverse colon and caecum
1aD-superior hypogastric plexus
1bD-control point
1cD-peritoneum
2D-right flexure
3D-ascending colon
3aD-greater omentum
4D-caecum
4aD-vermiform appendix
Fig.5. Blood vessels(P.)
9-arteries
8f-lymph nodes of the blood vessels
8e-aortic arch
8d-control point
8c-nervous plexus of the thoracic aorta
8b-perilymphatic space
8a-right lymphatic duct
8-veins
7b-lymphatic system
7a-coronary plexus
7-coronary vessels



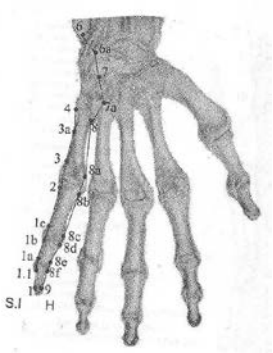
Allergy(AL)
1-allergy of the lower body
1.1-lymph dynamics
1a-autonomic regulation of the body
1b-control point
1c-vascular sclerosis
2-allergy of the upper body
3-allergy of the head

Fig.6. Vascular-Parenchymatous-Epithelial Degeneration (VPED) (Deg.)
1-VPED of the organs of the abdominal cavity and small pelvis
1.1-impaired lymph dynamics
1a-imaired autonomic regulation
1b-control point
1c-peritoneum
1d-pleura
2-VPED of the chest and neck
3-VPED of the head
4-VPED of the abdominal cavity and cmall pelvis
5-VPED of the chest and neck
6-VPED of the head

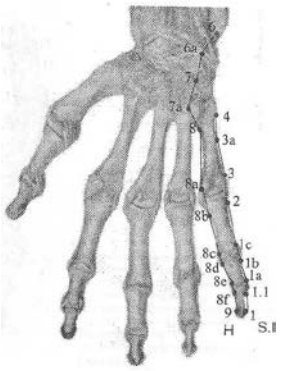


Endocrine system (S.J.)
1-gonads and adrenals
1.1-symphoadrenal system
1a-cervical ganglia
1b-control point
1cD-endocrine secretion of the head and body of the pancreas
1d-mammary glands
2-thyroid, parathyroidsm thymus
3-pituitary gland, peneal body

Fig.7.Heart (H.)
9D-valve of the pulmonary artery
8fD-subendocardial lymphatic system
8eD-cardiac plexus
8d-myocardial lympharic system
8c-control point
8b-endocardium
8a-pericardium
8D-tricuspid valve
7aD-atrioventricular node
7-conductive system of the heart
6aD-sinus node
6-myocardium

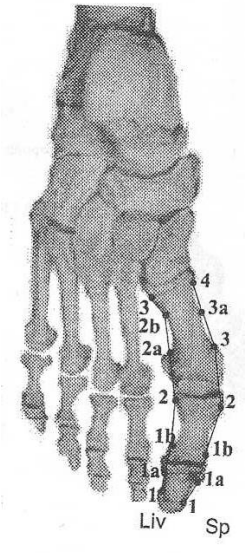


Duodenum (S.I.)
1d-terminal region of the ileum
1.1D-lymph vessels of the initial and median parts of the duodenum
1aS-superior mesenteric plexus
1bD-control point
1cD-peritoneum of the initial and median parts of the deudenum
2D-lower horizontal part of the duodenum
3D-descending part of the duodenum
3aD-major duodenal papilla
4D-upper horizontal part of the duodenum
Heart (H.)
9S – aortic valve
8fS – subendocardical lymphatic system
8eS – cardiac plexus
8d – myocardial lymphatic system
8c-control point
8b – endocardium
8a – pericardium
8S – mitral valve
7aS – left crus of the atrioventricular bundle 7 – conductive system ofthe heart 6aS - sinoauricular bundle 6 – myocardium



Small intestine (S.I.)
1S-ilium
1.1S – lymph vessels ofthe terminal part ofthe duodenum
1aS – inferior mesenteric plexus
1bS – control point
1cS – peritoneum of the terminal part of the duodenum
2S-jejunum
3S – flexure ol the duodenum and the caecum
3aS – Peyer's patches
4S – ascending part of the duodenum

Fig. 8 Spleen (Sp.)
1S – function of the white pulp of the upperpart of the body
1aS -control point
1bS – peritoneum of the spleen
2S – function of the white pulp of the lower part of the body
3S – red pulp
4S – reticuloendothelial system



Liver (Liv.)
1- central venous system
1a-control point
1b – liver capsule
2- cells and lobes of the liver
2a – interlobar bile ducts
2b – portal vein
3- perivascular system of the liver

Pancreas (Sp.)
1D – protease and protein metabolism
1aD – control point
1bD – peritoneum of the pancreas
2D – purine synthesis and uric acid metabolism
3D – amilases, maltases, carbohydrate metabolism
3aD – pancreatic duct
4D – esterases, lipases, lipid metabolism

Fig.9 Joints (Jo.)
1 -joints of the pelvic girdle and legs
1.1- focal-toxic involvement of the joints
1a – allergic involvement of the joints
1b – control point
1c – synovial membrane of the joints
2-joints of the shoulder girdle and arms
3- joints of the 1st and 2nd vertebrae, maxillotemporal joint

Stomach (St.)
45S – left part of the body of the stomach
44dS – lymphatic system of the stomach
44cS – solar plexus
44b – control point
44a – peritoneum of the stomach
44S – fornix of the stomach
43S – cardiac part of the stomach
42a – lower oesophagus
42 – upper oesophagus
41a – mammary glands

Stomach (St.)
45D – pylorus
44dD – lymphatic system of the stomach
44cD – solar plexus
44b – control point
44a – peritoneum of the stomach
44D – entrance to the pylorus
and body of the stomach
43D – body of the stomach
42a – lower oesophagus
42 – upper oesophagus
41a – mammary glands

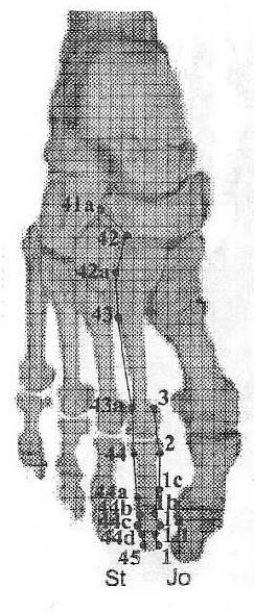


Fig.10 Connective tissue (C. Deg.)
1 – connective tissue degeneration of the organs of the abdominal cavity
1b- controlpoint: connective tissue degeneration of the entire body
1c – contra]point: connective tissue „ degeneration of the mucous membrane
2 – connective tissue degeneration of the chest and neck
3 – connective tissue degeneration of the organs of the head

Skin (Sk.)
1 – lower part of the trunk, legs
1.1-lymph vessels of the skin
1.2-allergic involvement of the skin
1.3 – control point
1a-skin scars
2- upper part of the trunk, arms
3- head

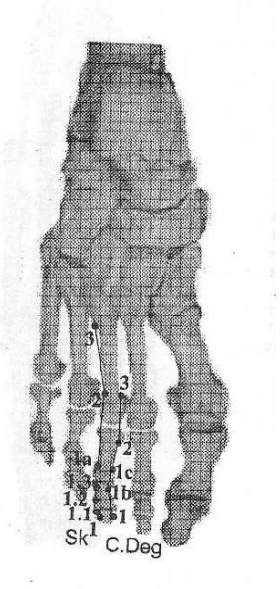


Fig.11 Fatty tissue (F. Deg.)
1 – fatty degeneration of the organs of the abdominal cavity
1b-controlpoint
1 – fatty degeneration of the organs of the chest and neck
2- fatty degeneration of the organs of the head

Gallbladder (G.B.)
44S – common hepatic duct
43d – lymph vessels of the gallbladder
43c -hepatic plexus
43b – control point
43a – peritoneum of the gallbladder
43S – right hepatic duct
42S – left hepatic duct

Gallbladder (G.B.)
44D – bile duct
43d – lymph vessels of the gallbladder'
43c – hepatic plexus
43b – control point
43a – peritoneum of the gallbladder
43D – cystic duct
42D – body of the gallbladder
41D – bile ducts of the right lobe of the liver

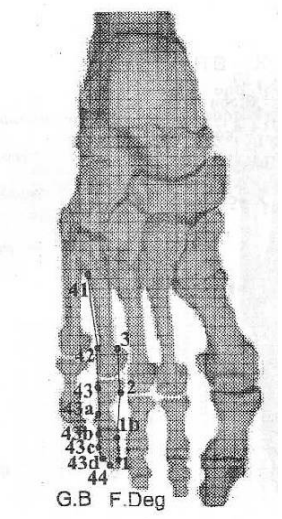


Fig.12. Kidneys (K.)
1- kidney pelvises
1.1- lymph vessels of the kidneys and adrenals
1.2- renal plexus
1.3- control point
1.4- renal peritoneum
1a – abdominal part of the ureter
1b – adrenal plexus
2- pvelorenal area
2a – renal medulla
3- renal glomeruli and tubules

Urinary bladder (U.B.)
67 – body of the urinary bladder
66d – lymph drainage from the urinary bladder
66c – plexus of the urinary bladder
66b – control point
66a – peritoneum of the urinary bladder and genitals
66 – triangle of the urinary bladder
65 – vagina, uterus, uterine tube, urethra (prostate, seminal hillock, penis, urethra)
64 – uterine tube /seminal duct (seminal duct, spermatic cord)

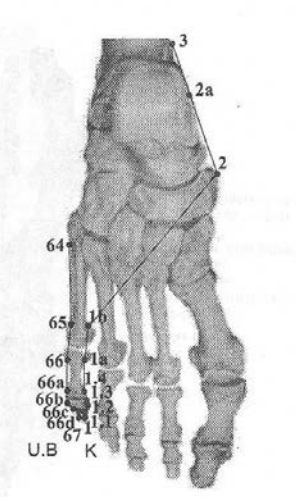


Fig. 13 Arm, extensor surface
L.I.5 – wrist joint
L.I.11 -humero ulnar joint
L.I.15 – anterior region of the shouiderjoint
S.I.5- wristjoint
S.I.6- cervical region of the vertebral column
S.I.7- peripheral nerves of the upper limbs
S.I.8 – humeroulmr j oint
S.I.9 – muscles of the upper limbs
S.J.4 – intermetacarpal joint
S.J.14 – acromioclavicularjoint

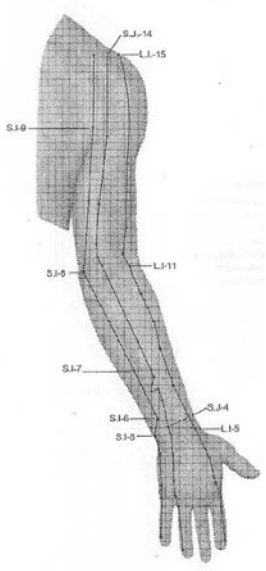


Fig.14 Arm, flexor surface
P.2 – shoulderjoint, interior region
P.3 – humeroradial j oint
P.6-venousfunction
P.7 – coronary vessels
H.7 – conducting system of the heart
Lu.7 – arteries of the upper limbs
Lu.8 – veins of the upper limbs
Lu.9 – trachea

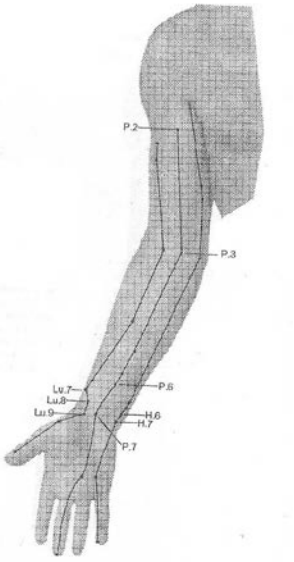


Fig. 15 Lymph meridian (Lim.)
11 – autonomic nervous system, vagus and sympathetic nerves, endocrine glands (thymus, thyroid, parathyroids, and gonads), pituitary gland, liver, gallbladder, stomach, spleen, pancreas, kidneys
10 – lymph nodes and vessels of the abdominal cavity
9 – lymph vessels of all the endocrine glands
8 – lymph vessels of the large intestine, including the rectum
7 – lymph vessels of the small intestine
6 – lymph vessels of the upper limb
5 – lymph supply of the heart

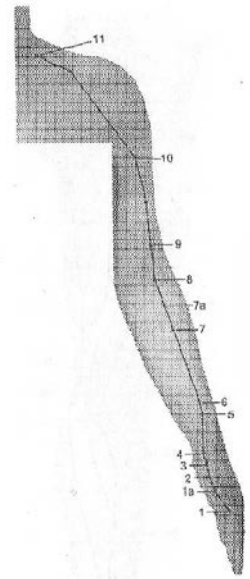


Fig. 16 Inner surface of the leg
K.6 – rectum
K.8 – (pathological) bleeding
Liv.7 – veins of the lower limbs
Liv.8 – kneejoint, median region
Sp.5 – anklejoint, posterior region
Sp.7 – diaphragm ofthe pelvis
Sp.8 – urogenital diaphragm
Sp .9 – lymph vessels of the lower limbs
Sp.10 – veins of the pelvis

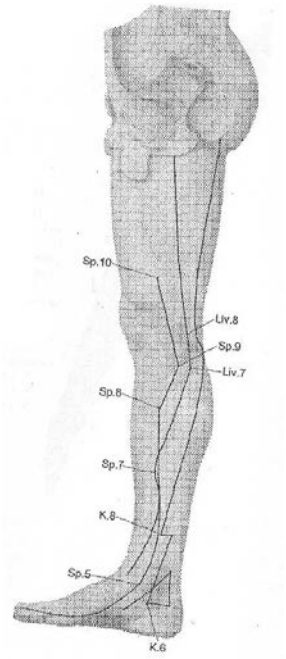


Fig. 17 Anterior surface of the leg
St.32 – arteries of the lower limbs
St.33 – veins of the abdominal cavity
St.35 – kneejoint. anterior region
G.B.39a – anklejoint, lateral region
St.41 – anklejoint
St.42 – upper oesophagus
St.31, Liv. 11, Sp. 11 – gonad

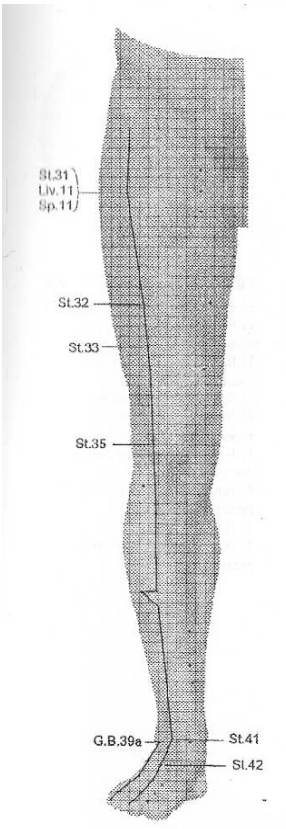


Fig 18 Posterior region of the leg
U.B.36 – prostate (M), uterus (F)
U.B.36a – seminal hillock (M). broad ligament (F)
U.B.37 – prostate/penis (M), vagina (F)
U.B.38 – anterior urethra
U.B.40 -knee joint, posterior region
U.B.60 – peripheral nerves of the lower limbs
U.B.61 -lumbar region of the vertebral column
U.B.62 – anklejoint
U.B.63 – inferior hypogastric plexus

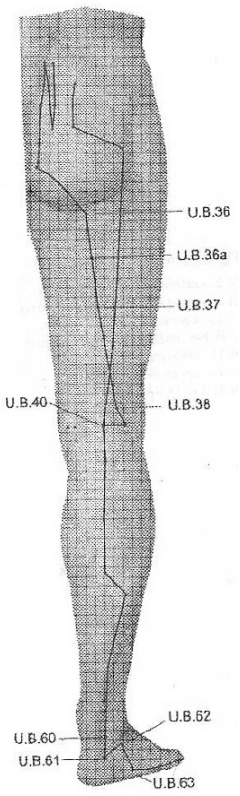


Fig. 19 Exterior lateral surface of the leg
G.B.33 – joints of the lower limbs .
G.B.34 – muscles of the lower limbs
G.B.39 – bone marrow
G.B.39a – ankle joint, lateral region

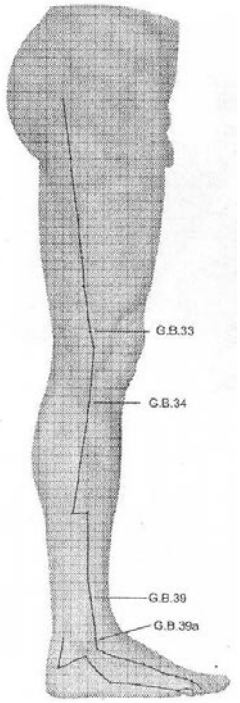


Fig. 20 Anterior surface of the trunk
Ren. 17 – bronchi
Ren. 19 – trachea
Ren.21 – pharynx
St. 13 – upper oesophagus
St. 14 – lower oesophagus
St.30 – hip joint
Sp. 11a-hip joint

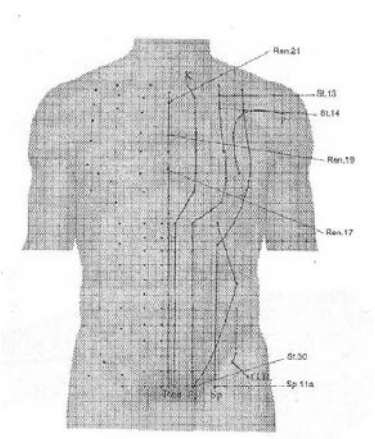


Fig.21 Posterior surface of the trunk
U.B.11-vertebral column
U.B.12 – skeletal system
U.B.17 – diaphragm
U.B.22 – adrenal
U.B.27 – sacroiliac joint
U.B.54a – infundibulus of the uterine tube(F)
U.B.54a – epididymis(M)
U.B.54.b – ampulla of the uterine tube (F)
U.B.54.b – deferent duct (M)
U.B.54c – seminal vesicle (M)
S.I.10 – shoulder joint (posterior part)
Du. 13 – spinal cord
S.J. -15 – joints of the upper limbs
Lim. 12-5 tonsils of the lymphoid ring
Lim,13 – gallbladder, bile ducts, excluding liver function, sympathetic nerve, spinal cord, ethmoid air-cells and main sinus, all the joints of the upper limbs, especially the shoulder joint
Lim-14 – 5 tonsils of the lymphoid ring, gallbladder, bile ducts, sympathetic nerve, spinal cord, ethmoid air-cells and main sinus, ail the shoulders of the upper limbs, especially the shoulder joint, urogenital system, pineal body and adrenals

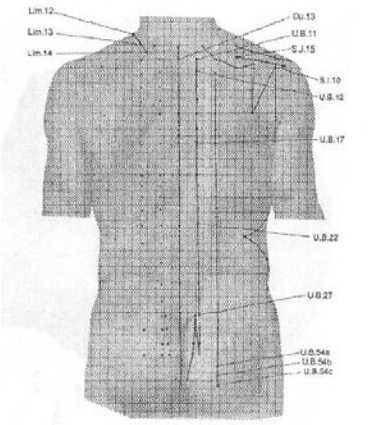
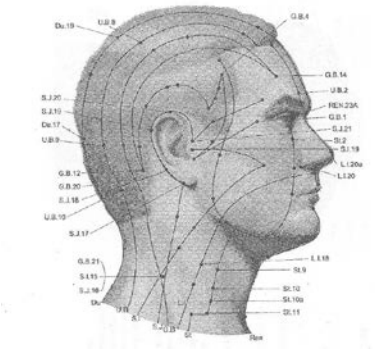


Fig.22 Head
Du. 17 – lamina of mesencephalic tectum
Du.19 – cerebellum
G.B.1 – posterior part of the eye
G.B.4 – visual hillock
G.B.12 -posterior part of the pituitary gland
G.B.14 – lateral geniculate body
G.B.20 – sympathetic nerve
G.B.21, S.I.15, S.J.16 – anterior part of the pituitary gland
L.I.17 – laryngeal lymphatic follicles
L.I.18 – tubal tonsil
L.I.20 – ethmoid air-cells
L.I.20a – main sinus
Ren 23a – upper wall of the nasal cavity



S.l. 19 – outer ear and auditory meatus
S.J. 17 – middle ear and tympanic cavity
S.J. 18-inner ear
S.J. 19-meninges
S.J. 20 – hypothalamus
S.J. 21 – anterior part of the eye
St.2 – maxillary sinus
St.9 – parathyroid
St.10-thyroid
St.10a – vagus nerve
St.11 – thymus
U.B.2-frontal sinus
U.B.8-pineal body
U.B.9 – pons cerebellli
U.B.10 – Medulla oblongata
Key:
Lu. – lungs
L.I. – large intestine
H. – heart
P. – vessels
Ne.- degeneration of the nervous system
Al. – allergy
Deg. – degeneration of parenchymatous organs
S.J. – endocrine organs
S.I – small intestine
Lim. – lymphatic system
G.B. gallbladder
U.B. urinary bladder
St. stomach
Sp.spleen (pancreas)
K. – kidneys
Liv. – liver
Sk. – skin
Jo. -joints
F.Deg. – fatty degeneration
C.Deg. – connective tissue degeneration
D – right localization of the point
S – left localization of the point
If localization of the point is by default the point is symmetrical

Disease treatment using infrared emitters (Case report)

1. Urinary bladder cancer
2. Lung cancer with metastasis
3. Hypertension
4. Bilateral varicose ulcer legs
5. Burger's disease
6. Psoriasis
7. Ovarian tumor and psoriasis
8. Ovarian cyst
9. Erectile dysfunction secondary diabetic
10. Diabetic foot ulcer.
11. Diabetic foot – gangrene big toe
12. Hypoxic brain damage
13. Hypoxic brain damage
14. Calf discomfort and chronic lethargy
15. Motor Neuron Disease
16. Spondylolisthesis
17. Carpal tunnel syndrome
18. Tendo-archilles insertion pain.
19. Paracetamol poisoning.
20. The infrared effect on patient on rifampicin medicine.
21. Multiple chemical poisoning
22. Childhood autism
23. Chronic recurrent asthma
24. Chronic renal failure
25. Chronic renal failure
26. Chronic renal failure
27. Nephrotic syndrome with gross pitting oedema.
28. Bladder atony
29. Forceful involuntary blinking of the orbicularis muscle
30. Painful acid hydrochloride burn scar
31. Hyperhidrosis
32. Calf pain
33. Grey hair
34. Ischemic Heart Disease
35. Cellulitis
36. Cellulitis nail bed
37. Cellulitis of thumb
38. Inflammation tendo-archilles insertion
39. Abdominal colic and diarrhea
40. Cough and vomiting of congenital heart disease
41. Loss of hair due to chemotherapy
42. Migraine
43. Migraine
44. Migraine with hypertension.
45. Delayed union fracture femur
46. Diabetic retinopathy
48. Acute on chronic gouty arthritis
49. Insulin dependent diabetes mellitus
50. Diplopia of myasthenia gravis
51. Sero-negative arthritis
52. Sero-negative arthritis
53. High cholesterol and lipids dysbalance
54. Thyrotoxic cardiomyopathy
55. Systemic lupus erythematosus
56. Neovascularization cornea secondary contact lenses

1. Urinary Bladder Cancer

Mr. R S, 53 year old

Diagnosed: Urinary bladder cancer and TURP was done one year prior to Resonance therapy (RT) using infrared (IR). Nine months prior to RT, IntraVenous Urogram (IVU) at the time confirm bilateral hydronephrosis however he refused surgery. The symptoms were urinary incontinence, dribling all the time, block urethra when to pass urine due to fibrotic complication of TURP(scope surgery) causes very painful at the base of urethra when attempting to pass urine. He needs to massage the urethra all the time. Sometimes dull aching pain at suprapubic lasted few hours to one whole day for few months.

Ultrasound before start RT moderate bilateral hydronephrosis and thickened posterior wall was noted. Resonant Treatment daily for 3 weeks. The main emitters used are RC, ZB on urinary bladder. Ultrasound was repeated 14 later – no more hydronephrosis the thickness of the wall still looked the same.

Dribbling urinary incontinence slowly reducing starting 10 days onwords and almost completely recover after 20 times therapy over 2 months period.

Pain to pass urine due to blocked ureatha also reducing and he estimated the relief was ~ 60%(more than 50%) after the 20 session of treatment.

No adverse symptom and sign at all.

He feels alright and not continuing the treatment after 20 times. The reasons given was that he came from far (60 km) and uses public transport and he has financial difficulty to travel.

Conclussion: RT gave symptomatic relief of the above patient with urinary bladder cancer.

2. Lung cancer with metastasis

Mr O.H.A, 65 year old man, ex-chronic smoker of about 40 years.

He presented with the history of pain at the spine at the level of scapula and pain at the left thigh. The pain is dull aching in nature and increasing for the past two months. For the same duration as well he had progressive difficulty in passing urine and cannot pass motion on his own. This is because he has no sensation and no loss of straining ability. Once in 4-5 days he required insertion of laxative or enema per rectum. He also cannot feel and control passing urine therefore catheter required with 4 hourly release.

All the symptoms slowly worsening over two months duration. He cannot walk but able to stand with support. Most painkiller does not fully relief the pain.

Blood biochemistry and hematological profile were normal.

Chest X-ray; mass lesion projecting on behind left cardiac shadow. Another mass at the left lateral middle lobe suggestive of lung metastasis.

Ultrasound: No focal lesion in the liver, kidney normal, enlarge prostate.

CT scan of the head there is multiple mass lesion on the meningeal layer.

MRI Spine; abnormal marrow signal involving the cervical, thoracic and lumbar vertebrae and also the sacrum at the multiple levels. At T3 there is a pathological compression fracture which is associated with paravertebral mass which extends from T1 to T5 and epidural mass which extend from T2 to T4, causing cord compression.

At the level of S2, there is another large mass in the midline and on the left side, which narrows the sacral spinal canal and is likely to involve the nerves of the sacral plexus on the left side.

Appearances are most likely due to metastatic lesions.

Diagnosis of lung cancer with metastasis to lung, thoracic spine, sacral and meningeal metastasis was made causing all the symptoms.

He was advised to undergo radiotherapy but he was looking for alternative. When ho knew about the treatment using spectrum specific infrared by Rustam Rakhimov's method he come to try the treatment. In his case, no radiotherapy done yet. After explanation that the so call RC emitter has an effect on fixing high activation radical and may reduce or stop the growth in theory with or without symptomatic relief, he wish to try the treatment. He was treated for the duration of 14 days mainly using RC, GI and short time ZB.

*Outcome:*The result was astonishing, the symptomatic relief was remarkable. After 3 days he had completely relief of the thoracic spine pain. The main problem to him was pain on the left thigh was reducing and no more after 10 days. After 7 days he can pass motion on his own once in two days and after few more days daily. He can also pass urine on his own after removal of the catheter. He can walk short distant. He was discharge from hospital and advised to continue at home with 4 types of emitters, they are RC,GI,ZB and KL. Follow-up ten days later he can walk with stick and he looks very happy. Follow-up 2 weeks later that was 3 and ½ weeks after discharge from hospital he came walking without stick. He was confined to wheelchair before start the treatment. All the symptomatic improvement was sustained up to one month. He stopped the treatment when the emitter no longer working. One week later the leg paralysis recurred and the pain at the thoracic spine came back. He came for treatment and he was treated with RV emitter. The pain was markedly reduced after one treatment and maintained the same level.

Comment: The treatment may stop the growth of cancer in theory. Symptomatic relief is expected in some patient when the body immune system did some repairing process of the lesion especially following ZB emitter which play a role to dissolve the tumor to some extend with better blood supply. The better the clinical condition and the function of organs the better we can expect the result because optimum treatment can be given without hindrance. Furthermore patients without radiotherapy and chemotherapy we can expect better clinical response. This method of therapy can be used for palliative treatment in cancer patient.

3. Hypertension

Mr Z. 40 year old with hypertension five years on nifedipine 10 mg tds and overweigh. His body weigh is 109kg. He also doing daily exercise and diet care. However bodyweigh and blood pressure not well control.

His usual Blood Pressure was between 140-150/90-100.

He was treated with RT using mainly using RV,GI, and ZB emitters and completed one month following which once a week for another one month and then once in two weeks for few more sessions.

After one month treatment the body weight was reduced to 94 kg. Therefore he lose weigh 15 kg over one month period whereas he has very difficult to get lower body weigh despite diet prior to that.

Blood pressure was better controlled and he reduced the dose of Nifedipine to 5 mg b.d after one week and then completely stop the medicine after 3 weeks RT treatment. Blood pressure maintained between 120-130/70-80 without medication. Body weigh was also maintained with regular exercise and diet care in which he continue.

Ho continue losing weigh and two months after starting RT, body weight was 90 kg. He no longer continue treatment, however body weigh, blood pressure and lipids profile were normal and maintained up to one year later(by the time of this report).

No single adverse symptoms noted.

Comment: 1. Body weigh lowering effect of the Resonance therapy. Where the same phenomenon also observed in 20 % of patients.

2. Following lower body weigh the hypertension is better controlled.

3. Possibility of curative effect of hypertension in the case with good side effect of reduced body weigh.

4. Bilateral varicose ulcer legs

Mrs R 34, year old female.

Problem: Painless chronic recurrent venous ulcer and venous congestion with bilateral pitting oedema 4 years with 2 ulcers continuing for 2 years prior to RT. She was confined to home because long standing and walking will cause discomfort and increase swelling to the legs. She did dressing with normal saline everyday, however the ulcer size remained the same. Ulcer size on right supero-medial to ankle before starting the treatment was 4.5 x 2.3 cm, left side at supero-medial to the ankle awas 3 cm x 4 cm.

Treatment: 25 times. She was treated mainly with ZB emitters on the legs.

The ulcer is healing well and the pitting oedema was markedly reduced even though on long standing and walking. The discomfort was almost unnotice and the movement and longer time standing was no restriction.

After 25 sessions of treatment the size on the right 1.4 x 1.0 cm and the left was healed completely. The treatment was continued once a week until completely healed one month later.

No adverse symptoms at all.

Comment: ZB emitter effect is mainly normalizing blood vessels by removal of pathogenic collagen on the wall of blood vessels.

5. Burger's disease

72 year old man, a chronic smoker for more than 40 years. He had Burger's disease(thromboangitis obliterans). He had intermittent claudication and exacerbation over few months period until severe calf pain 4 days prior to start treatment where he cannot walk at all. He was bedridden and even though with slightest movement he will cry in pain and confined to wheelchair. He cannot move from wheelchair to bed and need to be lifted by a helper.

He was assessed by orthopaedic surgeon. The findings was emaciated patient with bilateral pulselessness at the popliteal, posterior tibialis and dorsalis pedis and was diagnosed as Burger's disease.

He was treated mainly using so called ZB infrared emitter on the legs. After 3 days treatment, there was minimal improvement but by 4th sessions of treatment the patient had almost symptom free and able to walk anywhere and long duration without pain and since he was well he no longer wish to continue and will come back again if recurrent.

No adverse effect or complication noted.

Comment: The RT cure Burger's disease in the case.

6. Psoriasis

Mrs M, 36 y.o, female.

Problems:

1. Psoriatic skin lesion all over the body.

2. Recurrent psoriatic arthropathy, pain on movement and limited flexion to only 30 degrees. Sometimes cannot walk, exacerbation and remission about one week in one month. Unable to pass urine squatting so she pass urine standing because cannot bend the knee.

3. Right superior scapula fullness and pain about one year, dull aching. Orthopaedic surgeon reviewed her scapula the impression was related to her psoriasis.

Treatment: 34 sessions

Outcome – Skin lesion was markedly improving every day where the skin become normal after 25 treatments except few recalcitrant spots at the back and scalp. Joint pains improved where she can bend about 60 degrees but functionally still limited, cannot squat fully.

Complication – she had severe joints pain and fever for five days, wheel chair bound for 4 days after which she can walk well. Furthermore, better than prior to the treatment.

After 30 sessions of treatment – patient come twice a week for further treatment.

Two weeks later – follow-up improved further. The skin much clearer especially at the hands and legs to normal skin except some grittiness of scars. There were some spots of recurrent at the head. The scapula improved only about half of the severity.

When she had long rest day from treatment the knee joints pain improved further. She was adviced to continue with few emitters at home for maintenance treatment, however she refused. She remained in remission but recurrent 8 months later.

Adverse effect: There was exacerbation of joint pain until couldn't walk for 5 days.

Comment: Almost complete remission achieved in this case. If she continue with few emitters the remission perhaps can be maintained as seen in few other patients. During the treatment, there was exacerbation of arthralgia. Therefore, the suggestion is to observe the optimum duration and exposure or starting the treatment with lesser exposure and increase as tolerated.

7. Ovarian tumor and psoriasis

Mrs Z.N., 42 year old female.

Problems:

1. Ovarian cyst and tumour

2. psoriasis

3. Primary infertility

Main reason for treatment is ovarian cyst and psoriasis.

History: She was married 12 years but never conceived. Extensive investigation was done where she underwent 7 general anaesthesia for investigation such as laproscopy and GIFT. She refuse anymore extensive investigation and looking for alternative treatment for the cyst. Beside that, she has psoriatic lesion on scalp, trunk and limbs especially on extensor surface. However she only has 10 days.

Ultrasound ovary before starting the treatment was done by a gyneacologist. The ovarian diameter was 3.5 cm, however beside the cyst the gyneacologist detected part of solid structure inside the cyst, therefore the diagnosis of ovarian tumor was made. Since malignant or benign is not known she was adviced to undergo cystectomy as soon as possible. She refused and wish to try the treatment using infrared.

Outcome of treatment: After 10 days treatment, repeat ultrasound by the same gyneacologist was done and the widest diameter was 3.1mm. Many attempts was done to measure the longest possible diameter but managed only this measurement. Cyst size therefore reduced 3 mm in 10 days. Unfortunately she couldn't continue treatment any longer due to her schedule at work. Psoriatic lesion less erythema and more flat. The improvement noted right after the second days of treatment. However complete recovery of the skin is not achievable within 10 days as expected.

No adverse symptoms at all.

Comment: Since she cannot continue treatment she was adviced to follow-up with her gyneacologist and follow the plan of therapy by the attending doctor. Complete course of therapy is not achieved but there was shrinking in the size of the ovarian tumor.

8. Ovarian cyst

Mrs S.N, 43 year old lady

History: She was diagnosed to have left ovarian cyst four months prior to the treatment. The size was 5 x 5 cm. Surgery for planned but she wish to post-phone. She came to Infra Life clinic to try the treatment. She was treated using the spectrum specific infrared emitters and main emitters used were the so called RC and ZB on the ovary.

The duration of treatment was 14 sessions, almost everyday. Right after the 14 sessions of treatment finished she went to the same gyneacologist and repeat ultrasound was done.

Outcome: No more cyst detected. It was completely undetectable.

No single symptom of adverse effect noted.

Comment: Ovarian cyst is one of the benign growth which is easy to treat with the method according to the 'Tashkent experience'. Patients with ovarian cyst should be treated with this method before surgical intervention.

The drawback of the method is we do not know for sure whether the cyst consist of malignant growth as well. If malignant is suspected, mono-therapy with this method only is not advocated. If malignant, more RC and shorter ZB is the emitters to be used and it will take longer time for the tumour to shrink.

9. Erectile dysfunction secondary diabetic

Mr. S, 41 year old man.

Presenting compplain: Erectile dysfunction and failure ejaculation 2 years.

History: He is a type II diabetic on Glibenclimide 5 mg bid. Married 7 years but no children. He have erection only once every 2 weeks which is adequate for penetration but there was difficulty to maintain. And most of the time there were no orgasm and ejaculation.

Treatment: He underwent 7 sessions of resonance treatment for. There was markedly improved in erection where he can have sexual intercourse every other day and longer erection after 4 days treatment. The ejaculation and orgasm also occurs more often than not.

Follow up once a week for 2 weeks, then once in 2 week for one month and then once a month. He came twice once per month and then defaulted. The improvement maintained for 8 months. There was recurrent of the symptoms and he came back to continue the treatment which is also improved. The improvement is very significant to him.

No single adverse symptom noted.

10. Diabetic foot ulcer

Mr A.H, 41 year oldwith diabetes on oral glucophage and glibenclimide.

Problem:

1. Two years non healing ulcer 50 coin size on right sole, painless.

2. Diabetic neuropathy

The ulcer was continuous and remain static size for 2 years. Excision and desloughing was done, healing noted but halted at the previous size but the wound remain open. Suture was attempted but but dehesion continue. The treatment that can be done just dressing everyday with normal saline. The wound always clean but the edge is indurated and the wound remain the same size. Orthopaedic surgeon did slight 'z' shape incision and stitched straighten-up. At the same time resonance therapy instituted. The wound healed completely after two weeks. Numbness and reduce sensation of the foot due to diabetic neuropathy also improve and confined to the toes only after two weeks. The treatment discontinue because the patient came from very far and cannot travel to continue.

General wellbeing also markedly improve.

No adverse symptoms at all.

Comment: The infared effect on diabetic foot is remarkable in all patients treated with the method. The effect is by improving blood circulation to the lower limb.

11. Diabetic foot – gangrene big toe

Mrs M, 54 year old lady.

She is diabetic more than ten years on oral hypoglycemic medicine. She came with gangrene of the left big toe for one month duration, with proximal part to the gangrene area cellulitis. She refuse amputation therefore the amputation was delayed. The planned of surgery was Sim's amputation or below knee if poor circulation at the foot. She refused and only wanted to get treatment infrared.

She was started the treatment with the spectrum specific infrared emitters and main emitters used on the foot were RC,GI,ZB three times in one day. The cellulitis markedly improved and in the end she agreed for amputation when coaxed everyday. The interesting part was that the gangrene part only removed with good circulation proximal to that and the wound slowly healed.

No adverse symptoms noted.

Comment: All patient with diabetic foot, GI and ZB are the emitters of choice. This is because GI is anti-pathogenic bacteria and ZB will improve the circulation. The treatment should be started immediately with increasing duration of exposure up to 40-60 minutes three to four times in one day. If the clinical condition is good aggressive surgical intervention can be delayed. Good dressing and desloughing of obvious slough can be done as usual.

12. Hypoxic Brain damage

33 year old lady

Post delivery she had cardiac arrest lasted about 10 min. Cardiopulmonary resuscitation revived her but the brain damage sustained. This happened 13 months before starting RT.

She was in vegetative state. Limbs are contracted and no movement of legs at all. Not responding to spoken words. She is given ryle's tube feeding because chewing and swallowing is very slow.

She was treated with infrared twice a day for the duration of one month. Main emitter use is ZB on head, joints and spine.

The cimprovement noted were as follows:

1. She can chew same and swallowing four times faster.

2. The hands can be extend more

3. All the joints are more lax and easier to do physiotherapy

4. The toes is move and when the thigh stroke gently she flex the leg where such movement never seen for the past 13 months.

5. She blink soon after the husband ask her to blink indicate she understand the instruction

More smiling when listen to words directed towards her.

After one month unable to continue.

Comment: The treatment has partial improvement even though one year after the insult. Treatment as early as possible is advocated to get better result.

13. Hypoxic brain damage

Mr. M.S, 20 year old man

Hypoxic brain damage following MVA exactly one year before start the treatment. The boy involved in motorcycle accident and as a consequent there was hemopneumothorax and lack of oxygen supply to the brain long enough to cause insult to the brain.

He is in vegetative state where all the limbs contracted and stiff joints, the neck however lax and he cannot straighten the neck and when on prone position he cannot lift up the head. When the leg put down one side from bed he couldn't lift up. He can eat but take a long time. No responsive to see other people when talking to him.

He was treated using spectrum specific infrared emitters for the duration of one month mainly using ZB emitter on the spine and

head. After one month period the family was adviced to use the emitter and continue the treatment at home.

Outcome: Several improvement was noted as below:

1. He can chew and swallowing same amount of food three times faster.

2. On sitting posture he can straighten the neck and keep it straight long time where he cannot straight the neck before.

3. He is responsive to spoken word by turning his head to the voice.

4. He was smiling more to the people around him.

5. He can lift up his leg when put down of the edge of bed.

6. He can lift up his head in any position when he kept in prone position where he can never do before the treatment.

7. He make more sound as if wanted to say something.

Comment: Same as the above.

14. Calf discomfort and chronic lethargy

Mr A.R, 40 year old man

Presented with chronic lethargic and calf discomfort for 2 years. He work as a teacher and perhaps long duration of standing causes his calf discomfort not to improve.

Usually the calf meed massage in the morning and at night.

Treatment: He was treated mainly with emitter on the calf.

Outcome: markedly improved every day where the calf discomfort completely relieved after 3 sessions of treatment. He felt more energetic as if he don't has lethargy before treatment.

Since he was improved after 3 days the treatment was discontinue.

Adverse symptom: Symptoms of lethargic after first treatment only.

Comment: Such problems are good results with the treatment in few other patients with the same problem.

15. Motor Neuron Disease

Mr S.Z, 49 year old man.

Problem: Motor neuron disease slowly progressive for 6 years.

Motor power upper limbs is only 3. The main limbs affted are his hands. He cannot extend both thumbs, cannot extend the fingers and cannot grasp at all, ulnar deviation both hands. The disability is worsening over the years and never improve.

Treatment: 30 days treatment 2 times per day.

Outcome: At the end of one month he can extend his thumbs and can grasp slightly. He can extend the wrist where he cannot do for the past two years. Feels more energetic.

He can no longer continue the treatment due the method of treatment is very time consuming and he has job to do.

No adverse effect noted.

Comment: Surprisingly this treatment can reverse motor neuron disease. However the time and the duration of treatment renders the patient cannot undergo the treatment, especially when the expect reversal of the symptoms very soon. It is good enough if this treatment can stop the progression of the disease and for practical reason it is better if the use the emitters at home.

16. Spondylolisthesis

62 y.o, female.

She complaint of chronic backache for 2 years duration following fell down of slippery floor. The pain aggravated by long time sitting and walking, therefore she spent time lying down most of the time.

X-ray spine showed spondylothesis L4 over L5.

She was treated using spectrum specific infrared for the duration of 14 days.

Outcome: There was marked improvement where she can walk and sit-up as long as she like without pain. Also, she can walk unaided, can bend the knee with no pain.

The pain free was sustained until 6 months as mentioned by her daughter who is working near the hospital.

No adverse symptom at at all.

Comment: Two other patients with spondylolisthesis also got good result with the method.

17. Carpal tunnel syndrome

Mrs K, 33 year old lady.

Presented with 2 months history of painful right hand especially fingers with the symptoms of numbness of the index, middle and ring fingers. The symptoms are worse at night following more household work using the hand. The numbness and pain sometimes disturb her sleep.

She use few types of medicine prescribed by orthopaedic surgeon and since no improvement, and operation to relieve the pressure at the wrist was planned.

She came to Infra-Life, and even though we doesn't know how is the effect like we are not keen to treat but she wish to try the non-invasive approach.

Her EAV reading are high in most of the point and she response to the so called RC emitter.

She was treated for 14 days. First 3 days there was no improvement and improving numbness started after 4 days onwards. By 10 days she was symptom free and very happy.

Complication: After first day treatment the patient had very severe headache lasted 24 hours and the second session of treatment was postphone for one day. She took paracetamol painkiller with some inprovement.

Comment: Carpal tunnel syndrome should be given a chance for treatment with this method before embark on more invasive surgical procedure. The symptom is believed to be a manifestation of altered chemical processes of organ-systems.

18. Tendo-archilles insertion pain

Mr S, 45 year old man

Problem: Pain at the left tendo-archilles insertion.

The pain was on going for two years duration and any medicine does not help the pain. He walks with limping gait and his job requires a lot walking as a supervisor of a factory worsen the condition and not enough time for recovery. X-ray revealed normal soft tissue and bones.

He was treated mainly with RC, GI and ZB emitters for 8 days duration.

No adverse effect noted.

Outcome: Marked improvement where from the 10 points questionaire he had 90% pain relief even though continue walking at work place. The remission was sustained for 9 months duration after which he came back for treatment when it recur.

19. Paracetamol poisoning

Mrs S, 31 year old female

Patient had a marital problem and divorced.

She took Paracetamol altogether 50 tablets. She came to the hospital 3 days later with the symptoms of extreme lethargic, loss of appetite and drowsiness. There was no vomiting after the consummation. The claim was challenge by few doctors but she stick to that number as she counted the tablets before taking. Her

ex-husband who still take care of her was explained that she is most likely require hemodialysis but not at the time.

Physical examination: Lethargic, drowsiness but no jaundice. She was rehydrated with intra-venous fluid.

Trial using spectrum specific infrared was suggested to patient and if fail she need to to undergo hemodialysis pending review every day in which she agreed.

She was treated for 5 days and response mainly to the so called RC emitter on the liver base on EAV reading. The result was very interesting where she did not develop jaundice and all the liver enzymes back to normal range.

Biochemical results of the liver were as follows:

Day	Before **Treatment**	Day 1	Day 2	Day 3	Day 7
Day		13/9/98	14/9/98	15/9/98	23/9/98
Total.bilirubin	1.8	1.4	1.1	1.0	1.0
Direct bilirubin	1.5	0.9	0.4	0.6	0.5
Indirect bilirubin	0.3	0.5	0.7	0.4	0.5
Total protein	71	56	66	63	72
Albumin	34	27	31	30	37
Globulin	37	29	35	33	35
A/g ratio	0.9	0.9	0.9	1.0	1.1
Alp	55	51	51	64	52
AST	1884	1412	1000	782	15
ALT	2252	1028	561	252	27

She was discharged from hospital after 4 days and repeat liver enzyme one week later was normal. She survived without hemodialysis and did not develop jaundice.

No adverse symptoms noted.

Comment: The treatment showed remarkable result. Bigger sample and further trial of liver toxicity is recommended.

20. The infrared effect on patient on rifampicin medicine

30 year old lady

Problem: She had chronic dry cough for 2 months duration. Loss of weight and loss of appetite. Chest x-ray showed cotton wool opacity right upper lobe. Sputum AFB however negative. She was diagnosed as clinical Pulmonary Tuberculosis and standard regime of medical treatment started including oral rifampicin.

She came to get the resonant treatment using infra-red right on second day with the hope that the anti-bacterial emitter can help her beside the medications.

She was started treatment and using GI and RC emitters. Since the EAV reading are high on the liver she was treated with RC emitter as well on the liver. However she was treated every other date because following the treatment she felt very tired.

An interesting phenomenon noted where on the day of treatment urine was clear colour and on the day she absent from treatment the urine was red in colour. This phenomenon was observed over 7 days where 3 days coming for treatment the urine clear and 4 days the day without treatment the urine was red in colour whereas she took the same dose of rifampicin. She afraid that the treatment using infrared at 16.0 and 16.25 μm on the liver reduce the efficacy of the medicine and in the end she may lose because this method has no proven record. We gave her choice whether to continue but without any emitters on the liver or she can stop to continue. She chosed to get only medical treatment.

Adverse symptom: Lethargic is the main symptoms on the days she expose to the infrared.

Comment: This phenomenon was observed and perhaps it has a profound effect on liver metabolism of medication in general or Rifampicin in this case or Paracetamol on the above case.

21. Multiple chemical poisoning

Mrs N, 38 year old lady

The problem was deliberate self-harm by swallowing few chemicals. It is an attention seeking behaviour of parasuicide after a quarrel. She mix a cocktail of Polyethelene glychol, chlorhexidine, Dettol, Ethanol, Erythromycin topical and Alcohol in a cup and swallowed. She was admitted to ward 3 hours later and at the time she was conscious and alert. There was obvious fine tremors of hands, restless, complaint of epigastric pain and keeps on uttering 'please help me doctor'. Gastric lavage was done but the epigastric pain did not improve.

EAV checking at the time were nearly 100 in all points and not responding to most of the emitter except KH emitter on hypophysis and RC on the liver and the whole body. After 5 minutes of exposure to KH emitter on the head the EAV reading reduce to 70 only, however she feels better and the tremors was almost unnotice. The liver and the whole body length also showed some reduction of EAV meter under RC emitter. The treatment was done 3 times in one day. The epigastric pain was not immediately improve with any emitters.

She recovered well and was discharge 2 days later.

Comment: Symptomatic response was seen in this case. Definitive improvement in excretion of the chemicals was not established because no facility for monitoring. Further research required.

22. Childhood autism

N.A.J, 12 year old girl from Langkawi.

Autism diagnosed at the age of 2 .

Main symptoms are: unable to control anger, poor attention span, disinhibition, inappropriateness and poor communication skill.

Borned normal, no delivery complication. Normal development milestone until the age of 2 and then noted to show some strange behavior where she is not attentive to any stimulation. Clinical psychologist assessed and diagnosed her as an autistic child.

She underwent physiotherapy and occupational therapy. Her mother is a teacher who paid a lot of attention to teach her. At the age of 9, she started to have some improvement where she was able to read and write and use computer. She can understand television program and understand spoken words. She can speaks well in English and Malay. Able to answer questions. However her attention span are very short and easily irritated when ask the same question twice whereas she doesn't answer yet and she will shout to answer most of the time. Usually she can only read about 3-4 sentences and no longer concentrate to continue.

Trial of resonance therapy using spectrum specific infra-red was done every day for10 treatments only. This is because patient came from very far and only during the school holiday.

Progress note:

Usually she can concentrate only few sentences. After 5 days treatment patient noted to be able to concentrate longer time and by 10 days she can read 3-4 pages at one time. Suprisingly, she can lie down in bed up to 2 hours for treatment in which usually she cannot sit still at one place especially to lie down during initial treatment. Also was found to be less aggressive and not easily angry during the duration of treatment as her parent observe

before and after treatment. Aggresiveness is also less compare to prior to treatment. This changes is base on the what the parents observed.

Adverse effect: patient develop spots of macular rashes throughout the treatment. The rashes is also come and go without adientifiable triggering factor.

Comment: Better concentration following the resonance therapy using spectrum specific infra-red. Unfortunately long theapy was not applicable due to demographic reason.

23. Chronic Recurrent Asthma

55 year old lady from Muar

2 years history of chronic recurrent asthma. It is adult onset and she had the attack almost everyday where she has wheezing and shortness of breath in early morning. She requires two types of medicine, one of them is ventolin tablet every night and sometimes twice a day. Inhaler did not alleviate the attack.

Treatment: She was treated using spectrum specific infrared and main emitters used were GI and ZB on gallbladder and supradrenal glands. The treatment was lasted for 7 days after which she has to get back to work.

Outcome: After 3 days treatment she stopped the medicine completely but no attack. She went back to her home town. She had no attack since started the treatment and the medicine was discontinue. She came for follow-up 6 weeks later and noted no single attack of asthma. She went to Mecca five months later and when she came back from Mecca she had two days mild asthma where she came to get treatment at Infra Life clinic. She did not have coughing like other colleague. After 2 days she was well and will use the emitters at home if she had further attack. Since then she had no attack of asthma.

No adverse symptom noted.

Comment: The case is rather isolated case and more sample required for analysis of the response. The response to this method of treatment on asthma patients are quite delay and treatment of acute attack with this method only is not advocated. The treatment should be directed towards prevention of recurrent.

24. Chronic Renal failure

45 years old married man

Chronic renal failure secondary to obstructive uropathy due to stone. Six years ago had renal stone where litotripsy and after recurrent surgical lithotomy was done. Since then, he had very little urine and developed hypertension requires. He is on atenolol, and Nifedipine 10mg tid.

During follow-up he was detected to have proggresive renal failure and the kidneys were very small. Hemodialysis started for the past 6 months ago, 3 times a week.

He would like to try the treatment using spectrum specific infrared.

However came rather infrequent because busy he has to spend a long time for hemodialysis. The treatment was 3 times a week for the first 2 weeks, then 2 times a week for 3 weeks. He was adviced to pass urine in a container and measure the volume using syringe and record the volume. His urine output was estimated to be the same for the past 6 months.

Outcome: The urine output increased since the treatment started as follows:

80 ml/day before treatment.

Day 5 – 115 ml/day.

Day 7 – 125 ml/day

Day 14 – 145 ml/day

After 14 sessions of treatment the urine was plateau and maintained between 130-145ml/day.

Adverse effect: On the day of treatment sometimes he felt slight headache not disturb his work.

Comment: The urine volume increases about 60-70% of the original volume however the baseline is too low to take him out hemodialysis. The treatment is limited in the hemoduialysis patient if the baseline is very low. Further increase in urine is possible but we doesn't know how much more if we continue the treatment. However it is expected that the urine might be double the volume and then achived a plateau level.

Urine keep on increasing but he cannot come as schedule, he only able to come only ones in a week. Because he already has to spend 3-4 hours per dialysis, 3 times per week at the dialysis centre. If he come daily the 3 days will be out of work place one whole day and other day also too time consuming. So he will be away from workplace everyday for many months which will cost him his job.

25. Chronic renal failure

Mrs S, 41 year old lady

Chronic renal failure secondary to renal stone. She was operated but there was established chronic renal failure. She is on Continous Ambulatory Peritoneal Dialysis 4 bags per day for the past 2 years. Oedema on and off and pale. Hypertension on nifedipine 10 mg tds and Prazosin 1 mg tds. Both kidney very very small(shrunken).

Urine volume over 24 hours before starting the treatment was between 20-25cc per day.

She was treated as a trial for the duration of 30 days.

Outcome: Urine volume improve: increasing everyday or every few days as follows: 40 cc-50cc-60cc-70-80cc-110cc-120cc-125cc over one month period. The increase urine plateau of after 20 days of treatment which is still not enough to bring her out of dialysis but her general condition was improved markedly.

Usually she cannot do housework because very tired and no energy. Since starting the treatment she can do daily chores one whole day and she still feels energetic.

Outcome: The treatment did increase the urine significantly as much as 600 % of the original level. Further treatment is not expected to increase the urine further.

Comment: Even though there was increase in urine output significantly, the CAPD still has to continue same bags (3-4 bags per day) therefore the method of treatment is suggested not to be carried out on chronic renal failure patients if their pre-treatment urine volume are very low. This is because it cannot out the patient from requireIt may be helpful in some patients whose urine volume more than 500cc/day.

While on treatment had painless hematuria for 3 days. She was referred to a surgeon, ultrasound was done and there was small stone at right ureter that relieved when continuing the treatment.

No complication noted.

26. Chronic renal failure

55 year old man

Chronic renal failure secondary to cis-platinum chemotherapy for gastric cancer. The gastric cancer was done surgery and in remission. He is under hemodialysis twice a week.

Resonant therapy tried with the intention of improving his renal function. His pre-treatment urine volume was always about 500 ml/day. After two weeks treatment with infrared, the urine increase gradually and then plateau and sustained at 700ml/24 hours. Hemodialysis still required twice a week.

No adverse symptom noted.

Comment: The treatment can improve urine volume in chronic renal failure, however not too low a level is better such as in this case.

27. Nephrotic syndrome with gross pitting oedema

Mrs H, 30 y.o married with one child age 18 months.

She presented with 6 month history of abdominal swelling and bilateral swelling of the leg, from ankle downwords. She was diagnosed as idiopathic nephrotic syndrome at HSA, JB. . The skin were very shiny due to swelling. The swelling was huge up to thigh where she hardly able to wear sandals. Beside that she has ascitis.

At the time the treatment started, she is on Tablet 15mg prednisolone daily, T. lasix 20 mg daily and T. Slow k 1 tab daily. Four months prior to the treatment she had herpes zooster as complication right chest, recovered with scar. However the prednisolone cannot be reduced because there will be exacerbation of proteinuria.

Her urine protein was three + (+++), serum protein was 16mg/dl. It was her usual lvevel most of the time.

She underwent theapy using the spectrum specific infrared. The treatment was one month, daily.

Outcome: The swelling of the legs was improved gradually and become normal size. Her urine protein was also reduced to ++ but serum albumin maintained between 13-16mg/dl. Her physician reduced the prednisolone to 10 mg daily. The serum potein increase to +++ but serum albumin remain the same. Her abdominal girth reduced by 3 cm. Her body weigh reduced from 45 to 40 kg, perhaps due to losing extra-vascular fluid of improved oedema.

The interesting finding was the legs remain normal size after 20 days treatment onwards and the prednisolone was able to reduce two third of the dose to 5 mg daily whereas lasix and slow k can be stopped. After 30 days tretament she was adviced to come once a week. The clinical condition was the same and no further improvement in biochemical. Therefore the treatment was discontinued. Longer therapy is not applicable because she has to travel very far from the hospital and has been leaving work place earlier for the one month period.

Adverse effect: After the fifth treatment, there was slight increase in one side of the leg, some petichae and knee joint pain. When the treatment continue the symptoms resolved after one week.

Comment: What interesting here was the effect of ZB emitter obviously reduce the extravascular fluid in the legs because the serum protein level remain the same. However the prednisolone was able to be reduced up to two third of the original dose. Symptomatic relief was very good in the case.

28. Bladder atony

Mrs S, 51 year old lady.

Presented with atonic bladder for three months duration. She has no sensation to pass urine and she know that the urinary bladder always full and at times up to umbilicus. She tried to pass urine but only small amount come out by pressure on the urinary bladder. The bladder was always markedly distended. She came to hospital and catheter inserted with 4 hourly clamping. Without catheter, after passing urine and catheter inserted the residual urine was always >1000ml. She can only felt sensation of passing urine when the urine volume about 2000ml.

The resonance treatment was started as a trial. Main emitters used were RC and ZB on urinary bladder. (Two weeks before treatment started she underwent surgical removal of the the uterus because of dysfunctional uterine bleeding.)

The result of atonic bladder was extremely good. She no longer required catheter after 3 sessions of treatment and she started to have sensation right after three sessions of treatment. The treatment was carried out daily for the first 3 weeks and then twice a week for the next 2 weeks and then once a week for 4 weeks. She was adviced to come more frequent to get cured of the problem but she refuse with the reason she was completely normal already.

She was asked to remove the catheter the night before coming for check-up and she was asked to pass urine and catheter inserted to measure the balance of the urine volume.

Residual urine (insert catheter after PU) were as follows:

Before treatment – 1,140cc

Day 6 – 460cc

Day 12 – 260cc

Day 16 – 220cc

Day 19 – 205cc (Following treatment 3 times/week)

Day 27 – 140cc

Day 31 – 120cc

Day 40 -90cc (Following treatment 2 times/week)

Day 45 -79cc (Following treatment 1 time/week)

Day 57 -77cc (Following treatment 1 time/2 weeks)

Day 65 -75cc

Day 70 -74cc

Day 84 – 59cc

No adverse symptoms at all.

Comment: The treatment seems to have curative effect. Her sexual life was back to normal and the husband was very happy.

29. Forceful involuntary blinking of the orbicularis muscle

K. G, 8 year old Indian girl.

Presented with 6 weeks history of progressive forceful blinking of the eyes, abnormally frequent. It were between 30 – 40 times per minute or once every few seconds.

She was checked by opthalmologist – No abnormality detected.

She was seen a physician and according to the father, CT scan of the head – No abnormality detected.

Treatment: She was treated using the spectrum specific infrared. EAV reading were between 70-80 in most of the reading and the emitter that good for her was RV according to the EAV meter. The treatment was everyday for 7 days and then one week later.

Outcome: Everyday there was improvement. The frequency of blinking was lesser and lesser until normal like previous frequency of blinking.

The remission was maintained up to this writing, one year later.

No single adverse symptoms noted.

Comment: The symptom is perhap only a manifestation of altered chemical processes of many organ-systems as indicated by high electrical activity and the treatment seems to have curative result on the symptom.

30. Painful acid hydrochloride burn scar

Mr E.A, 50 year old man.

He came with the complaint of very painful burn scar.

History: He got an occupational injury where a valve of acid hydrochloride was not working and burst. He got 70% body injury by the acid hydrochloride. It was 'a miracle' that he survived and no record before him anybody survived more than 55% acid burn. The injury occurred 8 months prior to the treatment and he was admitted in the ICU for 28 days and had two 'dying' episodes. He was

well after 3 months but there was increasing pain at the right trunk.

Two months before he came for treatment at Infra Life clinic there was increasing excruciating pain until intolerable. The pain was described as being cut all the time at the right trunk. The pain strangely aggravated by raining, however it was better if he stay in very cold air-conditioned room. Therefore he spent most of the time in his room. There was thick keloid scar all over the body but the site that painful was very warm compare to normal skin.

The pain was very severe and felt that better to die than continue living in pain. However there was no suicidal ideation.

For two consecutive months before coming to get treatment at Infra Life clinic he required pethidine injection 100mg daily and 2 tablets of dihydrocodeine every 4 hours.

Treatment using spectrum specific infrared emitters was started as a trial and he was treated everyday for 36 treatment. Right after first day treatment there was some improvement in the severity of pain but on and off exacerbation is still felt. The dose of dyhydrocodeine was able to be reduced to every 6 hourly and after 3 weeks to 8 hourly. After 6 weeks, only when required about once or twice in one week.

The injection required was getting lesser and lesser and the day that he came for injection was usually rainy days.

The day that he required pethidine injection starting from the day of treatment were as follows:

Yes – day that he got injection No – day he did not require injection.

Day 1 Yes
Day 2 No
Day 3 No
Day 4 No
Day 5 Yes
Day 6 No
Day 7 No
Day 8 No
Day 9 Yes
Day 10 No
Day 11 No
Day 12 Yes
Day 13 No
Day 14 Yes
Day 15 No
Day 16 No
Day 17 No
Day 18 No
Day 19 No
Day 20 No
Day 21 No
Day 22 Yes
Day 23 Yes
Day 24 No
Day 25 No
Day 26 No
Day 27 Yes
Day 28 Yes
Day 29 Yes
Day 30 No
Day 31 No
Day 32 No
Day 33 No
Day 34 No
Day 35 No

Day 36 No After 36 days he was adviced to continue using 2 types of emitter at home.

Day 37 Yes

After this day he only required injection one day that was day 44, following that no longer required until this writing(3 months later).

Three months later the warmness of the painful site was markedly reduced and the thickness of keloid on arms, cheek and back were also reduced. The dark keloid on the hand was improve to lighter colour and the reddish colour on the right trunk that painful was also less.

The patient was very happy and he got 2 more emitters to reduce the time because of a lot of surface area.

No adverse symptom at all.

Comment: The treatment can be used in any keloid scar with good result. In this case the treatment alleviate the painful scar remarkably which is not achievable by any other method.

31. Hyperhidrosis

Mr A, 50 year old man.

He has no specific symptom however he wish to get treatment with the intention of normalizing organ-systems after EAV checking.

One condition noted was that he has hyperhidrosis where his palms, limbs and body are extremely moist all the time. The diagnosis was base on clinical observation. The palms were moist like after being soaked in water. As far as he could remember, it was there, perhaps 20-30 years and he consider that as 'his life.'

His EAV meter reading was between 70-85 on most of the reading. The treatment was directed towards normalizing the organs base on EAV meter.

He response to the so called RV emitter. The next day all the EAV reading was between 50-60 and the palms and body was completely dry. He felt very comfortable for the first time. He got treatment for 3 sessions and when he came back one week later the reading was between 45-50. He was given brief treatment with GI, ZB and KL emitters. The next day the EAV reading was between 60-70 and the hyperhidrosis recurred. He was treated with RC emitters after the EAV reading was maintained between 50-60. The hyperhidrosis was no more. He came for follow-up two weeks later, the reading was maintained normal and the hyperhidrosis was still in remission.

One and a half month after the initial treatment his clinical condition remained in remission.

No adverse symptom noted.

Comment: The treatment of such condition base solely on the EAV meter reading. Once the reading are normal the condition is expected to improve, but it may not be completely normal and we expect longer duration to get the result, perhaps 7 days is expected to have satisfactory response to treatment.

In this case it is considered exceptional rather than the norm.

32. Calf pain

Mrs N, 42 year old lady.

She has no specific symptom except one that is right side calf pain. The nature of pain is rather dull aching and discomfort, more in the morning and she cannot bend fully. No aggravation on walk-

ing a lot but at night will be more discomfort, not improve by massage.

She was treated using spectrum specific infrared base on EAV meter reading and main emitter use was ZB on the calf.

The pain was completely gone after one session of treatment and no recurrence since then.

No single adverse symptom noted.

33. Grey hair

Mr M. A. B, 51 year old man.

He has no specific symptom but wish to do the treatment to correct organ-systems following the checking with EAV meter which was mostly higher than normal that is between 60-75.

He was treated mainly with RV, KL, GI and ZB emitter.

He underwent irregular treatment consist of 10 days all together over one month period.

He has grey hairs, almost all hairs on the forearms.

One day, that was one month after starting the treatment he noted half of his grey forearm hairs turned black. All the short or young newly growing hair are also black.

No single adverse symptoms noted.

34. Ischemic Heart Disease

Mrs H. S. 80 year old lady.

She has hypertension for 15 years and chest pain for 7 years. He was told by doctors that she has ischemic heart disease. Unfortunately she was never on any medication. This is because she had tried all kind medicines, but each one she take whether for heart or hypertension she will be extremely lethargic, vertigo and cannot even sit up. She will just lying down for one whole day. All medication produced the same symptoms.

Chest pain was very severe, retro-sternal, heavy and crushing associated with shortness of breath. Slightest movement like performing ablution, walking, folding cloth and praying will cause pain relief by rest and light massage at the back. The attack at night where she needs assistance to massage was about 3-4 times in one month. The chest pain occurs every time there is physical activity, therefore it was about 10-20 times in one day. This has been ongoing for the past 7 years and the past 3-4 years were more frequent.

She was treated using spectrum specific infrared and main emitters used were ZB, AK, GI on the heart and few other organs. Her blood pressure was between 160-170/100-110 before starting the treatment. She was treated altogether 30 days.

Outcome: By 3 days of treatment there was marked improvement where there was only few attack of chest pain only in one day and since started the treatment she had no single attack of severe attack at night. After two weeks treatment the pain was only few times in one week and very mild to her.

The blood pressure was better controlled with usual reading between 150-160/80-90.

After one month, she was advised to continue treatment at home with GI and ZB emitter and come for follow-up once two weeks. Her condition also remained good condition since then.

No single adverse symptom noted.

35. Cellulitis

Mr R, 35 year man.

He is HIV positive and can be considered and AIDS patient. He had frequent abscess and cellulitis, joint pain and was admitted few times before.

He came to hospital with abscess and cellulitis the whole left lower limb associated with high fever for two weeks duration. There was a sinus anterior to the leg. The knee joint was in pain and unable to flex. The limb was shiny due to huge swelling and pitting in nature. The limb was warm compare to the normal side. He looks pale and very sick in blanket, conscious but kept to himself. The temperature was 39^{o}C.

He was diagnosed to have septic arthritis, and cellulitis.

There is a need for desloughing, however not many staff are keen because there was expected to be long stay in ward and patient can't afford for very long stay. The wife refused the patient to be admitted because all the while nobody know that the patient is HIV positive and afraid of bad mouth. He refused to go to general hospital because the wife has 3 small children to take care and no body to take care of him in the ward. He was given anti-biotic for few days with and expected to return for follow-up. At the same time after discussion the wife agreed to get the emitters to use at home according to the prescription.

He was supplied with 5 emitters, they are; GI,ZB,KL,RC,RV together with prescription. Since started the treatment at home the fever was stopped(perhaps due to antibiotic as well). However the antibiotic the patient no longer going to hospital and treating him only with the infrared emitters and can be considered as monotherapy.

Outcome: The clinical condition was improving everyday. The general condition was good, no fever and appetite was improved. The legs was gradually shrink in size and the leg was normal after 2 weeks. The knee continue to be swollen and a new sinus develop at the popliteal area. The swelling of the thigh was also improved. There is clinically on going septic arthritis. However the pain was reduced and he can walk with crutches but he cannot yet weigh bear due to the pain of septic arthritis of the knee.

At the time of this writing the patients is still under treatment at home and there are signs that he is getting better.

No adverse symptoms noted.

Comment: What worry us was the patient may have exacerbation of fever, this is because the effect of ZB emitter is vasodilatation and septicaemia can develop. If the clinical condition deteriorate the patient advised to reduce the exposure and omit ZB emitter. This may hamper optimum treatment. Fortunately he has no single complication and fever improved right from the first day of treatment.

36. Cellulitis beside nail

A.F, 6 year old boy.

The problem was abscess with sinus beside the nail of left middle finger. His father is a doctor and he just observed with the expectation of it may resolve spontaneously. The reason was that if antibiotic started it need to be continued quite sometimes and diarhea may develop. However, after three days the swelling and pain is slightly increase.

He was treated with spectrum specific infrared and the emitter used was the so called GI emitter at 22.5 μm. The duration of exposure was 20 minutes, rest half an hour and another 20 minutes. On the same day about 6 hours later the finger was checked and to his surprise the finger was completely normal without inflammation and non-tender.

No adverse symptom noted.

Comment: GI emitter is anti-bacterial emitter and the wave block about 10 chemical processes inside pathogenic bacteria. Therefore the processes is not in continuity or break in the chain of chemical processes. In order to replicate the bacteria dies. Such good result is observed in many other patients with abscess, cellulitis, otitis media, osteomyelitis and peritonitis. Therefore it is not an unexpected.

37. Cellulitis of thumb

Mrs M.H, 32 year old lady

Her problem was swollen, pain, warm and tender of cellulitis medial side of the nail of right thumb for 2 days duration. There is a possibility of bacterial cellulitis on top of fungal nail infection. She would like to try the treatment using the infrared. The thumb was exposed to AF emitter lasted one hour.

Outcome: The next day the thumb was completely normal and no sign of inflammation.

Comment: There is a possibility of spontaneous remission. However her past history was that she used to have same problem which usually lasted one week with antibiotic. Fast symptomatic relief is very good because she need to do housework.

38. Inflammation posterior foot

Mr Z, 33 year old man

Abrasion wound three days. The site was posterior to the foot, tender, warm, erythematous and limping gait due to pressure by the shoe. The site was exposed to the so called GI emitter of spectrum specific infrared emitters for 40 minutes. Right after 40 minutes the site was no longer tender and no limping of pressure pain.

Comment: GI emitter has an anti-inflammatory and anti-bacterial effect.

39. Abdominal colic and diarrhea

P.N, 7 year old girl.

She complaint of abdominal pain, colicky and diarrhea. It was continuous for one hour and she cry in pain. She was treated with the so called RV emitter 2 minutes followed by GI emitter 10 minutes.

Outcome: The pain was completely resolved and the diarrhea stop immediately.

No adverse symptom noted.

Comment: Abdominal colic and diarrhea mostly due to viral or bacterial and they accounted for as much as 90% of such problem. There were so many patients treated with this method for such problem and the results were extremely good. The symptomatic relief and stop the diarrhea observed very fast, in the matter of two or three times, 15 minutes every hour. Immediate effect after one time treatment is not uncommon.

40. Cough and vomiting of congenital heart disease

S.O, 5 year old boy

5 congenital abnormality of the heart including VSD and ASD. Moderate physical exertion will cause peripheral and central cyanosis. He was suggested to undergo surgery even though with temporary and limited improvement. The parent was unwilling still at the time. His current problem seeking the treatment was chronic cough which is most of the time the cough will be followed by vomiting. He had vomiting not less than 10 times in one day. Everywhere he goes, his family will carry plastic back along because he can cough and vomiting anytime especially after meal. The family brought him to try the resonance treatment using the spectrum specific infrared emitters.

The condition was not expected to improve because there are structural defect, however his family would like to give a chance to try. He was treated mainly with the so call RV, RC, GI and ZB on the chest and heart.

41. Loss of hair due to chemotherapy

M.A, one year old boy.

History: He had few days diarrhea and there was frequent visit to see a doctor. One of the visit the doctor did an ultrasound and noted a mass lesion in the inside wall of urinary bladder. He was further investigated at Hospital Kuala Lumpur. CT scan was done and there was 2x2 cm growth in the urinary bladder. Cystoscopy was done and biopsy specimen showed Rhabdomyosarcoma.

A complete course of chemotherapy was done followed by repeat CT scan and cystoscopy. The result was minimal reduction in size only. Surgery was planned and the child may have dribblling of urine for the rest of his life in which the father looking for alternative. As a result of chemotherapy the child completely loss the hair. The skin became very shiny and the condition remain the same for 2 months prior to resonance treatment.

Four months since the diagnosis the child was brought to Infra Life clinic. The father brought the child to try resonance therapy using spectrum specific infrared. After explanation that we have no promise of any miracle because we have no experience in treating such case. However since the principles of cancer treatment are the same the father wish to try. The child was treated mainly with the so called RC, RV and short duration ZB alternate day for two weeks duration and the patients was advised to continue at home with RC emitter.

His father was also advised to continue follow up with the same oncologist and if no changes the father should decide accordingly.

Outcome: The result of the cancer is not yet known. However the interesting finding here was that the hair started to grow after one week starting resonance treatment using the spectrum specific infrared. The hair grow very fast and can be feel and seen clear within few days.

After 2 weeks the child was allowed home and continue the treatment at home. The hair was noted to increase more and more and one weeks later he begins to walk.

Side effect: First few days of treatment the child slept more than usual. His appetite noted slightly increase and drink milk more than usual.

The result of the cancer itself not yet known at this time.

42. Migraine

24 y.o, single lady.

She is quite far from the clinic and cannot attend regular follow-up.

Presented with 12 month history of migraine. The headache is throbbing, lasted usually one day and one sided. No aura. The attack is usually at least 3 times in one week. Aggravating factors include fast changing of the weather. For instance hot days followed by rain. Beside she work in a bank where the air-cond is quite cold and fall directly on her.

Treatment: 7 times mainly by normalizing all the organ-systems base on EAV meter.

Follow-up after one week, she had one attack last week. Less severity and brief.

Follow-up one month later there was no more headache, she was adviced to come for treatment for few days 3-6 months later.

No adverse symptom at all.

43. Migraine

Mrs S, 35 year old lady.

Her problem was very frequent migraine, average about one attack in one to two weeks for the past 2 years and more frequent for the past one year. Each time lasted few hours to one whole day, throbbing, one sided, associated with nausea and vomiting,

relieved partially by Mefenamic acid. Once she has an attack she cannot continue the work and need to lie down.

We did treatment using spectrum specific infrared mainly with RV, ZB and GI emitters in which she response by the EAV meter. The treatment 10 sessions, everyday.

Outcome: She came back 3 months later for mild attack after long journey from Malacca. She didn't turn-up because she has no attack for the past 3 months. And the attack at the time is also mild to her. We advice her to come once in 3 months for rechecking and may need few days if many abnormal reading. Since then she had very rare and mild migraine.

Comment: The method is good for prevention curative attempt. Curative result may happen on most of the patient but significant relief in terms of less frequency and severity is expected. The treatment using this method is not at the time when they have an attack because it may give partial relief only to reduce the headache during the attack but it is not superior to painkiller medicine. The treatment is directed towards normalizing the organ-systems and blood circulation along the spine neck and brain. This is a slow process and may require as much 10 to 20 days.

44. Migraine with hypertension

Mr. R, 45 year old man.

He has a resistant severe migraine and hypertension. The migraine is 1-3 times per week for more than 10 years duration. Hypertension 5-6 years.

The migraine attack is always sudden and lasted 2-5 hours and relieve almost suddenly as well.

He will have intractable vomiting, throbbing as worst as he can imagine, more frequent with lack of sleep. He will shut the office door and lie down for few hours and unable to entertain anybody, after few hours it relieved almost suddenly on its own. All kind of prophylactic medicine was tried but of no difference. When there is migraine attack no medicine can help reduce the pain. Because of the two factors he no longer taking any medicine. He had been suffering this phenomenon for not less than 10 years.

Beside that he is on 2 types of medicine for hypertension. One year prior to the treatment he was warded for one week BP 220/130 even while while sleeping. He was out of hospital with better control of hypertension and his usual blood pressure at 140-150/95-105. His medicine was keep on changing to get BP diastolic 90mmHg. At the time he came to Infra-life Clinic he is on Lecidiphil 8 mg/day. (Usual dose is 2 mg).

His EAV reading was 80 in most of the points. We treated him with spectrum specific infrared emitters only for **three days** because he has no time. The main emitters use were RV, GI, KH, and ZB emitters.

No single adverse symptoms noted.

Outcome: Once started treatment he has no migraine attack even though he slept only few hours. He drove back direct 9 hours non-stop but no migraine attack as he expected. Two weeks later he came back and continue treatment another 7 days. After that he sent e-mail one month later saying he has no attack. Five months after he first got the treatment and he still has no single attack and his blood pressure is maintained at 120-130/70-80.

45. Delayed union fracture femur

Mr. F.Y, 27 year old.

He involved in motor vehicle accident 4 months prior to the treatment where he sustained fracture in the middle of the right femur. Two months later the fracture site showed non union and minimal callus. Bone graft was done. Four months later there was some callus but not in the middle of the fracture site. He walk with crutches and cannot weigh bear.

His EAV meter reading was between 70-85 in most of the reading. He was treated with spectrum specific infrared and main emitter use were RC, RV, GI, ZB and KB emitters. The reading response to RV emitter but each morning when he come for treatment the reading remain the same.

Outcome: After 3 weeks repeat x-ray showed increase callus and 6 weeks later the callus was well formed and he can walk without crutches.

No single adverse symptoms noted.

Comment: First one week of the treatment we noted the fracture site does not response to KB emitter base on EAV reading. KB emitter is the emitter for osteogenesis. In this case it is believed that the primary problem of delayed union is not the problem at fracture site but the abnormality of the organ-systems as indicated but abnormal EAV reading all the time.

46. Diabetic retinopathy

Mrs Z.A. 60 year old lady.

She is a diabetic for 15 years with poor eyesight and peripheral neuropathy, glove and stocking distribution with the symptoms of poor sensation and numbness. She has inflammation but painless right foot. Incision and drainage done where 10cc pus drained out.

She was treated with spectrum specific infrared emitters and the main emitters use were GI, ZB, and KL.

Outcome: The wound healed well and the sensation improved markedly on the lower limbs. The numbness improved as much as 90% of the original distant from toes. The interesting finding in this case was after 3 weeks there was marked improvement in eyesight. She can read and can see ant in which she cannot see for almost 8 years prior to that.

No adverse symptoms noted.

Comment: ZB emitters can be use for diabetic retinopathy. If it is good for diabetic retinopathy it can also be used for prevention of retinopathy and the treatment is very easy, just a matter of one minute two or three times in one day, perhaps once a day for prevention.

47. Diabetic retinopathy, Hypertension

Mr B.Y, 60 year old man.

He is hypertensive and diabetic for 30 years duration. His eyesight was poor and he cannot read. His blood pressure always poorly control and his usual blood pressure always at least 150/100 to 170/110 for the past 30 years. When he came for the treatment his blood pressure always 160-170/110 despite on maximum dose of prazosin, nifedipine and enalapril. The diastolic blood pressure never at 90mmHg for the past 20 years. He is on glibenclimide and metformin high dose for diabetes.

He was treated with spectrum specific infrared emitters and the main emitters used are GI,ZB,KL and AK.

Outcome: His blood pressure reduced gradually and better control until the reading of 130/70. It was amazing and one of the medicine that is prazosin was stopped and the other two antihypertensive medicine reduced half of the original dose. His blood pressure remain 130/80 most of the time and 120-130/70 in early morning.

His eyesight improved significantly where he can read Quran and newspaper. His peripheral neuropathy was improved about 90% of the distance from the toes.

He lose weigh 9 kg with the same diet. His physical endurance better and he can jog half an hour without feeling tired.

No adverse effect noted. Improve physical endurance and losing weigh is considered as good side effect which was observed in most of the patients.

Comment: ZB emitters can be use for diabetic retinopathy. If it is good for diabetic retinopathy it can also be used for prevention of retinopathy and the treatment is very easy, just a matter of one minute two or three times in one day. Better blood pressure control were observed in 35 out of 40 patients. The dose can be reduced is an added bonus and can stop medicine is really an interesting phenomenon, however how to maintain the blood pressure using the emitters is still under observation.

48. Acute on chronic gouty arthritis

Mr Z, 34 year old man.

His problem is high uric acid despite diet and recurrent Metatarsophalangeal joint pain with the frequency of once a month for two years duration. At the time he came for treatment he was suffering the joint pain continuously for 2 months. He walk extremely limp due to the pain. His uric acid is between 7-8mg/dl. Within the two month period he 4 times injection and on oral NSAIDs.

The joint was warm, tender and swollen. The pain is throbbing and disturb his sleep and daily job.

He was treated with spectrum specific infrared and the main emitter use was GI.

Outcome: After 3 days treatment the pain was markedly improve and after one week the joint no longer inflammed and completely normal.

Four months later, at the time of this writing he is still in remission.

49. Insulin dependent diabetes mellitus

40 year old lady

She is an insulin dependent diabetes requires 50iu twice a day for the past 5 years. Her blood glucose level was between 8-12 and sometimes up to 14-16mmol/l.

She was admitted to ward with tonsillitis and poorly control glucose of between 14-16mmol/l despite same regular dose of insulin. She was treated with spectrum specific infrared everyday for seven days and then irregular about once in 2-3 days due to busy at work.

Outcome: Her blood glucose which she checked before insulin injection was between 4-6. She reduced the dose to 30iu per injection but the blood glucose remained between 5-6mmol/l. The infrared therapy was irregular after two weeks to only once or twice in one week.

No single symptom of adverse effect note.

Comment: The resonance therapy can be used in Type I or type II diabetics. The result is good in most of the patient to the extend of they can stop the medicine completely but the duration required is 2-3 months continuously which is no patient wish to undergo the treatment that long. In IDDM the insulin can be reduced significantly in Tashkent sample.

50. Diplopia of myasthenia gravis

Mr J.T, 50 year old man.

He suffers diplopia continuously for 5 years, sometimes severe until cannot drive. He is continuously taking pyridostigmine. Beside that he had lipoma 5x6 cm at the right scapula and poorly controlled hypertension of between 160-170/100-110 despite on two types of anti hypertensive.

He was treated with spectrum specific infrared emitters and main emitter used on the eye is GI emitter base on EAV reading.

He was treated 6 days a week for four weeks followed by continuing at home using GI and ZB emitters and come for follow-up once in two weeks.

Outcome: His diplopia was no more two months after starting the treatment. Whether it sustained or recur is not yet known. His blood pressure was slightly better but he reduce the medicine to once daily for compliance. The blood pressure maintained between 140-150/90-100.

51. Sero-negative arthritis

Mrs Z.M, 36 year old lady.

She suffers multiple joint pain especially knees and small joints of the hands. Every morning was very stiff and cannot flex the knee at all. This was on going for the 4 years. Sometimes she couldn't walk and disturb sleep. Investigation by orthopaedic surgeon showed there was no abnormality in the blood. She was diagnosed as sero-negative arthritis.

She was treated with spectrum specific infrared emitters and main emitters used were GI and ZB for one month duration.

Outcome: The pain was markedly improve where she has no stiffness in the morning and no joint paint at night. She estimated the pain relief was up to 90% compare to before treatment.

Two months after the treatment stopped the clinical condition maintained at the same level.

Comment: This treatment may give some symptom improvement in sero-negative arthrtis. Same result was seen in two other patients. However they may have brief recurrence any time and long term maintenance with GI and ZB emitters is recommended.

52. Sero-negative arthritis

Mrs R.M, 5o year old lady.

She suffers multiple joint pain for 2 years duration. Main joint affected was right shoulder. Due to lack of movement the shoulder became 'frozen'.

She was treated using spectrum specific infrared emitters and the main emitters use were GI and ZB. She underwent 3 weeks treatment everyday.

Outcome: The pain was completely relieved and maintained up to this writing (8 months later)

No adverse symptom noted.

Note: She fell 8 months later and sustained pain for one week right sacroiliac where she came again to get treatment using the method. The pain was improved after one week.

53. High cholesterol and lipids dysbalance

Mrs A.M, 54 year old lady.

She has high total cholesterol and high total cholesterol to HDL-cholesterol ratio of 6.1. The cholesterol level was high for many years and the level of Triglyceride, LDL-cholesterol also abnormally high.

She was treated using spectrum specific infrared emitters and the emitters used were GI and ZB on the gallbladder.

Outcome: After one week treatment there was increase in HDL-cholesterol and normal triglyceride and LDL-cholesterol level. The total cholesterol to HDL-cholesterol ratio was reduced to 4.1 within one week whereas it was always high for few years despite avoiding high cholesterol content food.

No adverse symptoms noted.

Comment: Normalizing cholesterol level is considered easy with this method f treatment but the best treatment is right after meal.

54. Thyrotoxic cardiomyopathy

62 year old lady.

She was treated for 2 years at physician clinic at Johor Hospital for 'heart disease'. One day she had acute shortness of breath associated with palpitation and orthopnea and was admitted for two

weeks and was diagnosed to have thyrotoxic cardiomayopathy. There was left cardiac failure. She was discharge after 8 days. The orthopnea was improved after few days in ward but the other symptoms remain the same such as chest pain, syncopy, extremely lethargic, somnolence and palpitation for 3 weeks duration. She cannot stand or walk at all. Extremely weak and all the time lying down and very weak to the extend of cannot sit up more than 5 minutes and cannot feed herself due to the weakness. Beside that, she also had constipation and insomnia. The symptoms remain the same until she presented to our clinic.

ECG : Atrial Fibrillation

ECHO: Dilated Left Atrium, thickened Mitral Valve/AV, mild LV impairment and Ejection Fraction 52 %

She was started with :

T. Carbimazole 15 mg tds

T. Propnolol 40 mg bd

T. Frusemide 40 mg bd

T slow K , 2 bd

T. Digoxin 0.125 mg OD

She was on the above medication but since discharged from hospital she was bed ridden throughout the day because of very weak.

Base on the clinical condition we are not keen to accept her because the outcome is very unpredictable and we did not want to be blamed for any worsening of the symptoms. However her family insist to try the infrared resonance therapy because they are so helpless to see the patient in that state.

EAV: most points are low, most below 10, many points are zero, after ZB emitter most points increase to 40, BP 95/65. EAV reading were very low, just between 0-12 in lympathic, lungs, large intestine, nervous system, circulation, allergy, organ degeneration, heart, small intestine, between 0-20. In each of the above meridian the is at least one point registered the reading '0'. Many points are registered 0, 4, 6 or <10.

The reading of points on the following meridian are between 12-30. They are pancreas, spleen, liver, articular, stomach, gallbladder, kidney and urinary bladder.

She was not response to any emitter except ZB-general or for the whole body length, in which the increase from 10 reading to 40 on organ degeneration and circulation meridians. After 2 minutes the reading started to reduce slowly and the treatment stopped at 25. The next day, before starting the treatment, most of the readings were increase to between 10-20 and she can withstand the treatment up to 5 minutes.

After one time treatment, few hours later at home she can sit longer, sleep well and pass motion easily. After second treatment she can sit up to half an hour. After third treatment she can stand and walk short distance. By third treatment the reading was between 20-30 from 10-20.

After 5 sessions of treatment she can pray standing half way and after 7 sessions of treatment she can walk and pray full standing.

After 10 sessions of treatment she was remarkably well and can do simple housework and she was almost back to her previous level of physical fitness. The treatment continued one time in one week for two times and stopped. Further improvement noted and she was fit and well except occasional palpitation. The improvement was sustained until she came back 10 months later (Last follow-up). She was in very good health since then.

55. Systemic lupus erythematosus

37 year old lady.

Married with 5 children. She was confirmed the diagnosis by physician. She suffers chronic recurrent joints pain and recurrent ulcers in the mouth for 3 years. There was history of admitted two times for intravenous re-hydration because of severe ulcers in mouth and throat and she can't take orally. She was dependent on 20mg prednisolone everyday for 3 years, without which there intractable joint pain and exacerbation of mouth ulcers. Her body weigh was 75kg and there was some degree of 'moon face.'

She was treated using spectrum specific infrared for five days. After second day of treatment the reaction to treatment was puffiness of the face with normal serum protein and slight increase in joint pain. The exposure to treatment was reduced and the puffiness reduced by day 5. She didn't continue the treatment because there was gradual improvement. There was gradual reduction in body weigh over 2 months where lost 15kg and sustained at 60kg. There was completely no joint pain and no mouth ulcer. She reduced prednisolone gradually until she can stop completely. There was symptom free until slightly recurrent of joint pain 14 months later where she started 5 mg prednisolone again and come back for repeat infrared therapy. At present she is on day 3 treatment.

56. Neovascularization cornea secondary contact lenses

51 year old man with the above problem.

His opthalmology advised him to undergo surgery in Australia as soon as possible. He came to get treatment and he was treated as a trial. He continue check-up at the same opthalmologist every week to assess whether there is any response to treatment. The new blood vessels was noted to become thinner and thinner until undetectable. He cornea was completely well. Beside that half of his grey hair turns black. He also had 20 years tinnitus due to bomb explosion while serving in the army, he was no longer experience the tinnitus.

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