

to explore the potential neurobiological basis for the improvement of neurocognitive function.

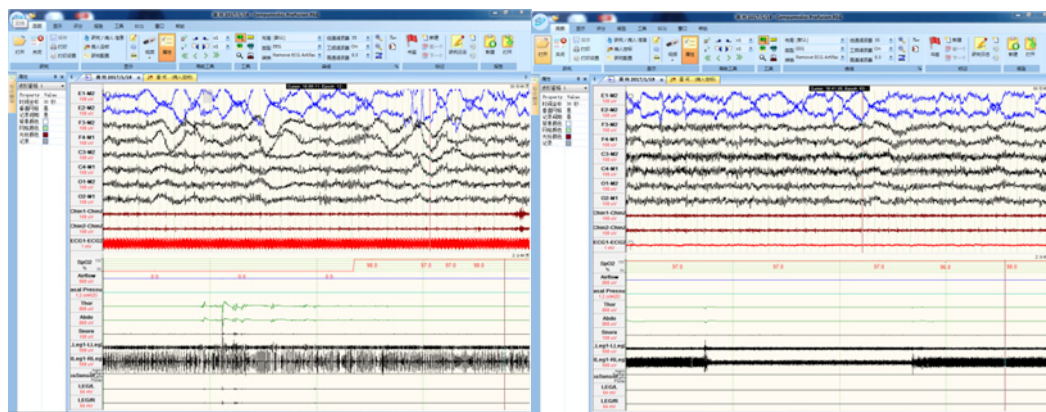
Methods: We recruited 12 patients with OSA after stroke who received a diagnosis using overnight polysomnography (PSG) with apneahypopnea index (AHI) > 10. Patients were randomly divided into two groups (randomized single blind controlled trial) : electroacupuncture group and sham acupuncture group. Observing the two groups Karolinska Drowsiness Test (KDT) (awake EEG measurement with eyes open and closed), Overnight polysomnography (PSG) 、 Montreal Cognitive Assessment (MoCA) and Mini-Mental State Examination (MMSE) before and after the treatment. KDT tests were performed every 2 h from 08:00 to 14:00 (four sessions). Electroacupuncture group was treated by acupuncture Sishencong (EX-HN1) points, sham acupuncture group received acupuncture non acupoint therapy which is besides Sishencong (EX-HN1) 0.5 cm, were treated for 15 days, once a day.

Resting awake EEG was recorded during a KDT, which comprised repeated sessions of 7.5-min EEG recordings. Each 7.5-min session started with a 2.5-min eyes-open time, then 2.5-min eyes closed, then another 2.5-min of eyes open. Thirty seconds at the beginning of each 2.5-min segment were discarded from analysis to avoid the artefact caused by patients settling to the new task after being instructed to change behavior. The PSG system (Philip comumedics, E-Series, Australia) was used with a sampling rate of 200 Hz. EEG recording channels included C3-M2, C4-M1, F4-M1, F3-M2, O2-M1, O1-M2, left and right electrooculogram (EOG) and Karolinska Sleepiness Scale (KSS).

Result : Compared to sham acupuncture group, electroacupuncture group increased awake EEG activation (faster EEG frequency) with increased alpha/delta (A/D) ratio ($P < 0.05$) and fast ratio = $(\alpha + \beta) / (\delta + \theta)$ ($P < 0.05$) across the OSA patients after stroke. The A/D ratio significantly correlated with MMSE and MoCA. Compared with sham acupuncture group, daytime sleepiness was significantly improved in electroacupuncture group ($P < 0.01$).

Conclusion: Electroacupuncture increased awake EEG activation, which correlated to improved performance. This study provides supporting neurophysiological evidence that electroacupuncture is a potential treatment option on OSA after stroke.

Keyword : OSA ; electroacupuncture ; EEG spectra ; EEG frequency ; daytime sleepiness ; neurocognitive function ; brainwave activity



A B
Figure Patients during KDT (A : before the treatment, B : after the treatment)

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ANTIOXIDANT PROPERTIES OF STELLARIA MEDIA IN THE CONDITIONS OF HEAT INFLUENCE ON THE ORGANISM

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Summary. Numerous studies conducted in recent years, it is shown that the mechanism of the effect of environmental factors on a living organism there is a common pathogenetic link – excess production of free radicals. Perspective is an experimental study on the use of natural antioxidants derived from medicinal plants of the Amur region. In experimental conditions the possibility to correct free radical lipid oxidation of rats' organism membranes was studied with the oral introduction of the tincture of herb chickweed that contains the complex of natural antioxidants. The application of the tincture of herb chickweed in the conditions of heat exposure of the organism of animals under experiment leads to the stabilization of the processes of peroxidation against the increase of antioxidant system activity.

Key words: the tincture of herb chickweed, heat exposure, biological membranes lipid peroxidation, antioxidant system.

The study of questions of increase of organism resistance to hypoxia, which develops as a result of influence on an organism of various extreme factors, in particular hyperthermia, and contributes to the activation of processes of lipid peroxidation, initiating the development of many diseases, opened the prospects for the use of antioxidants. Natural antioxidants compared to synthetic have a high bioavailability, does not produce tox-

ic products upon the interaction with the active forms of oxygen, no adverse effects in case of overdose. In turn, of particular interest, in our view, is the possibility of using unclaimed pharmaceutical industry vegetable raw materials for the correction of oxidative stress in conditions of exposure to adverse environmental factors.

Materials and methods. In experimental conditions the possibility to correct free radical lipid oxidation of rats' organism membranes was studied with the oral introduction of the tincture of herb chickweed that contains the complex of natural antioxidants. The animals were divided into 3 groups and each of them had 20 rats: intact animals which were held in standard conditions of vivarium; the control group in which rats were exposed to heat during forty-five minutes daily; the experimental group in which before the effects of heat animals had a daily oral intake of the tincture of herb chickweed in a dose of 5 ml/kg. The intensity of peroxidation processes was assessed by examining the contents of hydroperoxides lipids, diene conjugates, malonic dialdehyde and the main components of the antioxidant system, (ceruloplasmin, vitamin E) in the liver homogenate animals. The results obtained were subjected to statistical analysis with calculation of parametric criteria Student.

It was found out that in the blood of experimental animals a daily heat exposure during forty-five minutes contributes to the increase of lipid hydroperoxides level (by 18 – 20%), of diene conjugate (by 15 – 18%), and of malonic dialdehyde (by 57 – 83%) against the decrease of antioxidant system activity in the blood of intact animals. The introduction of the tincture of herb chickweed to rats in the conditions of heat exposure contributes to the reliable decrease in the blood of lipid hydroperoxides by 8 – 16%, of diene conjugates – by 7 – 20%, and of malonic dialdehyde by 7 – 26% in comparison with the rats of the control group. While analyzing the effect of the phytodrug on the activity of the components of antioxidant system it was shown that the level of ceruloplasmin in the blood of animals was reliably higher by 8 – 21%, of vitamin E by 5 – 24%, of catalase by 10 – 32% in comparison with the same parameters of the rats of the control group.

So, the application of the tincture of herb chickweed in the conditions of heat exposure of the organism of animals under experiment leads to the stabilization of the processes of peroxidation against the increase of antioxidant system activity.

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EFFECTIVENESS OF REMAXOL IN THE CORRECTION OF LIPID PEROXIDATION PROCESSES INDUCED BY THE INTRODUCTION OF CARBON TETRACHLORIDE

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Summary. At present in the clinical practice compounds of succinic acid having antioxidant and cytoprotective properties are used as pharmacological active substances with a wide range of biological activity. In experimental conditions the possibility to correct free radical lipid oxidation of rats' organism membranes was studied with the introduction of the succinate containing drug called remaxol (Polysan, St.Petersburg). The application of the succinate containing drug called remaxol in the conditions of introduction of carbon tetrachloride of the organism of animals under exper-