The effect of low-intensity radiation on biological objects

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All the space around us is permeated with electromagnetic radiation. At the same time, scientists from different countries became interested in the electromagnetic or wave theory of the interaction of biological objects. In 1943, the famous German physicist W. Schrödinger expressed the idea that all living matter has a quantum nature - it emits and receives certain electromagnetic waves. In 1948 the Russian scientist A.G. Gurvich wrote the book "Principles of Analytical Biology and Theory of Cellular Fields", where he substantiated the theory of the biological field. In 1977-1988. German scientist G. Fröhlich theoretically substantiated and obtained experimental evidence of the fact of generation of alternating electromagnetic fields by living cells. In 1977 F. Morel and E. Rasche proposed a device for diagnostics of these fields.

Experimental clinical studies followed the theoretical justification. A number and of authors have shown that living objects have, firstly, the ability to generate their own radiation and, secondly, they themselves respond to external irradiation [10] and even interact with each other by radiation [20].

One of the mechanisms of the effect of low-intensity radiation on biological objects is the effect of living objects on the aquatic environment. Particular attention should be paid to the analysis of the "re-radiation" effect - the ability of a pre-irradiated liquid to emit electromagnetic waves for a certain time after the termination of irradiation at the training frequency, i.e. "Memory of water", which manifests itself after preliminary exposure to electromagnetic radiation. In other words, the water “remembers” the fact of its irradiation even after the generator is turned off. This property of water and aqueous solutions has been experimentally confirmed in studies [7, 9].

The role of amino acids and peptides in the perception of the informational component of low-intensity radiation in aqueous solutions has been shown experimentally [18]. Luc Montenier carried out an experiment to recreate DNA in a test tube with peptides, amino acids by re-radiation from a test tube where this DNA was present. In the experiment, there were 98% identical (2 nucleotide differences) out of 104 sequences. This experiment proved to be highly reproducible with a DNA sequence from the bacterium Borrelia burgdorferi, the causative agent of Lyme disease. This work shows that aqueous nanostructures and electromagnetic resonance can capture and reproduce DNA information.

Works on the experimental effect of low-intensity radiation on biological objects have been published in the literature. An increase in barley yield [6], an increase in the weight of chickens [2], an increase in the antioxidant properties of eggs, an effect on the growth of microorganisms, the reproduction of molds, inhibition of the growth of Candida albicans against the background of information water with amphotericin B [3, 21] have been shown. The authors observed a change in glucose when the effects of information drugs [18], lipids, CPK rats [17], the effect on cell metabolism [16], coagulation and anticoagulation parameters [19].

In the works of B.P. Surinov showed an increase in the immunocompetent cells of mice on the introduction of an information solution of arbidol and a decrease - on the introduction of an information solution of dexon [8].

A number of works have been published on the clinical application of bioresonance frequencies in gastritis [13], sepsis [4], immune pathology [5], cardiovascular diseases [1, 14], diseases of the musculoskeletal system [15].

Methods for monitoring the presence of radiation and their characteristics are proposed: impedance spectroscopy, absorption spectroscopy, thermoluminescence analysis.

The changes taking place in the tissues can be explained with the help of: 1. The effect of bioresonance. The resonance area is rather narrow, and the resonance frequency can change depending on the state of the biological object, the type of pathology, as well as as a result of various external influences on the body.

2. Influence on the diffusion of K and Na [9]. The effect was attributed to the alleged a change in the passive permeability of membranes and a change in the activity of the Na pump. In addition, it was shown that a change in the electrical activity of cell membranes is accompanied by an increase in Ca2 + and K + -currents.

3. Exposure to radiation on liquid media leads to the activation of membranes mitochondria, leading to the intensification of biochemical processes in the cell, structural rearrangements of erythrocyte membranes, which leads to an increase in LPO activity and an increase in the number of reactive oxygen species and radicals of organic molecules. As a result of cellular reactions to radiation, the following is observed:

- changes in the body's immune status;
- reactions of the neuroendocrine system;
- changes in the permeability of blood capillaries;
- anti-stress action;
- anti-edema effect;
- analgesic effect;
- anti-inflammatory effect.

Currently, there are a number of hypotheses regarding the mechanisms of action of low-intensity radiation: biophysical, biochemical, molecular structural changes in cell membranes. Biophysical associates biological action with the interaction of electromagnetic waves with cell fields [10–12]. The biochemical level is associated with an increase in antioxidant activity, effects on metalloproteinases [16]. Conformational transformation of molecules leads to biosynthetic processes in the body [9].

Thus, living systems are capable of emitting and acting with the help of this radiation on other objects. The impact is realized through water systems and has a healing effect.

This phenomenon opens up new horizons in the diagnosis and treatment of patients and requires detailed study.

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