

CHANGE OF VOLUME TISSUE BLOOD FLOW INDICATORS UNDER LOW INTENSITY EHF EMR

Chuyan E. N., Tribirat N. S., Tribirat A. G.

*V.I. Vernadsky Crimean Federal University, Simferopol, Crimea, Russian Federation
E-mail: 3brat@rambler.ru*

It is known, that low-intensity electromagnetic radiation of extremely high frequency (EHF EMR) has recently been successfully used in medical practice for the treatment of phisioterapia practice various disorders. At the same time, aware of the beneficial effect of low-intensity factor on the microcirculation. Many data on the effect of EHF electromagnetic radiation on the microcirculation were obtained using the method laser Doppler flowmetry

The article studied the effects of vasotropic action of low-intensity EHF EMR on inhomogeneous in respect of vascular areas with varying degrees of spatio perivascular innervation and vascularization.

It is shown that the effect of low-intensity factor in the area with a predominance of nutritive blood flow is characterized by stable growth in the total volume of blood flow throughout the course of EHF-influence. This is due to the increase of blood flow shunt in the first day and the growth of nutritive blood flow in the next day effects.

At the same time in the study area rich arteriolo-venular anastomoses observed more remote consequences of changes in the parameters of microcirculation - a general increase in volume, and the volume of nutritive blood flow after 10 sessions of EHF-influence.

Keywords: microcirculation, low-intensity EHF EMR, total volumetric blood flow, volumetric nutritional blood flow, volumetric blood flow shunt.

References

1. Beckij O. V., Kislov V. V., Lebedeva N. N. *Millimetrovye volny i zhivye sistemy*, 107 (M.: «SAJNS-PRESS», 2004).
2. CHuyan E. N., Tribрат N. S., Ananchenko M. N., Ravaeva M. YU. *Mekhanizmy dejstviya nizkointensivnogo millimetrovogo izlucheniya na tkanevuyu mikrogemodinamiku* : Monografiya, 328. (Simferopol' : Informacionno-izdatel'skij otdel Tavricheskogo nacional'nogo universiteta imeni V. I. Vernadskogo, 2011).
3. Kozlov V. I., Korsi L. V., Sokolov V. G. Lazernaya dopplerovskaya floumetriya i analiz kolektivnyh processov v sisteme mikrocirkulyacii, *Fiziologiya cheloveka*, **24**, **6**, 112 (1998).
4. Krupatkin A. I. Ocenka ob"emnyh parametrov obshchego, nutritivnogo i shuntovogo krovotorka mikrosudistogo rusla kozhi s pomoshch'yu lazernoj doplerovskoj floumetrii, *Fiziologiya cheloveka*, **31**, **1**, 114 (2005).
5. Morman D., Heller L. *Fiziologiya serdechno-sosudistoj sistemy : per. s angl.*, 256 (SPb.: Piter, 2000).
6. Gapeev A. B., CHemeris N. K. Dejstvie nepreryvnogo i modulirovannogo EHMI KVCH na kletki zhivotnyh: CH. 3. "Biologicheskie ehffekty nepreryvnogo EHMI KVCH", *Vestnik novyh medicinskih tekhnologij*, **7**, **1**, 20 (2000).
7. Alekseev S. I., Zlskin M. C., Kochetkova N. V. et. al. Millimeter waves thenally alter the firing rate of the Lymnaea pacemaker neurone, *Bioelectromagnetics*, **18**, 89 (1997).
8. Sshmid-Sshonbein H., Ziege S., Grebe R. et.al. Synergetis Interpretation of Patterned Vasomotor Astivity in Misrovassular Perfusion: Dessrete Effests of Miogenesis and Neurogenis Vasosonstriction as well as Arterial and Venous Pressure Flustuation, *Int. J. Misror.*, **17**, 346 (1997).
9. Voronkov V. N., Hizhnyak E. P. Morfologicheskie izmeneniya v kozhe pri dejstvii KVCH EHMI, *Millimetrovye volny neteplovoj intensivnosti v medicine: mezhd. simpoz.: sb. dokl.*, 635 (M.: IREH AN SSSR, 1991).
10. Popov V. I., Rogachevskij V. V., Gapeev A. B. Degranulyaciya tuchnyh kletok kozhi pod dejstviem nizkointensivnogo ehlektromagnitnogo izlucheniya krajne vysokoj chastoty, *Biofizika*, **46**, **6**, 1096 (2001).
11. Lebedeva N. N., Kotrovskaya T. I. EHlektromagnitnaya recepciya i individual'nye osobennosti cheloveka, *Millimetrovye volny v medicine i biologii*, **7**, 14 (1996)