

Approaches to correcting a human condition, taking into account the dynamics of immune processes and frequency  
wave characteristics of the body

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Introduction

The ecology and man-made environment make the modern man more demanding, make it necessary to maintain the functional capabilities of his body [6]. Therefore, the study of stress; the main ways of damage to the body; research on the regulation of body functions; research into resistance and adaptation down to the cellular level has a long history. However, for a modern man and a man of the future, the real possibility of extreme impacts does not diminish. Even new extreme factors are emerging. A sharp change in the structure and quality of food, the appearance on the market of thousands of new food products and technologies, medicines and biologically active food additives could not but lead to a significant change and tension of the body's adaptive mechanisms.

The purpose of this study was to substantiate and develop approaches to correction functional reserves of the body based on the study and analysis of the dynamics of immune processes under unfavorable conditions of life.

Materials and research methods

The study included 768 apparently healthy male volunteers aged 22 to 42 years.

In this work, we studied the dynamics of the complement system and immunoglobulins in the process of stress and adaptation of a person to adverse external influences (noise, physical activity, vibration, overload + Gz, psychoemotional stress, temperature 50°C, hypoxia). We also studied the effect of pharmacological drugs (amtizol succinate, gidazepam, clerigil, nootropil, probucol, yakton) on the spectrum of immunological parameters at different degrees of hypoxic exposure.

All of the above effects were simulated, because this is the only way to recognize the effect of each of them on the human body. Under natural conditions, there is a combined action that does not allow one to navigate properly. Determination of the functional activity of the components of the complement system and the concentration of serum immunoglobulins of all three classes was carried out before, after, and, in some cases, and during the study using unified micromethods [10], followed by calculation of the dynamics in percentage terms.

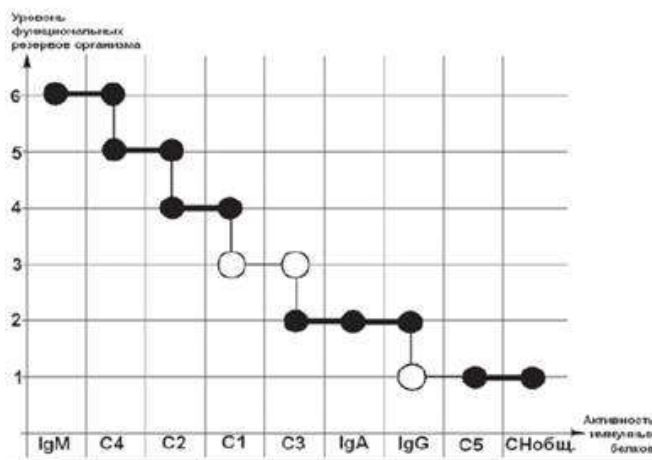
Their accuracy made it possible to count on solving the problems of this work, and the availability, simplicity, high efficiency and the use of domestic reagent kits opened the prospects for the fastest implementation of the expected results in almost any medical and prophylactic institutions. The research results were processed statistically. The method of variation statistics was used, with the determination of the reliability of the difference in arithmetic mean values using the Student-Fisher test. Differences between the two mean values were considered significant at  $p \leq 0.05$ . One of the areas of work included the analysis of data from the literature [1, 2, 4, 7], comparing them with experimentally obtained results for the development of a system for correcting the body's functional reserves based on the analysis of the dynamics of immune processes.

Results obtained and their discussion

In experimental studies of immunity, a universal reaction has been identified

organism to various external influences, which functions with any intervention, and, knowing which, it is possible to assess the level of functional reserves of the body.

Schematically, the dynamics of humoral immunity indicators and the associated level of functional reserves of the body can be represented as follows:



The multi-stage cascade, firstly, provides gradual protection for any life situation, and secondly, it allows you to return to homeostasis from any stage. But the return does not occur backward, but when the entire cascade is repeated, starting with the first proteins.

The sequence of protein activation does not change. Let us give several examples of the distribution of the individual reaction of the subjects depending on the nature of the external influence.

A simultaneous increase in the activation of C1, C2 components of the complement was found during "ascent to a height of 6–6.5 km" in 33.3% of cases; when "ascending to a height of 7–7.5 km" in 16.7% of cases; when "ascending to a height of 8–9 km" in 12% of cases; during physical activity in 60% of cases among athletes after 80 km of cyclocross and in 18% of untrained persons during bicycle ergometry; when exposed to 85 dB (A) of noise for 8 hours - in 25% of cases; under the action of vibration at a dose of 12.25 (m / s<sup>2</sup>) 2 hours - in 71.4%; under the action of vibration at a dose of 24.5 (m / s<sup>2</sup>) 2 hours - in 18.2% of cases.

A decrease in the activity of the C3 component of the complement, which is most likely associated with increased respiration, occurred in 85% of cases 2 hours after the administration of adrenaline to rats; in 16.7% of cases with "ascent to a height of 6 - 6.5 km"; in 20% of cases among athletes at 80 km cyclocross; in 14.3% of cases under the action of vibration at a dose of 49.0 (m / s<sup>2</sup>) 2 hours.

A parallel increase in the activity of C4, C2 components of the complement was found in 70% of cases in the first 20 minutes after the administration of adrenaline to rats. Therefore, this type of response began to be considered as a result of an increase in the content of adrenaline in the blood. In addition, an increase in the activity of C4, C2 was observed in 33.3% of cases after "ascent to an altitude of 6–6.5 km"; in 50% of cases after exposure to noise at a dose of 85 dB (A) for 8 hours; in 20% of cases after short-term exposure to noise at a dose of 125 dB (A); in 20% of cases after exposure to vibration at a dose of 49.0 (m / s<sup>2</sup>) 2 hours.

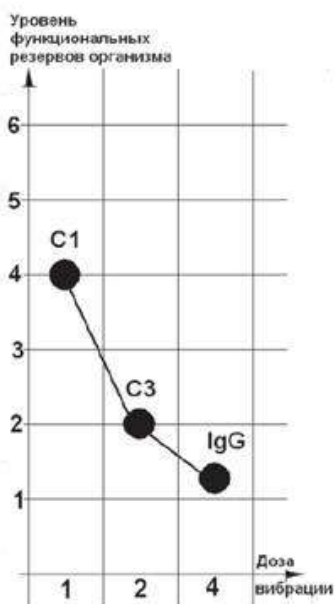
An increase in the activity of the C3 component of the complement was found in 16.7% of cases with "ascent to a height of 6 - 6.5 km"; in 83.3% of cases with "ascent to an altitude of 7–7.5 km"; in 87% of cases with "ascent to a height of 8–9 km." Therefore, this type of response was attributed to a hypoxic reaction. In addition, an increase in C3 activity was noted in 20% of cases among athletes after 80 km of cyclocross and in 63% of cases with bicycle ergometry in untrained individuals; and also in 60% of cases with short-term action of 125 (A) noise; in 14.3% of cases under the action of vibration at a dose of 12.25 (m / s<sup>2</sup>) 2 hours; in 71.8% of cases under the action of vibration at a dose of 24.5 (m / s<sup>2</sup>) 2 hours; in 55.7% of cases under the action of vibration at a dose of 49.0 (m / s<sup>2</sup>) 2 hours.

An increase in the activity of the C5 component of the complement, which is most often associated with the formation of cytotoxic complexes, was observed in 58.3% of cases after 1 day and in 90% of cases 3 days after the administration of adrenaline to rats. The same reaction was found in 19%

cases in untrained persons after bicycle ergometry and in 9% of cases after exposure to vibration at a dose of 24.5 (m / s<sup>2</sup>) 2 hours.

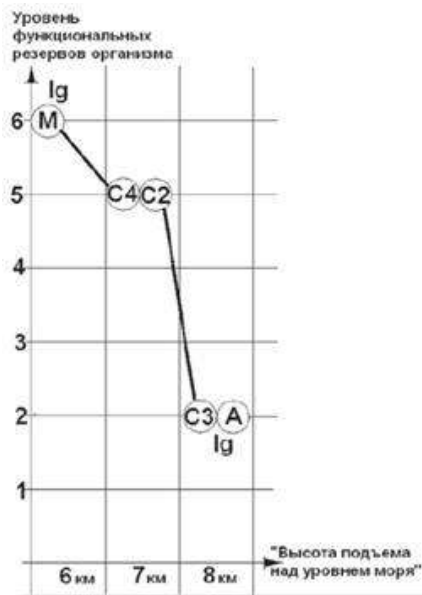
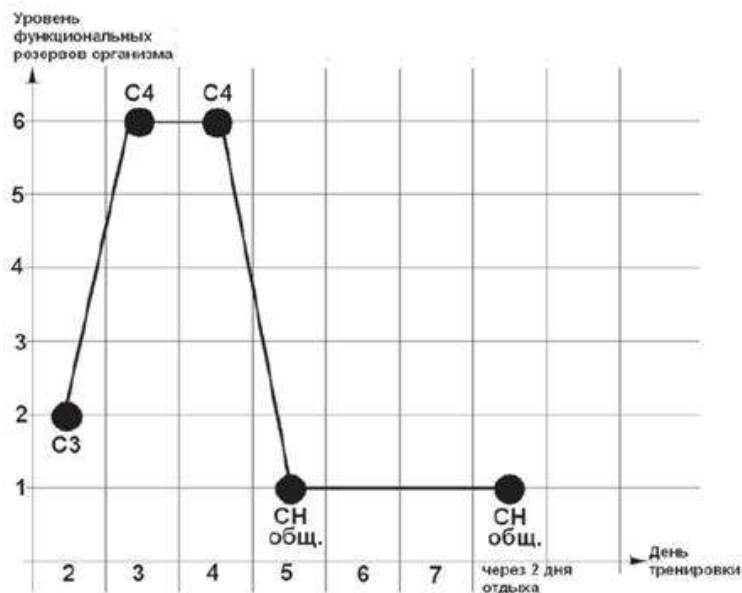
The activity of immune proteins begins at a high energy level, which is required for a certain rate of processes. Then, the transformations of proteins correspond to a decrease in energy and inhibition of processes. Further, it becomes necessary to replenish energy so that the processes repeat themselves. The reaction is not going backwards. For, for the transition, for example, from the 1st stage to the 2nd, there will not be enough energy and inactivated C3, due to the breaking of disulfide bonds (-SS-), will not be able to react without preliminary stages, including the C4, C2, C1 components complement. In addition, the activation of each immune protein requires a certain spatial configuration for which energy is required. The maximum energy is needed to turn the protein molecule in space, then it is ready for its only action - gradual folding. All reactions of the body are based on this ability of the protein, for example, muscle contraction and relaxation. That is why the components of the complement system can serve as markers for predicting the manifestation of any clinical symptoms and for a clearly directed search for diagnostics. The distribution of immunological parameters was used as the basis for the system for correcting the functional reserves of the body.

A clear example is the results obtained with an increase in the dose of vibration exposure, which led to a decrease in the level of functional reserves of the body. The lower the energy level and the slower the processes in the body, the closer to C5 and other final components is the maximum response.



A decrease in the functional reserves of the body with an increase in hypoxic exposure and a response response when exposed to high temperatures, 50°C, also reflect the redistribution of immunological parameters depending on the level of functional reserves of the body.

The proposed system focuses on the maximum activity of complement components and the greatest increase in blood levels of immunoglobulins. But due to the fact that studies of the immune system are widely carried out in various fields of medicine, the task of analyzing clinical symptoms in each medical specialty is facilitated. As a result of the continuity of therapeutic, diagnostic and rehabilitation measures, this algorithm allows, without departing from the accepted treatment and rehabilitation regimens for patients, to obtain an additional effect in solving the problem of recovery.



An important role in determining the sequence of processes in the body was played by the frequency, wavelength of light and the concentration of hydrogen ions (pH). Analysis of literature data shows that resonant frequencies have recently been widely used for diagnostics and treatment with electromagnetic oscillations, with which the body's structures enter into resonance (bioresonance diagnostics and therapy) [3, 5, 8, 9, 14, 15]. Every event has its place, its time, its own uniqueness. A single system takes shape in time and covers all structures of the body. Following the appropriate parameters that determine the zone of activity of a substance, cell, organ, it is possible to imagine a chain at any level of the body's structures.

The presented table (table 1) reflects the relationship between frequencies, optical range and brain activity. And the influence of the nervous system on the processes in the body does not require additional evidence.

Уровень функциональных резервов организма	Спектр водорода, нм	Энергия фотонов по спектру водорода, ккал/моль	Частота по спектру водорода, Гц	Значения pH	Спектр белого света, нм	Ритм мозга, Гц
6 ступень	389 397.1 410.3	73,6 72,1 69,7	$7,707 \times 10^{14}$ $7,550 \times 10^{14}$ $7,307 \times 10^{14}$	3,0 – 3,5	390 – 410,3 фиолетовый	
5 ступень	434.2 486,2 – 486,3	65,9 58,8	$6,905 \times 10^{14}$ $6,165 \times 10^{14}$	3,6 – 4,1	420 – 480 синий	$\gamma$ – 31–100 $\beta$ – 14–30
4 ступень	отсутствует	—	—	4,2 – 4,9	486,1 – 560 зеленый	$\alpha$ – 8–13
3 ступень	отсутствует	—	—	5,0 – 5,9	570 – 590 жёлтый	$\theta$ – 4–7
2 ступень	отсутствует	—	—	6,0 – 6,9	590 – 630 оранжевый	$\delta$ – 1–3
1 ступень	656,5	43,6	$4,567 \times 10^{14}$	7,0 – 9,0	640 – 760 красный	0–1

table

1

### Examples of parallel oscillatory processes in the body and their boundaries

One of the important directions in the work was the analysis of the activity of pharmacological drugs, their therapeutic effects and complications (table 2).

Each pharmacological preparation exhibits its activity within the framework of a certain reaction of the environment, which creates an emphasis on regulation in the body. The narrower the range of pH values for the drug itself (pH environment for optimal drug activity), the more accurate its action. The wide range of pH of a pharmacological preparation "dilutes" its effect in the body.

Internal universal regulation does not narrow, but expands the capabilities of the organism and the correction of its functional reserves. As energy is expended, the focus of reactions shifts towards slow processes. This can be seen in the responses of the complement system.

In this work, we investigated the pharmacological correction of the human condition under the influence of hypoxia. As an example, consider the action of amtizol succinate (taken in a dose of 0.1 g), which has an antihypoxic effect in the following ways:

- implemented mainly at the cellular level,
- activates glycolysis against the background of increased utilization of lactate,
- selectively blocks free (non-phosphorylating) lipid oxidation,
- increases the resistance of cell membranes.

The mechanism of action that caused the choice of the drug corresponds to the natural processes of the 1st stage of the body's functional reserves:

- cell membranes are impermeable;
- lipids are not oxidized;
- stronger acids - lactic (pH = 7.2-7.5), pyruvic, acetoacetic, - oxybutyric (pH = 6.5-7.5) - displace carbon dioxide, which is released in the form of CO<sub>2</sub>;
- C5 can immerse itself in the bipolar layer and form numerous bonds with

hydrocarbon chains of membrane lipids, which coincides with the formation of protein-lipid complexes throughout the body (pH = 7.55-7.6). After activation of the C5 protein, the cascade can be completed, up to the formation of a cytotoxic complex (C5-C9) and cell lysis.

According to the results of the study, 20 minutes after "ascent to an altitude of 8-9 km above sea level" while taking amtizol succinate (0.1 g), the C5 component of complement was activated ( $25.68 \pm 2.35\%$  higher than the background data,  $p < 0.05$ ) reflected a low level of functional reserves and a "cytotoxic" type of response from humoral immunity.

table 2

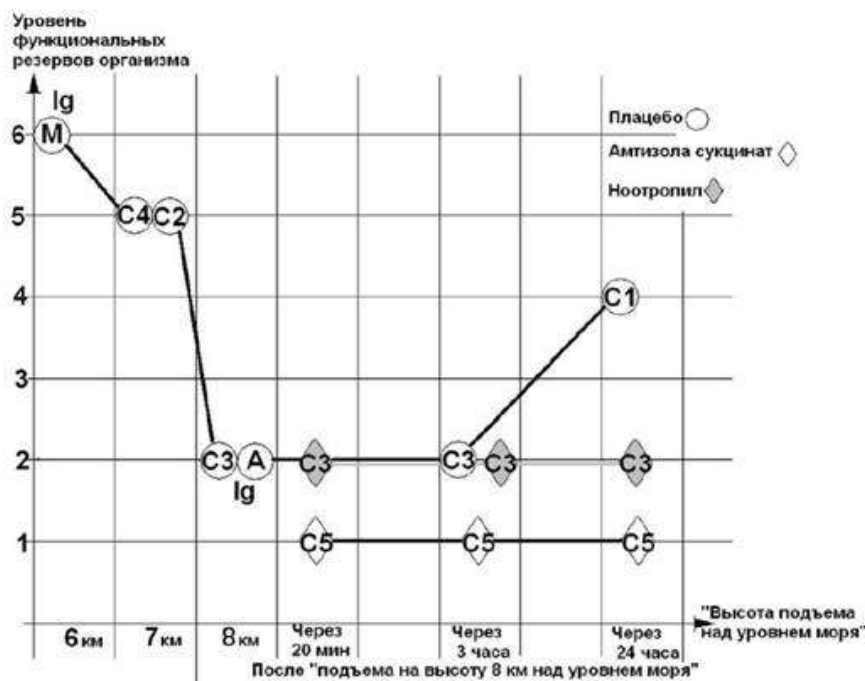
### Examples of drug activity

Уровень функциональных резервов организма	Спектр белого света, нм	Значения рН	Фармакологические средства	Гомеопатические средства	Витамины
6 ступень	390 – 410,3 фиолетовый	3,0 – 3,5	Антидепрессант Азафен (рН = 2,5–3,0); Лобелин (рН = 2,8–3,2); Морфин (рН = 3,0–3,5)	Сульфур,	Коккарбоксилаза (рН = 1,4–1,7), В6 и В1 (рН = 2,5–3,6)
5 ступень	420 – 480 синий	3,6 – 4,1	Антидепрессанты: имизин (рН = 3,7–4,5) и фторацизин (рН = 3,8–4,8); Атропин (рН = 3,0–4,5)	Нукс вомика, Игнация, Арсеникум альбум	А и Д (рН = 3,6–3,7)
4 ступень	486,1 – 560 зеленый	4,2 – 4,9	Аналептик сульфокамфокаин (рН = 4,2–5,8); Промедол (рН = 4,5–6,0)	Цинкум, Фосфорус, Магнезия карбоника	В3 и F (рН = 4,0–4,6)
3 ступень	570 – 590 жёлтый	5,0 – 5,9	Тропафен, препарат используемый при стрессе (рН = 5,0–6,5); Аналептик бемеград (рН = 5,0–6,5); Пилокарпин (рН = 5,0–5,5)	Силиция, Ликоподиум, Калькарея	В2, Р, В5 или РР, Никотинамид, В15, Витогенат, Липоевая кислота (рН = 5,0–5,9); Холина хлорид (рН = 5,5–5,9)
2 ступень	590 – 630 оранжевый	6,0 – 6,9	Аналептики коразол (рН = 6,0–8,0) и этимизол (рН = 6,5–7,2); Изоприн (рН = 5,8–7,0) – применяют при гипертонии	Натриум муриатикум, Лазезис, Сепия, Пульсатилла	С, U, Вc или В9, В12, Е, Н (рН = 6,0–6,9)
1 ступень	640 – 760 красный	7,0 – 9,0	Атропин, антигистаминные и обезболивающие средства	Калиум	К, Убихинон (рН = 7,0–9,0)

This reaction corresponds to the 1st stage of the body's functional reserves.

3 hours after "ascent to a height of 8-9 km above sea level" while taking amitizol succinate, the activity of the C5 component of the complement remained ( $20.22 \pm 1.86\%$  higher than the background data,  $p < 0.05$ ), which corresponded to "cytotoxic" type of reaction and indicated a low level of functional reserves of the body (1st stage), with the associated forced inhibition of processes. The number of red blood cells in the body decreased, which could also be the result of cytotoxicity.

24 hours after "ascent to an altitude of 8-9 km above sea level" while taking amitizol succinate, the activity of C3 increased (by  $50.0 \pm 4.39\%$ ,  $p < 0.05$ ), C5 (by  $63.93 \pm 5,6\%$ ,  $p < 0.05$ ) complement components; the total hemolytic activity of the complement system increased (by  $41.63 \pm 3.6\%$ ,  $p < 0.05$ ) and the number of erythrocytes decreased (by  $-9.52 \pm 0.84\%$ ,  $p < 0.05$ ), in comparison with the background data. The state of the humoral immunity system worsened both in comparison with the baseline data and the 20-minute measurement, and in comparison with the 3-hour measurement. There is a shift in the correction to the end links of the complementary cascade and the manifestation of cytotoxicity with a decrease in the number of erythrocytes.



Thus, amtizol succinate created a shift in the emphasis of correction in accordance with its mechanism of action to the 1st stage of the body's functional reserves. But this does not improve the condition of the body. The results obtained demonstrated not just a decrease in the functional reserves of the body against the background of amtizol succinate intake, but an increase in negative consequences during the day.

Studies have confirmed that a pharmacological preparation creates a correction focus in the zone of its activity, in accordance with the concentration of hydrogen ions. In the study of hypoxia, the subjects were carried out a divided study of resistant and sensitive to hypoxia individuals identified by the maximum time of work under hypoxic conditions.

Table 3

The influence of pharmacological agents on the limiting time (T) of work in hypoxia-resistant

Препарат	Устойчивые к гипоксии лица / T (мин.)	Ведущая реакция гуморального иммунитета	Уровень функциональных резервов
Плацебо	1132,6 ± 23,6	↑ C2 на 60,0 ± 5,25 %, p < 0,05	5 ступень
Гидазепам	981,33 ± 64,41	↑ C2 на 36,4 ± 3,15 %, p < 0,05	5 ступень
Клеригил	984,33 ± 70,51	↑ IgG на 112,3 ± 9,76 %, p < 0,05	2 ступень
Яктон	1115,0 ± 95,0	↑ C3 на 45,5 ± 3,99 % (p < 0,05) и C5 на 45,5 ± 3,87 % (p < 0,05)	2-1 ступень

It turned out that the preservation of working capacity under conditions of "ascent to a height of 7-7.5 km above sea level" in persons resistant to hypoxia when taking placebo was carried out due to the mobilization of the functional reserves of the body. Against the background of taking gidazepam and clerigil, working capacity decreased in parallel with a decrease in the level of functional reserves of the body. When taking yaktон, the preservation of working capacity was paid for by a high price for the organism, up to the cytotoxic effect according to the data of the reaction of humoral immunity. Compared to placebo, all drugs reduced work time and functional reserve levels.

organism in persons resistant to hypoxia. The natural and more efficient regulation of homeostasis was disrupted.

In persons sensitive to hypoxia, the reaction reflected the high cost of the organism for maintaining performance under hypoxic conditions. In comparison with placebo, the action of gidazepam, clerigil and yakton in terms of humoral immunity did not improve the state of persons sensitive to hypoxia. Thus, the use of pharmacological preparations in order to increase the resistance of subjects to hypoxia clearly demonstrates both the differences in the functional reserves of the body and the possibility of evaluating the effectiveness of therapy using the proposed system.

Table 4

Influence of pharmacological agents on the limiting time (T) of work in hypoxia-sensitive persons

Препарат	Чувствительные к гипоксии лица / T (мин.)	Ведущая реакция гуморального иммунитета	Уровень функциональных резервов
Плацебо	815 ± 126,92	↑ IgA на 151,4 ± 13,57 %, p < 0,05	2 ступень
Гидазепам	1024,67 ± 103,12	↓ C4 на - 68,5 ± 6,31 % (p < 0,05), C3 на -54,5 ± 4,72 % (p < 0,05)	Напряжение на 6 и 2 ступенях – дефицит энергии
Клеригил	885 ± 62,51	↑ IgM на 585,0 ± 50,63 % (p < 0,05) и IgA на 70,0 ± 6,13 % (p < 0,05),	Напряжение на 6 и 2 ступенях – дефицит энергии
Яктон	958 ± 194,27	↑ C5 на 110,6 ± 9,43 %, p < 0,05	1 ступень

Comparison of literature data and our own experimental results allows us to present an algorithm for the correction of the body's functional reserves as follows.

At the 6th stage of the body's functional reserves, the activity of C4 components of complement and the content of immunoglobulin M increases in the blood.

To avoid the depletion of this level of functional reserves during prolonged stress in this area, the following can be recommended as corrective measures to a person: rest; taking vitamins B6 (pH = 2.5-3.5) and B1 (pH = 2.7-3.6); homeopathic medicine Sulfur; light-wave effects of the violet spectrum (- ~ 390-410.3 nm, corresponding to the hydrogen spectrum 389 - 397.1 - 410.3 nm). The processes within the 6th stage are supported by the activity of microelements: Manganese (403.3 nm), Sulfur, Copper (324.8 nm), Cadmium (326.1 nm), Fluorine, Silicon (251.6 nm) and Boron. The potassium content in the cell is 98% and ensures its effect in the body. Avoiding this response with the help of pharmacological, homeopathic remedies and vitamins with a pH of activity ≥ 3,

At the 5th stage of the body's functional reserves, several spectra are manifested immune indicators replacing each other:

1. The activity of the C2 component of the complement increases and the C4C2 complex is formed - true state of stress. The content of immunoglobulin M in the blood decreases during this period.

2. Psychoemotional load switches regulation to the area of activation of the C1 component complement.

3. C4 component of complement is inactivated and in the C4C2 complex is replaced by C1 component complement.

4. Formed complex C1C2. Corrective actions are identical to those on the 6th steps. The processes within the 5th stage of the body's functional reserves are supported by exposure to light-wave pulses of the blue spectrum (- = 420-480 nm, the corresponding hydrogen spectrum is 434.2 nm and 486.2 nm); taking vitamins A and D; homeopathic remedies Nux vomica, Ignatia, Arsenicum album; treatment with lemons; baths of Zalmanov; activity of trace elements: Nitrogen



(440 nm), Calcium (422.7 nm), ferric iron (414.3-423.6 nm).

At the 4th stage of the body's functional reserves, the activity of the complex is manifested until the moment of inactivation of C1, which coincides with the moment when the blood glucose level decreases.

The 4th stage is the place of manifestation of clinical symptoms in case of depletion or failure of the 6th stage of the body's functional reserves. Corrective actions are identical to those in the 6th step.

The homeopathic preparations Arsenicum album, Phosphorus, Magnesia carbonica support the processes within the framework of the 4th stage of the body's functional reserves; FiBS is a product from the distillation of estuary mud (pH = 4.6-5.4); vitamins B3 and F; exposure to light-wave pulses of the green spectrum (- ~ 486.1-560 nm); breathing exercises and outdoor walks; activity of trace elements: Phosphorus (490-540 nm), Barium (493.4 nm and 553.6 nm). Barium reduces the period of increase in intracellular calcium concentration.

At the 3rd stage of the body's functional reserves, a decrease in the activity of CThe 2 components of complement coincide with protein hydrolysis.

The 3rd stage is the place of manifestation of clinical symptoms in case of depletion or failure of the first half of the processes of the 5th stage of the body's functional reserves (under stress, for example). Corrective measures are the same with supportive therapy for the 5th stage of the body's functional reserves. They support the processes within the 3rd stage of the body's functional reserves:

- pH = 5.0-5.9 Vitamins: B2 or riboflavin; P (permeability factor); B5 (nicotine acid, niacin or vitamin PP, antipellagic factor); Nicotinamide, B15, Vitohepat, Lipoic acid, Choline chloride;

- pH = 5.0-6.0 - Aloe extract for injection;

- pH = 5.1-5.9 - Brewer's yeast;

- pH = 5.5-7.0 - Coamid - Preparation containing cobalt;

- pH = 5.5-7.0 - Gumisol - Preparation of sea curative mud;

- trace elements Sodium (589-589.6 nm) and ferrous iron (pH = 6.0) - mandatory

condition for the absorption of iron by tissues;

- homeopathic medicines Silicea, Lycopodium and Calcarea;

- exposure to light-wave pulses of the yellow spectrum (- ~ 570-590 nm).

At the 2nd stage of the body's functional reserves, several spectra are manifested immune indicators replacing each other:

1. The activity of the C3 component of the complement increases.

2. The content of immunoglobulin A in the blood rises.

3. C3 component of complement forms a complex with immunoglobulin A.

4. The content of immunoglobulin G in the blood rises, which actively forms immune and other protein complexes.

The 2nd stage is the place of manifestation of clinical symptoms in case of depletion or failure of the second half of the processes of the 5th stage of the body's functional reserves (for example, during psychological stress). Supportive therapy in the area of the 5th stage of the body's functional reserves can be recommended as corrective measures.

They support the processes within the 2nd stage of the body's functional reserves:

- Exposure to light-wave pulses of the orange spectrum (- ~ 590-630 nm).

- pH = 6.0-6.9 - Vitamins: C, U, Bs or B9, B12, E, H (biotin).

- Homeopathic medicines Lachesis, Sepia and Pulsatilla

- Vegetable products of orange-red color, containing carotene - a precursor

vitamin A, which is converted to retinol in the presence of fats and bile. Carrots are especially rich in carotene, beets and tomatoes are satisfactory sources of carotene.

- pH = 5.8-6.5 - Suspension of the placenta for injection

- pH = 6.0-8.8 - Peat - Peat distillation

- pH = 6.7-7.5 - Placenta extract for injection

- Trace elements Aluminum, ferrous iron, Cobalt, Selenium.

At the 1st stage of the body's functional reserves, several spectra are manifested immune indicators replacing each other:

1. C3 component of complement and immunoglobulins A and G are inactivated.
2. C1, C2, C4, immunoglobulin M are in a state of recovery - when from small parts, large protein complexes are formed, but during this period their activity is not manifested.
3. The activity of the C5 component of complement increases, which is designed to provide the formation of immune complexes, including those attacking the membrane.
4. The content in the blood of immunoglobulins E and D, which are involved in the formation of protein and protein-lipid complexes.
5. The components C5C9 are active, that is, the formation of the so-called attacking the membrane or cytotoxic complex.
6. The hemolytic activity of the complement system is realized.

The 1st stage is the place of manifestation of clinical symptoms in case of depletion or failure of the processes of the upper point of the 4th stage of the functional reserves of the body (for example, with high physical exertion).

As corrective measures, it is possible to recommend a person supportive therapy in the area of transition between the 5th and 4th stages of the body's functional reserves: exposure to light-wave pulses of the blue-green spectrum (closer to the corresponding hydrogen spectrum - = 486.2 nm); taking vitamins A and D; homeopathic remedies Arsenicum album; baths of Zalmanov; walks in the open air.

They support the processes within the 1st stage of the body's functional reserves:

- Exposure to light-wave pulses of the red spectrum (- ~ 640-760 nm, corresponding hydrogen spectrum 656.5 nm).
- Vitamins: K, Ubiquinone (coenzyme Q), Galascorbin.
- Homeopathic medicines Lithium, Kalium, Iodium.
- pH = 7.0 - Caffeine
- pH = 7.0-7.3 - Adenosine triphosphoric acid (ATP).
- pH = 7.2-9.5 - Peloidodistillate - Product from the distillation of estuary mud
- Gel and gelatinized products are effective (jelly, jelly, etc.)
- Trace elements Lithium (670.7 nm), Iodine (680-750 nm), Potassium (766.5 nm).

Each of the above points of the algorithm corresponds to a certain level of the rate of ongoing processes and the level of functional reserves of the body, since all these indicators directly depend on energy costs.

The principle of correcting functional reserves is reduced to creating conditions for increasing the body's energy, which is the optimal solution for restoring health. It should be borne in mind that some diseases cause the need to support those processes that take place within the framework of low energy (for example, the restoration of the activity of thyroid hormones occurs at the 1st stage). The proposed system is intended to clarify the place of the process occurring in the body and the best choice of correction of functional reserves.

#### conclusions

1. The use of pharmacological agents affects the spectrum of immune indicators and allows you to assess the functional reserves of each person, providing an individual approach to choosing a corrective technology from a wide range of traditional and modern medical and health-improving methods.

2. The choice of the best means for correcting the functional reserves of the body should be carried out taking into account the optical frequency range and pH values for optimal activity of therapeutic drugs.

#### Bibliography

1. Alekseev A.A., Larionova I.S., Dudina N.A. Systemic medicine (What will die from humanity?). Translation from English / 3rd edition, supplemented, revised. - Moscow:

Editorial URSS, 2000 .-- 568 p.

2. Biological and Medical Cybernetics (Handbook) / ed. Zhuravleva Yu.I. - Kiev: Naukova Dumka, 1986. - S. 158-203.

3. Bioresonance therapy: Methodical recommendations / Meizerov E.E. other. - M.: Scientific and Practical Center for Traditional Medicine and Homeopathy, Ministry of Health of the Russian Federation, 2000. - 27 p.

4. Bobrovnikskiy I.P., Nagornev S.N. Biochemical mechanisms and metabolic correction posthypoxic disorders of the functional state of a person / Edited by Academician of the Russian Academy of Medical Sciences V.A. Tutelyan. - Moscow: Orves-Print, 2004 .-- 155 p.

5. Gerber Richard. Vibration medicine. Translation from English. - Moscow: publishing house KOR, 1997 .-- 320 p.

6. Gotovsky Yu.V., Perov Yu.F. Features of the biological action of physical and chemical factors of low and ultra-low intensities and doses. - M.: IMEDIS, 2003 .-- 388 p.

7. Evseev V.A., Magaeva S.V. Stress in the mechanisms of development of secondary immunodeficiency conditions // Bulletin of the Academy of Medical Sciences of the USSR. -1985, No. 8. - P. 18-23.

8. Karandashov V.I., Grachev V.I. Modern developments in the field of phototherapy // Modern technologies, No. 4 (10), 2004. - P.4.

9. Karandashov V.I., Petukhov E.B., Zrodnikov V.S. Phototherapy (Light Therapy): A Guide for doctors / Edited by N.R. Paleev. - Moscow: Medicine, 2001 .-- 392 p.

10. Kozlov L.V., Vavilova L.M., Golosova T.V. Micromethod for determination of complement factors // Immunology. -1985, No. 3. - P.66-68.

11. Prospects for the use of algal preparations in pediatric infectious diseases / Titova L.V., Anisimova L.K., Pilnikov V.F., Bokova E.M., Titov V.M. // Materials of the scientific-practical conference of the North-West region of Russia (with international participation) "Chernobyl 15 years later." - St. Petersburg, 2001

12. Podkorytova A.V., Aminina N.M. The use of alginate-containing products in medical preventive nutrition. - Vladivostok, 1998

13. Manual for doctors "The use of gel" Lamifaren "as a dietary and therapeutic preventive nutrition for somatic diseases, lead intoxication, immunodeficiency states / A.N. Razumov, I.P. Bobrovnikskiy, V.I. Mikhailov, A.G. Odinet, S.V. Suprun, L.M. Yakimova, S.M. Volkov, O. N. Kudryavtsev, Moscow, 2004, 55 p.

14. Theoretical and clinical aspects of the use of adaptive bioresonance therapy // Abstracts and reports of the XI international conference, part II. - M: IMEDIS, 2005 .-- 440p.

15. Chirkova E.N. The wave nature of the regulation of gene activity. living cell as photonic computing machine // Russian Thought No. 2, 1992. - Moscow, 1992. - S. 29-41.

---

Kuznetsova, L.N. Approaches to correcting the human condition taking into account the dynamics of immune processes and frequency-wave characteristics of the body / L.N. Kuznetsova // Traditional Medicine. - 2007. - No. 2 (9). - S.50-59.

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