

Information Pharmacology - Replication of Information Copies of Drug Substances in Aquatic Vehicles

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Abstract—This paper presents the results of experimental and clinical studies of the properties of information copies (IC) of certain medications, obtained through their activation by low-intensity laser radiation. At that, plastic, in particular compact discs, water and NaCl solutions gain the capacity to reproduce the specific activity of medications. It is considered that this phenomenon is because of chemical and biological substances create specific for them emission, which is reproduced in the IC form on neutral carriers such as plastic, water, solutions, etc. In experiments on laboratory animals, it was shown that the IC of the immunostimulating drug arbidol and IC of the immunosuppressive drug dexone, obtained on a CD or through the Internet, reproduce the activity specific for them in water and physiological solution when administered to laboratory mice in the form of drinking or injections, arbidol IC stimulates the immune reactivity, and dexone IC inhibits it. The data of experimental studies are also confirmed by the results of clinical observations in volunteers, performed with the use of bioresonance therapy and diagnostic techniques. It is shown that test group receiving water with IC of arbidol had improvement of the functional state of the organism, activation of protective reserves and prevention of the incidence of viral infections in the autumn period as compared to the control group. The results obtained and the data of previous researchers are discussed from the point of view of the mechanisms of the described phenomena and their practical significance. They testify to the need to expand research in this area, such as information (energy-information) pharmacology, attracting the attention of various specialists, as it opens new prospects for pharmacy and practical medicine.

I. INTRODUCTION

The notions on the ability to impart therapeutic properties to water without chemicals have long been known, and they still exist in one form or another. According to one of hypotheses, these phenomena are based on natural ability of living objects to exchange biologically significant emission first discovered by Gurvich [1], [2]. The studies of these phenomena were further developed of as a concept of photon emission as providing intercellular

information regulation [3], [4]. In this case, the ability of biochemical components to participate in biologically significant information processes with the use of emission specific for them is of critical importance [3], [5].

Despite a fairly long history, the notions on information emission or fields have not gained a worthy recognition in the scientific community. The arguments of both supporters and opponents of the role of emission and water look unconvincing due to the low sensitivity of instrument control. It is not enough to take into account the role of the cellular substance dominant in mass, such as water, in the transmission, propagation of information signals in body tissues and fluids.

In contrast, water and its special properties, such as the ability to memorize and reproduce the properties of substances dissolved in it, play a key role in hypotheses about therapeutic mechanisms in such a field of practical medicine as homeopathy. It is participation of J. Benveniste in the analysis of the phenomenon of water memory gave rise to the development of a new scientific field—the study of the role of super-weak emission of organic substances in the transfer of biological activity specific for them by means of electronic devices to water and other media [6], [7].

The explanation of the mechanisms of such phenomena faces the problem of physical and chemical control over the process of gaining biological activity by water. A great achievement was the creation by the French immunologist J. Benveniste of a device for the transfer of an information copy (IC) of a biologically active substance (BAS) from a solution of BAS to water which reproduced the basic activity of BAS in the corresponding experiments. Thus, in 2000 J. Benveniste et al. reported on the method of transferring specific emission of phorbol myristate acetate via an electronic communication channel [8]. To do this, a tube with a solution of the preparation was placed in an induced coil in which an electromagnetic signal was generated, and then it was reproduced through a radio amplifier in another coil with water. Such water gained the ability to activate a suspension of neutrophils. As a result, a hypothesis has arisen that biologically active substances are able to reproduce their effect on target cells by means of signals specific for them that can be transmitted along communication lines and reproduced in a certain place. Later J. Benveniste et al. carried out

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a transatlantic transfer of digitized signals received from acetylcholine, histamine, ovalbumin and other BASs via a telephone channel [9]. Water, activated by the IC of these BASs thus obtained, had a corresponding specific effect on biological test systems.

A group of scientists used J. Benvenistes method to transfer an information signal from a solution of retinoic acid to a nutrient medium into which malignant tumor cells were then placed [10]. The medium thus prepared, inhibited the growth of cancer cells.

Later, L. Montagnier improved the device [7] and showed that high dilutions of the DNA solution of some bacteria and viruses are sources of emission in the range of several hundred hertz to several kilohertz [11]. It turned out that such signals are capable of having contactless remote effect on solutions of DNA precursors and reproducing copies of the initial nucleotide sequences of DNA [12]. L. Montagnier used the results of these experiments to justify the revolutionary hypothesis according to which water, aquatic environments of living organisms can participate in the storage and transfer of genetic information.

The information presented above proves that biologically active substances are the source of information fields (super weak emission) that are capable of inducing specific physiological activity in aquatic environments and causing corresponding reactions in living organisms. In the 2010 patent, J. Benveniste describes a system for transmitting a signal over a distance and recording this signal to a substance, in particular water, an alcohol solution or sugar granules [13]. In his experiments, he picked up a signal from the substance, performed an analog-to-digital conversion, transferred the resulting file over a distance on the Internet and reproduced this signal in the receiving computer, affecting the secondary medium (water) and, ultimately, the biological object [7], [13], [14]. Similarly, L. Montagnier et al. transferred remotely IC of DNA [15].

Modern advances in the field of computer technology enable to implement a more convenient version of the transmission (reception) of a treatment signal, which is described as IC Medicals technology (www.dstfund.com/icmedicals). The main difference from similar ones is not only in technical methods, but also in the creation of unified conditions for preparation of ICs, the system of storing them in a single center, and transferring them to a remote device which is a receiver providing subsequent application in various purposes, including medical ones.

This technology enables practically anywhere in the world to prepare an IC of a drug substance on a secondary carrier which then for some time can reproduce a drug specific activity in water or other solutions. Attention to such opportunities is increased due to the rapid development of new medical technologies, for example, information medicine or energy-information medicine (<http://www.forumenergiemedizin.de/>). It would probably be fair to designate information (energy-information) pharmacology among these technologies.

The above message was a prerequisite for our research. They are based on the principle of reproduction of low intensive emission natural for BAS, which carrier can be water as well. Such emission is designated as an information copy of IC.

II. STUDIES ON LABORATORY ANIMALS

The study aimed to determine the presence or absence of immunomodulating properties in physiological solution (PS) or boiled water (W) exposed on CDs containing IC as the emission of an antiviral and immunostimulating drug arbidol or IC of the glucocorticoid hormone analogue dexamethasone (dexon), possessing an immunosuppressive property.

A. Study of the immunomodulatory activity of arbidol IC

The starting preparation was provided as a pure crystalline substance of arbidol [16], obtained with the use of patented technology. Immunomodulating properties of boiled water and physiological solution (pharmacy preparation) were studied, which were exposed on a blank CD without IC of arbidol (control) or on a CD containing IC of arbidol (test) obtained through the Internet by the IC Medicals technology.

The tests were performed in laboratory male mice hybrids F1 (CBA x B6) weighing 22-24 g, contained in vivarium conditions with a standard diet. Two experimental groups of mice were subjected to the total effect of ionizing radiation on the 'Luch-1' device in a sublethal dose (not causing death) of 1 Gy. The animals of one of these groups received drinking water for 10 days with free access to a water bowl containing boiled water exposed on a blank CD (EWc). Mice from another group of mice received water in water bowls, exposed for 24 hours on CD with IC of arbidol (EWa). 0.5 ml of physiological solution exposed for 24 hours on a blank CD (EPSc) or a physiological solution exposed on a CD with IC of arbidol (EPSa) were injected intraperitoneally to mice of both groups with for the last 8-10 days. Then the mice of all groups were immunized with sheep red blood cells intraperitoneally at a dose of $1 \cdot 10^8$, after 4 days they were slaughtered by decapitation under ether anesthesia, the spleen and thymus were isolated, homogenized in medium 199, the stroma was separated on a kapron filter. The weight of the organs was estimated, as well as their cellularity (the number of living nucleated cells in the homogenate), and the number of antibody forming cells (AFCs) in the spleen were estimated by the Cunningham's technique, formed as a result of a humoral immune response to the sheep red blood cells. All experiments were performed in a blind design with 7 mice per group and the data reproduction in at least two independent experiments.

The experiment performed revealed the following (Table I, Figure 1). In a group of mice with an immunodeficiency after exposure to ionizing radiation in a sublethal dose of 1 Gy, receiving samples of EWc and EPSc exposed on a blank, CD i.e., without IC of arbidol, the spleen weight, its

cellularity and its AFCs content were reduced in relation to the control group of intact mice, as well as the thymus cellularity. These results reflect the effects of ionizing radiation in the form of disorders in the radiosensitive organs of the immunity system. In the group of mice (1 Gy + EWa and EPSa), which received water and physiological solution exposed on the CD with IC of arbidol (EWa and EPSa, respectively), an increase in spleen and thymus cellularity was noted, as well as an increase in AFCs content in the spleen (an important functional indicator) with respect to the group of irradiated mice receiving EWc and EPSc, practically to the control level.

Consequently, water and physiological solution after exposure on the CD with IC of arbidol gain the ability to restore the state of the immunity system disturbed by radiation. This result may indicate a perspective of the development of the technology under study as a method to reduce the consequences of exposure to ionizing radiation, in particular in radiotherapy of cancer patients or in radiation accidents.

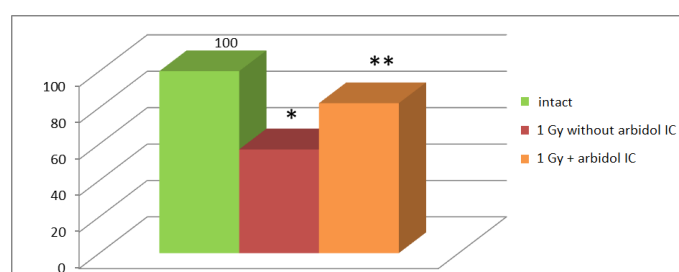


Figure 1. Content of antibody forming cells (AFCs, % to control) in the spleen of intact mice and irradiated (1 Gy) mice not receiving IC of arbidol (EWc and EPSc) or treated with water and physiological solution of IC of arbidol (EWa and EPSa).

B. The study of the immunosuppressive properties of IC of dexamethasone (dexon)

The immunosuppressive properties of boiled water and physiological solution were studied, which were exposed on a blank CD without IC of dexon (control) or a CD containing IC of dexon (test), obtained via the Internet using IC Medicals technology.

The immunosuppressive activity of water samples exposed on a CD without IC of dexon (control) or on two following CD preparation options with IC of dexon was assessed. On CD 1 (direct transfer), the IC of dexon was generated by exposure to low intensity laser radiation (650 nm, power 5 mw) for 2 minutes on a dexon pharmaceutical tablet placed on a CD. On CD 2, the IC of dexone was obtained by IC Medicals technology of DST-fund by remote transfer through the Internet from a technical center.

The experiments were performed on laboratory male mice F1 (CBA x B6) with characteristics and conditions of management corresponding to those used in the study of arbidol IC activity (see above). Methods for assessing the state of the immunity system were the same as in the experiment with IC of arbidol. The difference was that the experiment with IC of arbidol was performed on mice with an immunodeficiency (exposure to ionizing radiation at a dose of 1 Gy), whereas in the IC of dexon test, intact mice were used which were not exposed to any influence.

As shown by the results of the studies (Table II, Figure 2), in the group of mice receiving exposed water from CD 1, the ability to humoral immune response decreases in the form of a decrease in the amount of AFCs in the spleen. In the group of mice receiving water exposed during 24 hours on CD 2 containing the IC of dexon transmitted through the Internet, the spleen weight, its cellularity, the content of AFCs and the cellularity of thymus were reduced. There were no statistically significant differences between the groups with direct transfer and transfer through the Internet. Consequently, water after exposure to CDs with IC of dexon, reproduced both before the experiment and obtained remotely through the Internet, gains the ability to reduce the immune reactivity of intact mice, i.e., has immunosuppressive activity.

Therefore, the IC of dexon induced by laser irradiation of the dexon tablet on CD, or IC of dexon obtained through the Internet using IC Medicals technology, when exposed to water, reproduces the primary property of the chemical substance of dexon, that is immunosuppressive activity, mainly in the form of a decrease in the functional index of the immunity system - the number of antibody forming cells (AFCs) of the spleen.

Table I

IMMUNOLOGICAL INDICES ($M \pm M$) IN CONTROL MICE AND MICE IRRADIATED AT 1 GY DOSE, WHICH RECEIVED IMMEDIATELY AFTER IRRADIATION AT A DOSE OF 1 GY (WITHIN 10 DAYS) IN WATER BOWLS THE WATER SAMPLES (EWc AND EWa) EXPOSED ON CDs WITHOUT OR WITH IC OF ARBIDOL AND INTRAPERITONEALLY EVERY DAY FOR THE NEXT 8-10 DAYS OF 0.5 ML OF PHYSIOLOGICAL SOLUTION EXPOSED ON THE SAME CDs (EPSc AND EPSa).

Group of mice	Spleen			Thymus	
	weight, mg	cellularity, $1 \cdot 10^6$	content of AFCs, $1 \cdot 10^3$	weight, mg	cellularity, $1 \cdot 10^6$
Intact (control)	133±7,8 (100±5,9)	185±10,6 (100±5,7)	221±21,3 (100±9,6)	43,7±4,5 (100±10,3)	67,2±4,2 (100±6,3)
1 Gy + EWc and EPSc	103±2,7* (77,4±2,0)	127±6,5* (68,6±3,5)	126±6,4* (57,0±2,9)	40,6±1,9 (92,9±4,3)	45,3±3,4* (67,4±5,1)
1 Gy + EWa and EPSa	101±4,2* (75,9±3,2)	170±13,1*** (92,0±7,1)	182±18,7*** (82,4±8,4)	46,1±3,2 (105±7,3)	76,7±4,7*** (114±7,0)

Note. Statistically significant ($p < 0.05$) difference according to the Student's test: * - with respect to control; *** - with respect to the group of 1 Gy + EWc and EPSc. In parentheses - % to control.

Table II

IMMUNOLOGICAL INDICES ($M \pm M$) IN MICE WHICH RECEIVED IN DRINKING BOWLS FOR 8 DAYS THE WATER SAMPLES EXPOSED ON THE CD WITH IC OF DEXON.

Group of animals	Spleen			Thymus	
	weight, mg	cellularity, $1 \cdot 10^6$	content of AFCs, $1 \cdot 10^3$	weight, mg	cellularity, $1 \cdot 10^6$
Water from blank CD (control)	139±6,0 (100±4,3)	228±8,6 (100±3,8)	284±14,3 (100±5,0)	46,2±4,2 (100±9,1)	97,3±4,7 (100±4,8)
Water from CD 1 (IC of dexon, direct transfer)	143±10,8 (103±7,8)	225±6,2 (103±2,8)	234±15,3* (82,4±5,4)	54,3±3,4 (118±7,4)	96,0±6,3 (99,0±6,5)
Water from CD 2 (IC of dexon, direct through the Internet)	113±5,1* (81,3±3,7)	168±11,0* (77,1±5,0)	174±27,8* (61,3±9,8)	40,5±2,9 (87,7±6,3)	80,5±3,1* (82,7±3,2)

Note. * – Statistically significant ($p < 0.05$) difference according to the Student's test from the group that received water from blank CD without IC. In parentheses – % to control.

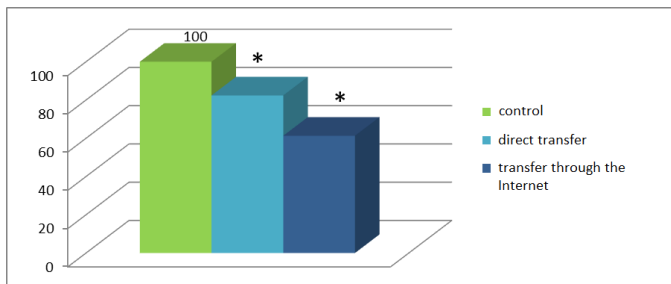


Figure 2. Content of antibody forming cells (AFCs, % to control) in the spleen of mice receiving water without IC of dexon (control), water with direct transfer of IC of dexon, or water with IC of dexon transferred through the Internet.

III. CLINICAL STUDIES

The purpose of our study was to analyze the effect of water from IC of arbidol on health status and the prevention of viral infection in a group of volunteers.

A. Study methodology

The preparation arbidol in the form of IC was remotely obtained through the Internet with the use of IC Medicals technology and reproduced on CDs. The study was performed by the method of vegetative resonance testing (VRT) using appropriate tests on 'Imedis' equipment. The testing was carried out prior to the treatment, while intake of IC recorded on water (1/2 cup) of the preparation, 2 weeks after exposure to the preparation IC and 4 weeks of daily intake of this water.

Two groups of volunteers (3rd year students) were examined, which were randomized by gender, age, concomitant diseases, as 14 people in each group. Subjects in the group 1 received water with IC of arbidol daily for 4 weeks, and subjects in the group 2 received no medications. The study was conducted from September 29, 2011 to October 27, 2011. Methods of control according to VRT methods: assessment of well-being on a visual analogue scale (VAS), study of the indicators of adaptation reserves (AR), photon indices (PI), determining of the most affected organ in a conditional units (c.u.). In addition, a general analysis of urine and blood was performed by traditional methods for clinical laboratory tests.

The normative indices of the parameters under examination: VAS - 100 mm with an ideal state; RA - scale from exhausting to very high is estimated in c.u. from 1 to 10; PI - from 9 to 15 in good condition, the decrease indicates an improvement in the condition; the most affected organ is estimated in c.u., the normal values are 80 c.u., the decrease indicates functional disorders. The remaining indices of traditional laboratory data (hemoglobin - HB, leukocytes - L, erythrocyte sedimentation rate - ESR) had quantitative characteristics corresponding to the norm.

B. Study results

According to the general characteristics of the state of health at the time of the beginning of the studies in each of the groups 1 and 2 there were 3 people infected with an adenovirus infection with complaints of runny nose, having reduced working capacity. During the first 20 days, newly diagnosed patients were not revealed in the group 1, whereas in the control group (group 2) 6 people became ill during this period. The patients of the group 1, who took water with IC recovered within a week.

For preliminary evaluation of the effect of the drug in both groups, primary testing was carried out according to VRT methods, which revealed (Table III, Fig. 3-6) that in both groups, in 80% of patients the VAS parameters were normal (55-64 mm). The adaptation reserves (AR) were medium, in 10% they were good, and in 10% they were depleting. Photon indices (PI) initially in both groups fluctuated within 12-15. The functional state of the organs corresponded to the norm.

After the IC influence, the VAS health indicators increased most significantly to 75.0 ± 4.8 mm by the day 28 of observation in 93% of the subjects compared to the baseline level (Table III, Fig. 3). Also, the reserves of adaptation (AR) increased to good values, in 7% patients they remained medium, whereas in the control group by this time they were reduced (Table III, Fig. 4). Photon indices (PI) after exposure to IC in the group 1 achieved a significant decrease to 10-12; in the control group, similar parameters did not change during all periods of observation (Table III, Figure 5).

Against the background of regular intake of water with IC according to the tests of assessment of the state

of organs on the 'Imedis' equipment in group 1, there was an improvement in the affected organs and even a complete restoration of their functional activity, including restoration of the cellular immunity indices.

At that, in the control group (group 2) there was a decrease of the indicators of the most affected organ, compared to the group 1, which indicated organ functional insufficiency in the period of viral infection (Table III, Fig. 6).

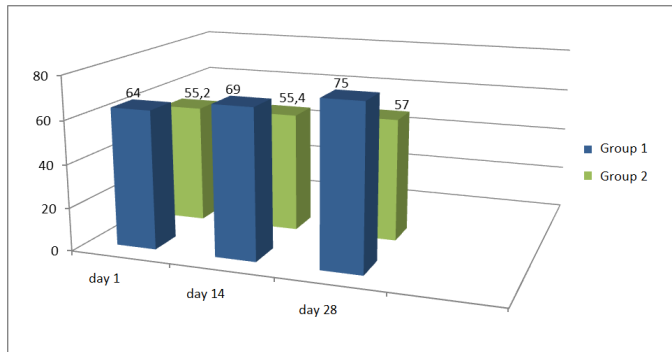


Figure 3. Dynamics of the VAS score (mm) in the groups 1 and 2 of the subjects.

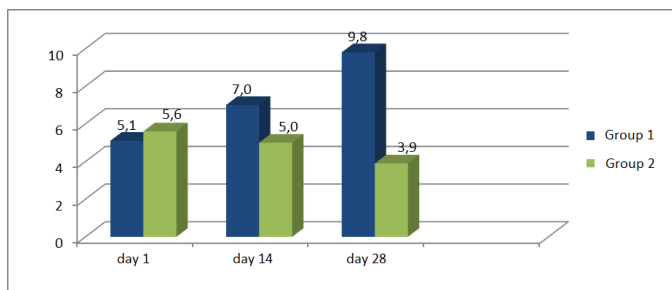


Figure 4. Dynamics of the indices of reserves of adaptation (c.u.) in the groups 1 and 2 of the subjects.

Thus, the intake of IC of arbidol for 2 weeks was accompanied by a positive dynamics of all the studied parameters (Table III, Fig. 3-6). A persistent positive effect is achieved after 4 weeks of taking IC.

When analyzing laboratory blood tests (HB, L, ESR), no statistically significant differences were found in both groups, but in the two examined patients while intake of water with IC of arbidol, urine protein disappeared, in three patients the initial changes in the total blood count were normalized, which enabled to assume the possibility of a positive effect of IC on the primarily altered blood and urine indicators.

In the course of follow-up, the subjects examined for general indicators did not complain, there were no exacerbations of chronic infections. One examined patient had inflammation of the gum, an enlarged lymph node on the side of the lesion. However, the general well-being of the patient was good, the reserves of adaptation were good, the parameters of the most affected organs did not change, while initially low immunity parameters were restored. It

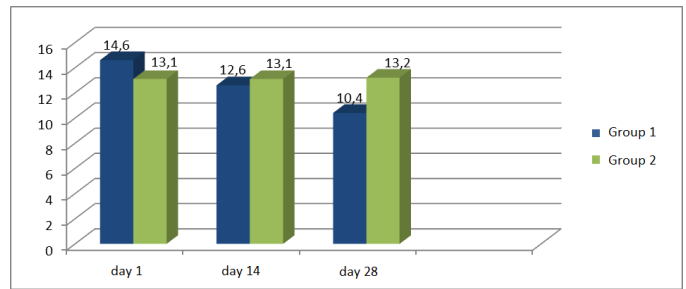


Figure 5. Dynamics of values of photon indices (PI) in the groups 1 and 2.

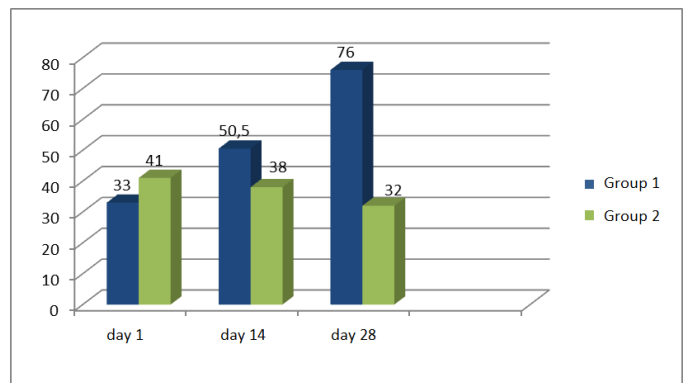


Figure 6. Dynamics of indices of the most altered organ (c.u.) in the groups 1 and 2.

should be noted that this patient initially had adenovirus infection and depletion of the adaptation reserves, which allowed this observation to be attributed to a positive response to IC treatment.

In the control group, one of the observed patients had a viral infection twice during the study period. Within 4 weeks, 7 of the observed patients had acute respiratory viral infection, while they revealed a decrease in the reserves of adaptation, the appearance of additional indicators with reduced functional activity of the organs, exacerbation of chronic diseases (pyelonephritis, bronchitis, sinusitis, otitis).

Thus, the results of the study demonstrate an improvement in the functional state of the volunteers examined while intake of water with IC of arbidol, which, along with the evaluation by VRT tests, was also reflected in the increase in immunity, the prevention of viral infection in the autumn period, etc.

IV. DISCUSSION OF THE RESULTS

Comparative studies of efficiency of information technologies, in particular the transfer to neutral carriers of IC of medicines, demonstrate the following. The data obtained in animal experiments indicate that IC of arbidol and IC of dexon reproduce in the water the primary pharmacological properties of these medicinal substances, that is the ability to stimulate or inhibit the immune reactivity of laboratory animals.

The results of clinical observations on volunteers set forth herein confirm the efficiency of IC of arbidol in the

Table III

THE PARAMETERS UNDER STUDY ($M \pm m$) IN THE EXAMINED (GROUP 1 WITH IC OF ARBIDOL) AND CONTROL (GROUP 2 WITHOUT IC) GROUPS.

Term of observation, group	VAS, mm	AR, c.u.	PI	The most affected organ, c.u.	Traditional parameters		
					HB, g/L	L · 10 ⁹ /L	ESR, mm/h
Day 1, group 1	64,0±5,4	5,1±0,6	14,6±0,9	33,0±6,8	128,5±4,4	6,0±0,8	10,2±2,4
Day 1, group 2	55,2±14,8	5,6±3,8	13,1±1,8	41,0±8,8	124,0±5,7	5,3±0,6	11,0±3,8
Day 14 (+ IC), group 1	69,0±4,5	7,0±1,1	12,6±1,2	50,5±5,6	-	-	-
Day 14, group 2	55,4±9,8	5,0±2,3	13,1±1,6	38,2±6,9	-	-	-
Day 28 (+ IC), group 1	75,0±4,8*	9,8±0,2*	10,4±0,4*	76,0±4,2*	130,0±3,8	6,4±0,7	10,4±1,9
Day 28, group 2	57,0±15,7	3,9±2,6**	13,2±2,3	32,0±9,8**	129±5,4	5,5±1,2	10,0±2,9

Note. Statistically significant difference by the Student's test ($p < 0.05$): * – relative to the initial data; ** – relative to group 1.

form of water exposed to the IC of this substance. Regular intake of water samples from IC of arbidol reduced the incidence of viral infections and increased the physiological parameters of the body.

Despite the fact that the biological efficiency of the information technologies discussed here was repeatedly reproduced in physical, biophysical, biochemical experiments in vitro and in vivo, was confirmed by numerous therapeutic observations of patients taking water with IC of medicinal preparations, the scientific community does not hasten to recognize their scientific and practical significance. There are several reasons for this.

According to the very stable tradition in the science, all the physiological and pathological processes in the body are generally explained by molecular transformations, that is, chemical reactions. These reactions, as is known, obey the law of the mass action, which was discovered back in 1864 by the Norwegian scientists K. Guldberg and P. Vaage. Over the past century and a half, quite a lot of facts were accumulated, that are not consistent with this law, at least in biology and pharmacology. Nevertheless, this law dominates, because it meets practical requirements with clear quantitative criteria of molecular transformations, not only in vitro but also in vivo to a great extent. The idea of the possibility of biologically active substances to carry out its activity with respect to living organisms through their inherent emissions, including remotely, is often shocking, and is sometimes completely rejected.

Meanwhile, it is appropriate here to mention the statement by Albert Einstein: "Matter and emission, according to the special theory of relativity, are only special forms of energy distributed in space; thus, a weighty mass loses its special position and is only a special form of energy" (1920).

The 'intensification principle', which was formulated by the well-known theorist of biology, N.V. Timofeev-Resovskiy [17], is also related to the problem under consideration here. In accordance with this principle, with a certain broad understanding of it, the biological consequence of effects of the external factor on the organism/organisms and populations can not only not have a quantitative relationship, but also exceed them substantially. In our

case, this is manifested in particular in the fact that no quantitative dependence of the effect on the duration of exposure of substances to laser radiation was recorded in the experiments, as well as the duration of exposure of water to the IC of the preparations.

Undoubtedly, the mechanisms of the phenomena under consideration need further study on an interdisciplinary scientific basis.

The nature of the ICs remains unclear, which are responsible for the specificity of the biological activity of the preparations. If in earlier studies the results of experiments with various variants of IC of BAS were explained by the electromagnetic nature of this phenomenon, nowadays there are more and more statements that non-electromagnetic components can participate in it. An alternative hypothesis about the nonlocal nature of the phenomena under consideration, for example, quantum entanglement in macro systems, is gaining credibility.

Observations are not enough to establish the dependence on the chemical structure of the substance of the biological activity of IC transferred to neutral carriers.

The mechanisms of implementation of the effects of BAS in the body in the form of IC, and their achievement respective targets are of particular interest. The absence of answers to these and other probable questions nowadays should not serve as a basis for excluding the phenomena considered here from the group of relevant scientific trends worthy of an objective and comprehensive study.

As the study results presented here and described previously [18], [19], information (energy-information) pharmacology also applies to such trends.

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