

The irradiation of magnetic field exposure time 90, 180 and 270 min relations clotting time and recalcification time not constitute a «Generalized Golden Section». Consequently, the system of coagulants in this case tends to a stable equilibrium state and is far from the norm. The value obtained for the exposure time 270 min, coincides with the «antinode» 0,741, which indicates the presence of active disease process.

Thus, the presence of «generalized golden sections» in the relationship between the clotting time of blood and recalcification time, points to the tendency of the system coagulants to sustainable equilibrium in the case of EHF EMR exposure and the magnetic field with shielding shungite and irradiated EHF EMR with increasing exposure time (180 and 270 min).

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**EFFECT OF CONCENTRATION
ULTRALOW 1,5-BENZODIAZEPINONA-2
ON THE PAIN THRESHOLD IN RATS
INTOXICATED WITH THEIR ORGANISM
CADMIUM CHLORIDE**

Koreniuk I.I., Gamma T.V., Katiushyna O.V.,
Epishkin I.V., Khusainov D.R., Shylina V.V.,
Cheretaev I.V., Kolotilova O.I.

*Taurida National University Vernadsky, Simferopol,
e-mail: oxakat@yandex.ua*

Certain substances benzodiazepine are found to retain their specific effect in the range of ultralow concentrations (ULC) from 10–14 to 10–12 M without the side effects. Moreover, the magnitude and direction of their action depends from the dose of the substance as well as the functional state of the organism. For example, increasing the concentration of heavy metals in the body significantly alters its response to the effects of various pharmaceuticals. The aim of this work was to study the effect of 1,5-benzodiazepinon-2 (1,5-BDA) at the ULC on the pain threshold in rats against the background of cadmium chloride intoxication. The investigations were carried out on 70 white outbred male rats weighing between 230–250 grams. Control group of rats was injected with saline. Three groups of rats were injected during seven days intraperitoneally by cadmium chloride at a dose of 1 mg/kg, modulating accumulation of the metal in the organism tissues. Then these three groups and three groups of rats without intoxication were administered 0,2 ml of 1,5-BDA at concentrations 10–12, 10–13, 10–14 M. Analgesic effects were detected in the test «electrical stimulation», where the threshold of pain (TP) was determined. The results of the experiments were calculated statisti-

cally using Mann-Whitney U test. Under the action of 1,5-BDA at concentrations 10–12, 10–13, 10–14 M TP increased by 54, 48, 71 % ($p \leq 0,05$), respectively, compared with the control, that is evidence of the presence analgesic effect of 1,5-BDA at the ULC. The intoxication of the cadmium chloride resulted decreasing pain sensitivity (TP increased only by 45%), against the background of cadmium chloride intoxication the introduction 1,5-BDA increase even greater TP at all tested doses: by 169, 173 and 222% ($p \leq 0,01$) in comparison with the control. Also BP of these groups increased in comparison with the effect of the cadmium chloride by 124, 128 and 177% ($p \leq 0,01$) respectively. Thus, we have found that 1,5-BDA had analgesic effect at the ULC and dose-dependent analgesic effect was even more pronounced against the background of cadmium chloride intoxication.

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**HOW TO GIVE UP SMOKING ON YOUR
OWN PIECES OF ADVICE TO SMOKERS
AND SURROUNDING PEOPLE NEW
METHODS OF STRUGGLE AGAINST
SMOKING**

Lukyanenok P.I.

*Institute of Cardiology of the Siberian Branch
of the Russian Academy of Medical Sciences, Tomsk,
e-mail: paul@cardio.tsu.ru*

Smoking is one of the major risk factors of cardiovascular and oncological diseases, it continues to cause irreparable harm to human health. The fact that smoking shortens life is undeniable, and it is now recognized by the majority of researchers.

Despite a lot of achievements in the fight against smoking, it is not so simple to overcome this habit. According to the data of the Institute of Cardiology of the Tomsk Scientific Centre of the Russian Academy of Medical Sciences, smoking prevalence for men constitutes 70% among women – 8%. These high figures point, on the one hand, to the cultural and social level and, on the other hand, the lack of effectiveness of existing ways to combat smoking.

This is partly due to the fact that anti-smoking techniques such as acupuncture and its varieties, psychotherapy, the use of drugs (unfortunately, not always accessible to the population) are not without side effects and often require a lot of time as well as repeated cumbersome courses of treatment.

The proposed way to combat smoking is addressed directly to a smoker; it is harmless and aimed at providing positive motivation, reinforcing the negative personal attitude of the person to smoking. It always clearly defines the position of the surrounding people.

Simplicity and availability of the method, its fundamental difference from other existing approaches allows us to recommend it for both the medical staff and patients themselves. The author hopes that his work could help beginners as well as experienced smokers to give up smoking. His task will be fulfilled, if this technique can add, at least, a small part of those who have read this brochure to «the galaxy» of non-smokers and therefore healthy people. To reach a larger audience, the author publishes it at once in the Russian and English languages. It should be noted that the higher the person's educational is, the better this technique works. At the present moment, during 25 years of its use hundreds of people managed to give up smoking on their own.

The author will be grateful for constructive comments of his readers and asks them to send letters and reviews as well as possible questions to the following address:

Lukyanyonok Pavel Ivanovich, RAE Professor Laboratory of Magnetic Resonance Imaging, e-mail: paul@cardio.tsu.ru; Lukans@yandex.ru.

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THE INVESTIGATIONS OF THE INFLUENCE OF THE TWO TYPES OF THE MAGNETIC STORMS ON THE HUMAN ORGANISM

Sterlikova I.V.

*Murom Institute, branch Federal State Budgetary
Educational Institution of Higher Professional
Education «Vladimir State University named
after Alexander Grigoryevich and Nikolay Grigoryevich
Stoletovs», Murom, Vladimir region,
e-mail: oid@mivlgu.ru*

The present work was carried out at the project of the International Geosphere-Biosphere Programm «Global changes». According to the resolution of the General Assamble of the International Council of the Science Unions in Bern in 1986 IGBP became by the continuation of the programmes «International Geophysical Year» (1957) and «Human being and biosphere» (1980). A study of the problems of the sun-biological relationships was first begun by A.L. Tchizhjevsky [1]. The investigations of the influence of the sun activity on the human organism were undertaken later [2, 3] regardless to the concretic magnetic storm.

The present article reports statistical results of the treatment of the medical and geophysical data. The medical data were taken from the station of the first medical aid. The station of the first medical aid is located in Murom of the Vladimir region that corresponds to the middle geomagnetic latitude

around 53°. The geophysical data were taken from the middle latitude geophysical observation Borok in Yaroslavl region. The observation is located on the same geomagnetic latitude 53° and on the same geomagnetic meridian 111°, which crosses Karelia and Scandinavia. Murom and Borok may be found in the projection of the plasmasphere on the Earth's surface under the specific geophysical conditions. The plasmasphere is one of the regions in the structure of the Earth's magnetosphere. The plasmasphere is subject to dynamics depending on the geomagnetic activity. According to [4], the intensification of the high frequency oscillations of the magnetic field of the Earth (the high frequency geomagnetic pulsations) takes place in the plasmasphere. A systematic study of the geomagnetic pulsations in Russia was begun since International Geophysical Year [5].

The medical data given in the article contains the recordings of the call time of the first medical aid in connection with sudden attack cardio-vascular and neuros diseases. Analysis is made in each variety of the following cardio-vascular diseases: chronic ischemia diseases of heart, hypertonia diseases, hypertonia crisis, stenocardia, myocardial infarction and in the each variety of the following neuros diseases: vegetative-vascular dystonia, neuro-circulatory dystonia, bronchial asthma, myoneurasthenia, mental affection, psychosis, schizophrenia, insult. The medical data were chosen in accordance with the concrete magnetic storm because of the each case of the magnetospheric substorm is individual and does not repeat, according to [6]. The medical data were analysed in three time intervals: before the magnetic storm, during the magnetic storm, after the magnetic storm.

The geophysical data contain the information on the magnetic storms: the time of beginning of the storm, duration of the storm, the types of the magnetic storms (recurrent or flash), their particulars. Moreover they contain the information on the index of the geomagnetic activity and also the recordings of the geomagnetic pulsations. Only the high frequency geomagnetic pulsations (1-10 Hz), whose rhythms have coincidence with the human biorhythms, were chosen from the number of the known geomagnetic pulsations originated in the magnetic storm (substorm). The geomagnetic pulsations to be distinguish among the others pulsations are continuous pulsations Pc1 (pearl). The generation of Pc1 may accompany the magnetic storm and also it may be observed after the magnetic storm on a third-seventh days-nights. It is possible that they have a different mechanisms of the generation. It is possible, the fact is a reason of the different reaction of the human organism on the generation of Pc1. The instantaneous reaction of the human organism, expressed in the sudden attack of the cardio-vascular diseases or neuros diseases are observed during of the flash