

## On some mechanisms of action of endogenous bioresonance therapy in the complex treatment of hemorrhagic fever with renal syndrome

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The problem of hemorrhagic fever with renal syndrome (HFRS) remains relevant, where not only the improvement of methods for diagnosing HFRS, but also the search for etiotropic and new pathogenetic agents for the treatment and rehabilitation of patients, including the latest non-drug methods, is of great importance.

Proceeding from the postulate that the disease is basically a violation of the homeostasis of substances, energy and information, as well as the recognition of the information-energy mechanism of the therapeutic action of physical factors, served as the starting point for their use in HFRS. In this aspect, the most promising is the method of endogenous bioresonance therapy (BRT), based on the use of electromagnetic oscillations of low and ultra-low intensity of a strictly defined form and frequency with which the structures of the body enter into resonance, thereby suppressing pathological, restoring and strengthening the physiological frequency spectra of oscillations and their synchronization [4, 8].

HFRS is an example of viral endotheliosis as the main triggering factor of generalized inflammation, damage to the blood system and microcirculation, capable of self-development with the disintegration of vital body systems, including all links of homeostasis [10, 12].

Practical prerequisites for the use of bioresonance therapy in patients with HFRS were data on its effect on the central and autonomic nervous system, neurohumoral and immune responses, cellular and molecular mechanisms. In addition to analgesic, antispastic effects, anti-inflammatory, immunomodulatory and antistress effects are also known, manifested in the elimination of psychoemotional disorders by normalizing the processes of excitation and inhibition in the central nervous system and cortical-subcortical structures [1-3, 5-7, 9, 11].

The aim of our study was to study the effect of endogenous BRT on some indicators of homeostasis, reflecting the pathogenetic mechanisms of the disease, against the background of complex treatment of patients with HFRS. In the observation group there were 80 patients (against the background of the combined use of drug treatment and BRT) and 80 - in the comparison group (against the background of only drug therapy) at the stage of complex (inpatient) treatment of patients with HFRS (from 3-5 days of hospitalization) with a moderate course diseases.

Endogenous BRT was performed on the hardware and software complex of the Center for Intelligent Medical Systems "IMEDIS" (Moscow). The technique of applying inductors "loop" on the lumbar region and "belt" along the perimeter of the outer contour of the body, 6-8 impacts every other day, was used. To assess the dynamics of the pathological process and the effectiveness of the therapy in patients with HFRS, in addition to the generally accepted clinical and laboratory criteria, specific markers were monitored reflecting the state of endotoxemia and

metabolism biopolymers connective fabrics (ST): levels  
 medium molecular weight peptides (SMP), sialoprotein fractions - free sialic acids (SSA), oligonated sialic acids (OSSA), protein-bound sialic acids (BSSA), as well as free hydroxyproline (CO), peptide-bound hydroxyproline (PSO) and protein-bound hydroxyproline (BSO) blood and urine and indicators of the electrokinetic activity of erythrocytes (ECA). v

As a result of our study, differences in the dynamics of changes in the level of EMS, exchange of biopolymers of sialoproteins and collagen, kinetics of erythrocytes in the compared groups of patients with HFRS during various types of complex therapy.

In the observation group, the course application of endogenous BRT in patients with HFRS in the acute period of the disease had a noticeable positive effect on the metabolism of CT biopolymers in the studied media. The use of endogenous bioresonance therapy in complex treatment led to a significant decrease in all sialoprotein fractions in comparison with the initial blood level, primarily in terms of the level of SSC by 52.9% ( $p < 0.05$ ), OSSK - by 53.5%, and BSSK - by 24.9% ( $p < 0.05$ ), in urine these downward shifts turned out to be more significant, especially in terms of the amount of BSS by 78.1% ( $p < 0.05$ ) and OSSK - by 71.9% ( $p < 0.05$ ), with BSSK - by 45.3% ( $p < 0.05$ ). This was confirmed by changes in the values of the BSSK / CCK + OSSK ratio not only in the blood, which significantly increased by 60.1% ( $p < 0.05$ ), but to a greater extent according to the degree of its increase by 112.9% ( $p < 0.05$ ) in urine. Nevertheless, these shifts did not lead to the achievement of the values of these indicators to the level of the norm ( $p > 0.05$ ).

When analyzing the dynamics of the content of hydroxyproline fractions in the blood and urine under the influence of endogenous BRT in the complex treatment of patients with HFRS, a significant, compared with the initial level, significant decrease in the PSO level in the blood by 35.7% ( $p < 0.05$ ), less significant in terms of SD - by 25.5% ( $p < 0.05$ ) and BSO - by 26.0% ( $p < 0.05$ ) and more pronounced in all fractions of hydroxyproline in urine, primarily in the change in CO levels by 52.6% ( $p < 0.05$ ), BSO - by 38.1% ( $p < 0.05$ ) and PSO - by 33.1% ( $p < 0.05$ ).

At the same time, the dynamics of the CO / PSO ratio in the blood has undergone a shift in the direction of increasing values from 0.75 conventional units. up to 0.87 conventional units (trend,  $p > 0.05$ ), i.e. by 16%, while in urine its value turned out to be the highest, exceeding the initial level by 33.3% (from 0.12 conventional units to 0.08 conv. units,  $p < 0.05$ ), but did not reach the normal values (0.06 conventional units).

When analyzing the dynamics of changes in the metabolic state of the studied ST biopolymers in patients with HFRS in the comparison group against the background of drug therapy, a decrease in the increased levels of all sialoprotein fractions in urine that was most significantly significant compared to the initial level was recorded: SSC by 51.5% ( $p < 0.05$ ), OSSK - by 54.4% ( $p < 0.05$ ), BSSK - by 30.3% ( $p < 0.05$ ) and in blood serum: SSC by 33.1% ( $p < 0.05$ ), OSSK - by 36.8% ( $p < 0.05$ ), BSSK - by 15.2% ( $p > 0.05$ ).

Identical turned out dynamics changes levels factions  
 hydroxyproline in the comparison group in the studied media, but less significant, where

reliable values were recorded only for the content of CO by 33.7% ( $p < 0.05$ ), while for other fractions of CO, PSO, BSO in the blood and PSO, BSO in urine were unreliable against the background of drug therapy. These shifts were reflected in the dynamics of the coefficients of the ratio  $BSSK / SSK + OSSK$  and  $CO / PSO$  in the studied media, respectively, they significantly changed only in blood by 27.1% ( $p < 0.05$ ), in urine - by 60.6% ( $p < 0.05$ ), while for  $CO / PSO$  in blood - by 16.7% ( $p > 0.05$ ) and urine - by 25% ( $p > 0.05$ ).

In general, in a comparative analysis in the observation group of patients with HFRS against the background of a course exposure to endogenous BRT, an increase in the content of all sialic acid fractions (SSC, OSSK, BSSK) in blood serum and urine revealed in the initial state had a statistically significant decrease in the levels of all fractions compared to with the norm, while in the comparison group it affected only the level of CVC.

At the same time, in patients with HFRS in the observation group, a significant decrease in the initially elevated levels of hydroxyproline fractions (CO, PSO, BSO) in blood serum and urine was found, while in the comparison group, only an identical trend was recorded, which was stated during the entire course of drug therapy in the acute phase of the disease. The revealed regularity of a significant approximation to the normalization of the decomposition processes of ST biopolymers at an earlier date under the influence of the course exposure to BRT both in blood serum and urine indicates the restoration of the disturbed equilibrium of the synthesis and decay processes in the metabolism of the studied parameters of ST biopolymers.

Comparison of the studied indicators of the exchange of sial-containing and collagen-containing ST biopolymers with changes in the content of medium molecular weight peptides was confirmed by the revealed reliable correlation relationship not only between them, but also with the generally accepted clinical and laboratory parameters in HFRS. In a comparative analysis of the results obtained in randomized groups, positive shifts in clinical and laboratory parameters were recorded, the severity of which was most statistically significant in the observation group of patients with HFRS. The inclusion of endogenous BRT in the complex treatment of HFRS had the most pronounced therapeutic effect, primarily in the structure of signs of general toxic, hemorrhagic and renal syndromes.

Corresponding to these changes, the dynamics of the content of SMPs in the blood plasma changed unidirectionally, which was manifested not only by a statistically significant decrease in their increased concentration in the initial state, but also in earlier periods in patients with HFRS in the observation group.

In parallel, differences were noted in the cytophysiological picture of erythrocytes in the compared groups of patients with HFRS. A significant increase in the initially reduced percentage of ECA of erythrocytes with a significant increase in the kinetics of the amplitude of their oscillations was found after the first session.

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endogenous BRT with the preservation of the specified effect during the entire course of BRT treatment. In the comparison group, only an identical trend was recorded, which was ascertained during the entire course of drug therapy. The discovered fact of a significant increase in ECA and the amplitude of erythrocyte fluctuations under the influence of the course effect of endogenous BRT, in our opinion, indicates an increase in the membrane potential, which in turn contributes to the restoration and accumulation of energy, an increase in the sensitivity of cell receptors and transport substances through the cell membrane. Comparison of the studied parameters of the exchange of sialoproteins ST, medium-molecular peptides and ECA of erythrocytes was confirmed by the revealed by us a reliable correlation not only between them, but also with clinical and laboratory parameters.

Thus, the use of endogenous BRT has a beneficial effect on the pathogenetic mechanisms of HFRS, contributes to the normalization of humoral transport and lymphatic drainage, the metabolism of sialoproteins and collagen by reducing endotoxiosis processes, degradation of connective tissue and increasing the resources of the membrane potential of erythrocytes.

#### Literature

1. Balatskaya N.V., Semenova L.G., Shkrab L.O. Examining the impact of adaptive bioresonance therapy on cellular and humoral immunity of patients with atonic bronchial asthma // Abstracts and reports. II International Conference "Theoretical and Clinical Aspects of Bioresonance and Multiresonance Therapy". - M.: IMEDIS, 1996. - P.139-140.
2. Blinkov I.L. Biological bases of information and energy therapeutic effects // Abstracts and reports. VI International Conference "Theoretical and Clinical Aspects of Bioresonance and Multiresonance Therapy". Part I. - M.: IMEDIS, 2000. - P.103-109.
3. Bobrovskaya A.N., Aleshina T.V., Matveev G.N. Application of bioresonance therapy in a multidisciplinary clinical hospital // Abstracts and reports. I International Conference "Theoretical and Clinical Aspects of Bioresonance and Multiresonance Therapy". - M.: IMEDIS, 1995. - P.406-408.
4. Gotovsky Yu.V. Bioresonance and multiresonance therapy // Ibid. - Pp. 359-367.
5. Gotovsky Yu.V., Chernetsova LV. New approaches in diagnostics, treatment, rehabilitation and prevention of natural focal infections in Udmurtia // Abstracts and reports. VI International Conference "Theoretical and Clinical Aspects of Bioresonance and Multiresonance Therapy". Part I. - M.: IMEDIS, 2000. - P.61-67.
6. Dykun N.V., Sinitsina A.S., Gotovsky Yu.V. Alternative approaches in treatment of patients with the use of adaptive bioresonance and multiresonance therapy // Abstracts and reports. IV International Conference "Theoretical and Clinical Aspects of Bioresonance and Multiresonance Therapy". Part I. - M.: IMEDIS, 1998. - S. 156.
7. Islamov B.I., Gotovsky Yu.V., Funtikov V.A. Some results

application of BRT in medical practice // Abstracts and reports. III International Conference "Theoretical and Clinical Aspects of Bioresonance and Multiresonance Therapy". - M.: IMEDIS, 1997. - P.40-60.

8. Meizerov E.E. Topical issues of the use of therapeutic factors of small intensity in the clinic of disorders of nervous regulation // Abstracts and reports. IV International Conference "Theoretical and Clinical Aspects of Bioresonance Multiresonance Therapy". Part I. - Moscow: IMEDIS, 2000. - pp. 143-160.

9. Semenova L.G., Krasnova L.B., Belitskaya R.A. Influence of adaptive BRT on state of the pituitary-adrenal system // Abstracts and reports. III International Conference "Theoretical and Clinical Aspects of Bioresonance and Multiresonance Therapy". - M.: IMEDIS, 1997. - P.240-242.

10. Sirotin B.Z., Zharskiy S.L., Tkachenko E.A. Hemorrhagic fever with renal syndrome. - Khabarovsk, 2002. -- 127 p.

11. Skrypnyuk Z.D. The role of membranes in the reception of information signals, used in bioresonance and multiresonance therapy // Abstracts and reports. IV International Conference "Theoretical and Clinical Aspects of the Application of Bioresonance Multiresonance Therapy". Part P. - M.: IMEDIS, 1998. - P.84-91.

12. Fazlyeva PM, Khunafina D.Kh., Kamilov F.Kh. Hemorrhagic fever with renal syndrome in the Republic of Bashkortostan. - Ufa, 1995. -- 242 p.

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