

RESEARCH ON VARIATIONS IN SOME ELECTROPHYSIOLOGICAL CHARACTERISTIC DATA OF ACUPUNCTURE POINTS IN EXPERIMENTAL ANIMALS PUT UNDER DIFFERENT ATMOSPHERE PRESSURE

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There is scarce literature information on the issues of electrophysiological parameters of acupuncture points, and changes these parameters undergo as a result of the impact of various factors. According to the literature the acupuncture points are characterized by reactance, capacity, inductance, conductivity, thermal radiation and semiconductor effect. Changes in some of these parameters, reactance and thermal radiation, have a definite diagnostic importance for the practice of acupuncture. The purpose of this research was to study the changes in some parameters of acupuncture points (reactance and semiconductor effect), and general electrophysiological parameters (antenna effect and electromagnetic radiation in the radio range) as well in animals placed at a stressful situation with respect - hyperbaric hyperoxia and hypobaric hypoxia. The experimental study was conducted with rats and rabbits. Animals were subjected to different regimes of hyperbaric and hypobaric air. Relevant parameters were examined before and after loading. The results received during the examination point to closely relative quality changes in both extreme loads. This gives grounds to assume for the presence of a similar nature in the body energy exchange with the environment in both extreme loads too. On the other hand the results are good basis for further studies of used electrophysiological parameters. In addition these results confirm the change in some parameters of the acupuncture points, which in turn has serious grounds to seek a direct link between the Eastern (Chinese) theosophical teachings and modern medical science.

Key words: acupuncture points, electrophysiology, semi-conductor effect, antenna effect, hyperbaric hyperoxia, hypobaric hypoxia

Biologically active points (BAP) according to the literature are characterized by a number of electrophysiological and physical parameters, such as reactance, inductance, capacitance, conductivity, semiconductor effect, temperature radiation etc. It is not known enough about the dynamic changes of these parameters under different conditions still. However, there is sufficient evidence and reason to assume that changes in these parameters have a direct connection with the processes in organs and body parts whose representatives are the relevant BAP. For example, lowering the resistance and temperature rise in the points in comparison with the surrounding tissue has important diagnostic significance in electroacupuncture therapy. Accumulated in recent years data provide serious grounds to adopt a working assumption that the organisms communicate with the environment through electromagnetic phenomena in certain frequency ranges, and the acupuncture points are the biologically active agents in such type of communication. This phenomena suggests the possibility of using electromagnetic radiation in certain frequency bands from the body and antenna effect of the body in order to obtain more complete information about the general state of experimental animals.

Biologically active corporal point Ying-Tang in traditional Chinese medicine is considered to be the major energiser of

the body (the gateway to the temple - from Chinese). It is used mainly for treatment to restore energy relationships in the body.



Figure 1. Localisation of corporal point Ying-Tang in rats

Biologically active auricular point Sheng Men (Door to heaven from Chinese) is one of the most common biologi-

cally active points. It is believed that this point has a serious impact in the treatment of various pathological abnormalities, including respiratory and cardiac diseases, pain, inflammation, dysfunctional states, general stimulating effect and others.

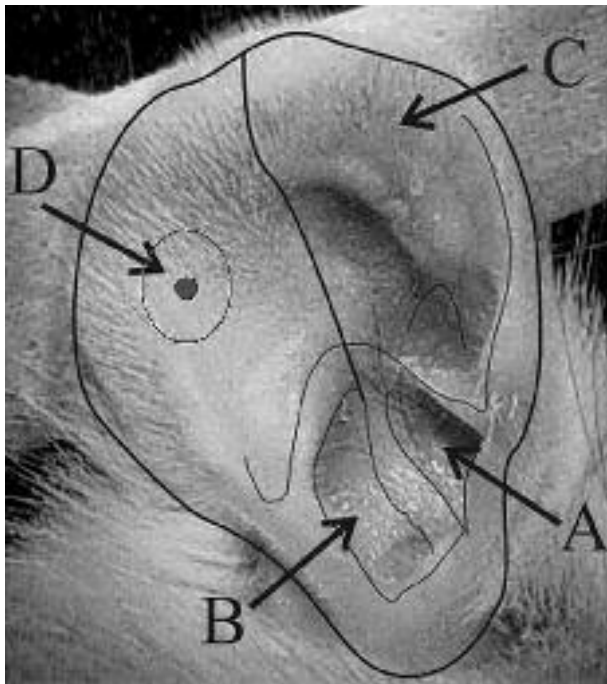


Figure 2. Location of auricular point Sheng-Men in rats

Biologically active auricular point Sheng Men (Door to heaven from Chinese) is one of the most common biologically active points. It is believed that this point has a serious impact in the treatment of various pathological abnormalities, including respiratory and cardiac diseases, pain, inflammation, dysfunctional states, general stimulating effect and others.

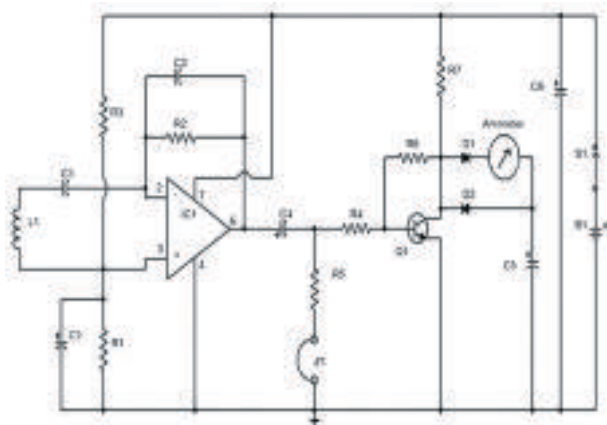


Figure 3. Biosensorial detector for electromagnetic radiation

In the second experimental setup research was conducted with 30 white nonbreed rats of both sexes with an average body weight 170 g. Animals were divided into 5 groups

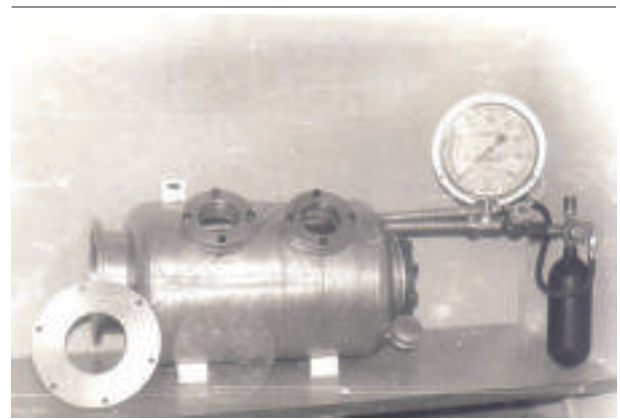


Figure 4. Hyperbaric chamber MKBK – 42

that undermine the response to hypobaric hypoxia: 830 hPa equal to 1500 m above sea level, 710 hPa - 3000 m above sea level, 480 hPa - 6000 m, 320 hPa - 8850 m and 220 hPa - 12,000 m. Speed of decompression and recompression in the chamber for all groups - 50 hPa / min, exposure time - 15 minutes. Before and after loading in all animals the electrophysiological parameters of antenna effect were traced.

The obtained results were processed by variance analysis.

RESULTS AND DISCUSSION

The results of studies of animals from the first experimental setup with hyperbaric load are set as follows:

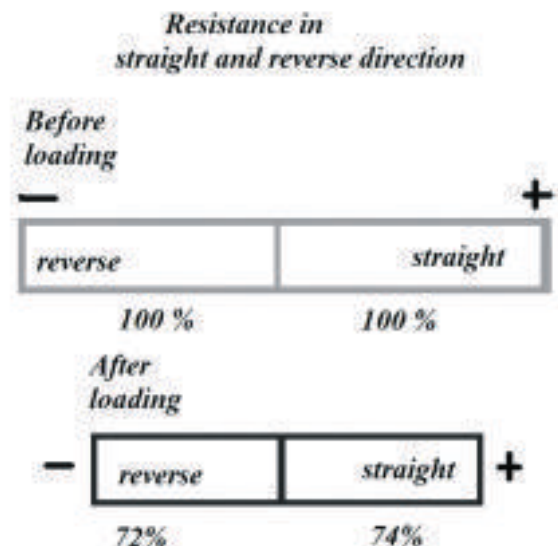


Figure 5. Resistance in a straight and reverse direction under hyperbaric pressure.

The changes of resistance the in straight and reverse direction and the resulting changes in the semiconductor effect under hyperbaric pressure in our opinion are evidence for increased getting into contact of the BAP with the energy sources of the environment. Increasing of the antenna effect

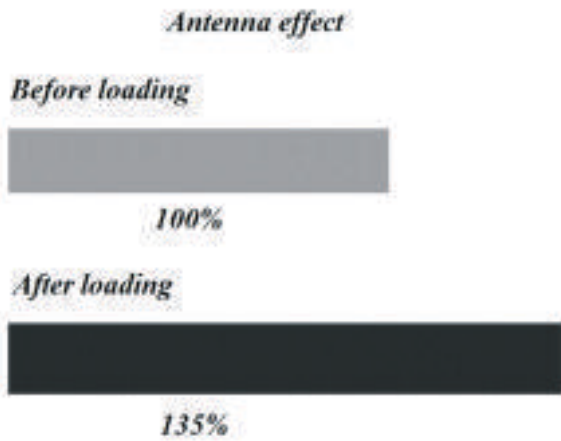


Figure 6. Antenna effect under hyperbaric pressure.

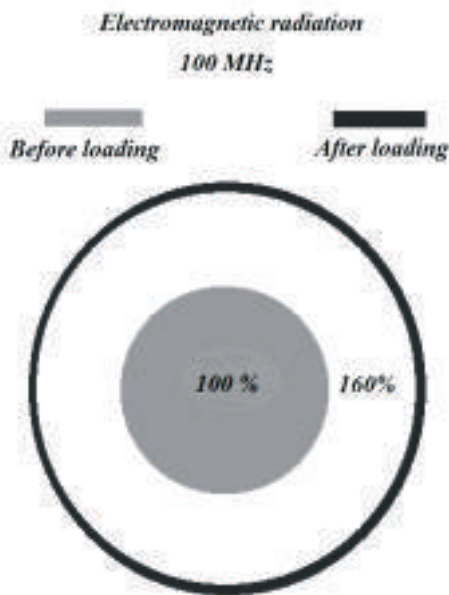


Figure 7. Electromagnetic radiation under hyperbaric pressure.

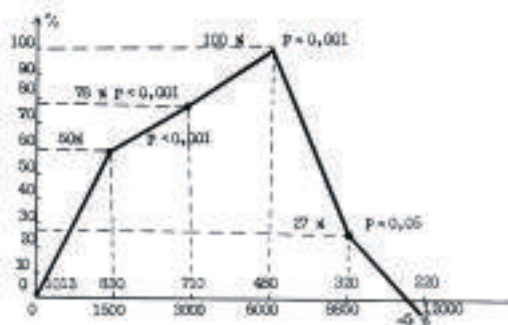


Figure 8. Antenna effect in response to hypobaric hypoxia

and the electromagnetic radiation suggest an increased communication with the environment in the electromagnetic spectrum range of 100MHz. In animals subjected to different modes of response to hypobaric hypoxia is seen

that the greatest changes are in the antenna effect at 6,000 meters above sea level - 480 hPa. Proceeding from the notion that antenna effect could be considered as a criteria for communicative capabilities of the organism with environmental energy at a given radio range, we can say that communicative opportunities are higher at a pressure of 830 to 480 hPa (1500 to 6000 m above sea level).

CONCLUSIONS

1. There were credible changes in the values of the antenna effect of different modes of response to hypobaric hypoxia, the biggest of these changes are from 1500 to 6000 m asl.
2. There were significant changes in the values of electrophysiological parameters measured in animals exposed to hyperbaric stress where despite the lack of statistical reliability there is a serious trend in all animals to change the parameters.
3. In two disparate impact on different states between unpaired animals - response to hypobaric and hyperbaric pressure - in practice the deviations in the studied parameters are at common mode.
4. The results raises serious questions for further investigating about the communicative possibilities of experimental animals in the electromagnetic spectrum range.

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