

# Influence of small doses of non-contact activated vodka on bioelectric activity of brain

Krivosogova M.A.<sup>1</sup>, Pronichev I.V.<sup>2</sup>, Shironosov V.G.<sup>3,4</sup>, Kazankin D.S.<sup>3</sup>

<sup>1</sup>Student Construction Department "Resonance"

<sup>2</sup>Department of anatomy and physiology of humans and animals

<sup>3</sup>UNTS "RT" Udmurt State University, Russia, Izhevsk, <http://v4.udsu.ru/science/untsrt,svg@uni.udm.ru>

<sup>4</sup>Research Center "IKAR", Russia, Izhevsk, <http://www.ikar.udm.ru> [ikar@udm.ru](mailto:ikar@udm.ru) )

Materials of the I International Conference "Water state in biological and model systems",  
December 20-21. - Tver, 2007. p. 126-129

The abstract concerns a topic of current importance –non-contact modifications of liquids with unique physical, chemical and consumer properties. We used the non-contact method [1] of spirit solutions conversion in a thermodynamically non-equilibrium state, without addition of foreign substances. In terms of physiological effect, the received solutions acquire properties of chemical antioxidants with negative redox potential (ORP). Thus resonant cluster structures are formed in water environments, which can be measured using emf measuring devices with the help of resonance and the method of Doppler tomography [2, 3].

The well-known beneficial properties of red wines for health is attributed to the fact that they contain natural flavonoids, basically anthocyanins. Anthocyanins are responsible for color and powerful antioxidant properties of red wine. The main feature distinguishing anthocyanins is their ability to form resonant structures at various pH [4].

If living beings consume vodka containing no antioxidants, the character of redox reactions changes. The major cascades of biochemical reactions are blocked due to surplus of restored nicotinamide coenzymes. If artificial [5] (such as microhydrin) or natural [4] (such as dihydroquercetin) antioxidants are added into ethanol, a marked tendency appear to normalize these parameters . The effect can be explained by activation of lactate gluconeogenesis reactions which is intensively generated during oxidation of ethanol. In particular, gluconeogenesis strengthens the detoxicant function of the liver, and also restores carbohydrate components of membranes glycoproteids by protecting them from diluting action of ethanol.

The objective of the present study was to activate vodka by non-contact method and to investigate its physiological effect on total bioelectric activity of the brain.

**Method of non-contact vodka activation.** Standard polypropylene packages for infusion solutions were filled with 150 ml of vodka each and then put into contact activated environment (0,2 % solution of NaHCO<sub>3</sub>). Activation was carried out by means of the installation "Izumrud-SI" (mod.04s) [6] for a period of one hour. During the process of non-diaphragm electrolysis at constant pH, non-contact changes of redox of vodka were registered from +160 millivolts up to -140 millivolts ( $\Delta$  redox potential  $\sim$  -300 millivolts). Other things being equal, the control packages were placed into an untreated solution of soda. A thermostat maintained equality of temperatures during the control procedure and experiment itself.

An EEG method was applied to investigate distinguishing features of physiological influence of activated vodka on total bioelectric activity of the brain. EEG was done bipolarly with 21- leads while eyes were closed, in symmetric points of the right and the left hemispheres, by means of EEGA-21/26 "Encephalan 131-03 ". The experiments were carried out from February-March, 2007 Sample: 15 students (10 men; 5 females), age 18 ... 22 years, in good health. The effect of the reference templates of activated vodka was tested on each examinee in two series. The results were registered according to the following protocol: 1) background state of the examinee - before taking 25 ml of vodka (60 sec); 2) test №1 -

control test right after taking vodka (90 sec); 3) test №2 - control test 3,5 minutes later (90 sec); 4) test №3 - control test 6,9 minutes later(90 sec); 5) aftereffect test - 13,3 minutes since taking vodka (90 sec).

Distinctions adequacy of relative values of rhythms capacity was checked according to Student's coefficient using the program "Statistica 6". The adequate difference for a  $\beta_3$ -rhythm ( $p = 0.004 < 0,05$ ) was found out by comparing the results of tests №1-3 in which activated vodka was used. The adequate distinctions for a  $\beta_3$ -rhythm were also defined by comparison of the series with templates of activated vodka and the reference templates with non-activated vodka (fig.). Adequate distinctions were established: by comparison of the experiment and the reference templates ( $p=0,044$ ) of tests №1; of the experimental template of test №1 and the reference template of test №2 ( $p=0,0032$ ); of the experimental template of tests №1 and the reference templates of test №3 ( $p=0,015$ ); of the experimental template of test №1 and the aftereffect test( $p=0,003$ ).

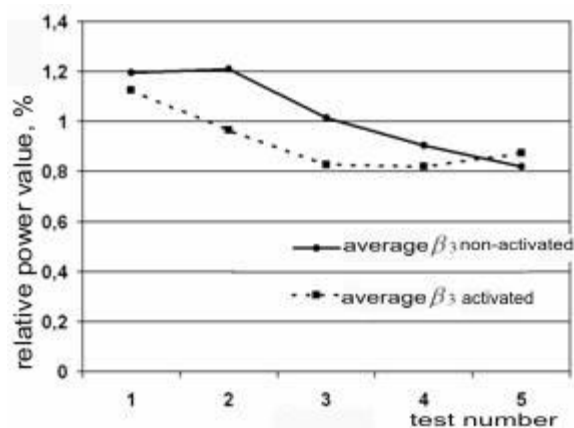


Fig. Average relative values of  $\beta_3$  rhythm capacities (n=15).

Distinctions in  $\alpha$ -,  $\delta$ -,  $\theta$ -rhythms were not significant and were accidental in character. It is well known that small doses of alcohol stimulate CNS, hence, the  $\beta_3$ -rhythm activation received in our experiments has a positive effect since the specified rhythm is registered at wake, in quiet state, at the time of volitional and thought processes, and activated attention and memory.

Thus, the offered method allows to receive non-contact activated vodka with antioxidant properties without addition of extra chemical substances.

### References:

1. Shironosov V.G., Kurganovich V.S. Device for liquids activation . The patent of the Russian Federation 2299859 from 9/19/2005.
2. Shironosov V.G. Method of structured liquid activity. The application for the invention 2007127132 from 7/16/2007.
3. Shironosov V.G., Kuznetsov E.P. Method of detecting cluster structures and microclusters in liquids. The application for the invention 2007127133 from 7/16/2007.
4. Bagkhi D., Sen K.K., Bagkhi M., Atalaj M. Antiangiogenic, antioxidant and anticarcinogenic properties of a new preparation extracted from berries and rich in anthocyanin. // Biochemistry, 2004, volume 69, edition 1, p. 95-102.
5. Consequences of alcohol abuse can be eliminated by means of antioxidants. <http://www.medlinks.ru/article.php?sid=9500>
6. An installation assigned for non-contact liquids activation "Emerald – SI" (model. 04s). <http://www.ikar.udm.rui-si-04.htm>.