Effects of electromagnetic fields on the organism

Electromagnetic field

An electromagnetic field is a physical field that corresponds to the degree of action of electric and magnetic forces in space. It is composed of two interconnected fields, electric and magnetic. Although the electromagnetic field is infinite, usually only that part of it is considered, which is important for the movement of bodies in the vicinity of the charged body that creates the field.

Effects of non-ionizing EMF

The effects of EMF are divided into thermal and non-thermal, i.e. those effects that are caused by an increase in temperature as a result of absorbed EM energy, or to the direct effects of EMP. However, this division is only possible on a theoretical level, in real practice these two types of EMF effects are practically inseparable.

The thermal effects of EMF are already very well-mapped and widely used in medicine for various therapeutic applications in oncology, cardiology, urology, surgery, physiotherapy, etc.

Non-thermal effects of EMF, in the form of research projects and extensive statistical studies, the scientific community tries to identify not only potential risks (i.e. adverse effects of EMF) but also positive effects that could be used for therapeutic purposes.

EMF and a living organism

A person standing under a power line is exposed to an electrical voltage gradient, but also exposed to a magnetic field, both types of fields produce biological effects. Nevertheless, a magnetic field is able to penetrate living tissue more easily than an electric field, therefore such a flow becomes highly harmful to humans and other living creatures.

Man alone is a pretty effective EMP generator. From Planck's radiation law, it can be determined that an adult person radiates an EMF power of approximately 100 W to their surroundings. According to this law, EMF is emitted by all living and non-living objects. It is clear, however, that the diverse effect of EMF on biological systems, which must necessarily exist, is primarily of a physical nature.

Adverse effects

Several hypotheses are currently in the forefront of research teams' interest, the most closely watched is probably the effect of EMP on the so-called **BBB** (ie Blood-Brain Barrier). It appears that EMF can reduce the function of this barrier that protects brain tissue against harmful substances. This can lead to a reduction in the number of brain cells and therefore also to a certain threat to a person who is in an EMP. On the other hand, this effect opens the way to the possibility of applying chemotherapy to brain tumors. This is normally very complicated due to the BBB. But even this hypothesis is still "waiting" for its definitive confirmation (study by Zakirjon Kanokov).

For example, the fact that the brain of a mobile phone user shows a shorter reaction time when the mobile phone is active than when it is switched off is a well-known and already experimentally scientifically confirmed fact. However, this well-known fact has not yet been satisfactorily explained.

Another problem is the formation of deposits of harmful organisms in the lungs and on the skin. Over 90% of airborne particles are in the size range (less than 1 micrometer) that can be negatively affected by artificial EMFs. While harmful organisms can remain in the air practically indefinitely, their accelerated deposition in the lungs and on the skin can be significantly affected by the effect of electromagnetic fields, especially if they are located near oppositely charged artificial surfaces. The pulmonary deposits of these unfavorable organisms can therefore be expanded under the influence of an electric charge. Studies indicate one of the likely indirect mechanisms by which EMFs in the atmosphere could significantly affect the quality of the environment and human health. It is not just the spread of epidemics of viral diseases. According to other theories, persistent toxic deposits of various types in the body are behind the vast majority of chronic civilization diseases, which modern medicine is practically unable to deal with (from a study published in the journal "Atmospheric Environment").

All other conjectures about the harmfulness of EMF have been refuted by the latest studies.

Links

Source

- studies by Zakirjon Kanokov
- studies published in the journal "Atmospheric Environment"
- HW.cz (https://www.hw.cz//)