

Features of the elemental composition of hair of people who received various types of alternative therapies among patients of the Center for Alternative Medicine "Amrita"

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purpose of work

To carry out a comparative analysis of the elemental composition of hair samples from patients who received bioresonance therapy (BRT) and natural treatment: who used biologically active additives (BAA). To assess the effect of BRT and dietary supplements on the characteristics of the elemental composition of hair.

The urgency of the problem

The content of chemical elements in human hair depends on both exogenous and endogenous factors. In recent decades, the elemental [1, 2, 3, 4, 10] composition of hair is increasingly used to identify and correct the imbalance of chemical elements in the body [1, 2, 3, 5, 7]. The purpose of our research was to reveal the variability of the content of chemical elements in the hair composition of patients who applied to the Center for Alternative Medicine "Amrita".

Material and methods

Hair sampling was carried out according to the standard method of the International Atomic Energy Agency (IAEA) [11]. A total of 42 patients participated in the examination - 4 men and 38 women aged 21–75 years, suffering from various chronic diseases. All subjects are permanently resident in the Tomsk region and the city of Tomsk. The patients were divided into two groups: 21 people received BRT sessions, 13 people took dietary supplements. The control group consisted of 8 patients, residents of Tomsk.

Instrumental neutron activation analysis for the content of 28 chemical elements was carried out in the laboratory of nuclear geochemical research methods, Department of Geoecology and Geochemistry, Tomsk Polytechnic University (analysts - senior researcher Sudyko). Irradiation was carried out with thermal neutrons with a flux of 1.2×10^{14} n cm²/ s at the Tomsk research nuclear reactor IRT-T. The measurements were carried out on a gamma spectrometer with a germanium-lithium detector.

The INAA method, implemented in the laboratory, is also used for certification of reference materials of composition, both domestic and foreign (IAEA, Germany, Japan, India, etc.). The standard "Birch Leaves" was used as a standard sample.

The significance of the differences was calculated using the Kolmogorov-Smirnov test. Differences at the level of 95% ($p < 0.05$) were considered significant.

results

The results showed that the content of chemical elements in the biosubstrate (hair) of people who did not receive any of the types of therapy corresponds to the concentration of elements characteristic of the geochemical specifics of Tomsk and the Tomsk region. In patients of 2 groups, no significant differences were observed in the content of 18 chemical elements.

At the same time, variability was observed in the content of such elements as cesium, samarium and europium in patients in the group taking dietary supplements, and chemical elements: lanthanum, cerium, ytterbium (lanthanide group) in the group of patients who underwent BRT sessions according to different strategies.

When using bioresonance therapy, there is an increase in the accumulation of elements such as bromine and cobalt. At the same time, there is an increase in the excretion of such elements as: gold, zinc and the group of lanthanides.

When using biologically active additives, an increase in the accumulation of samarium, cesium and europium occurs, which may be due to both an increased content of these elements in the composition of dietary supplements, and the effect of the latter on the metabolism of chemical elements.

The obtained results of indicators of the content of chemical elements in the hair of people belonging to the studied groups are shown in Fig. 1-10.

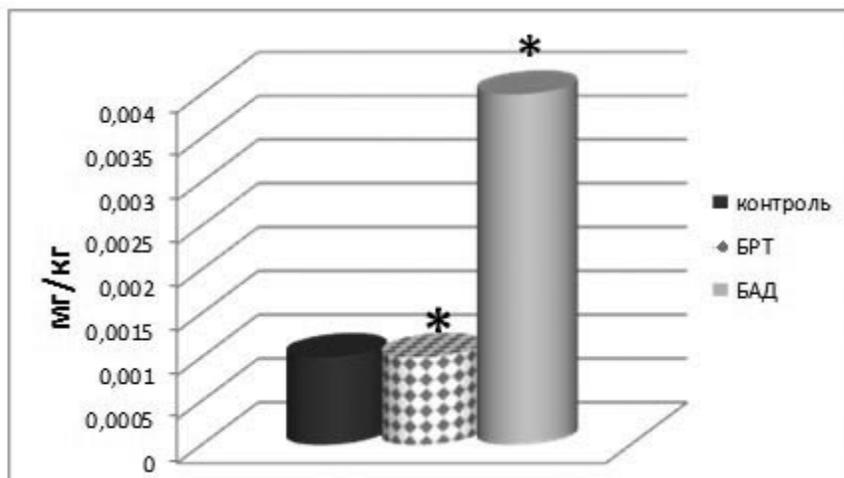
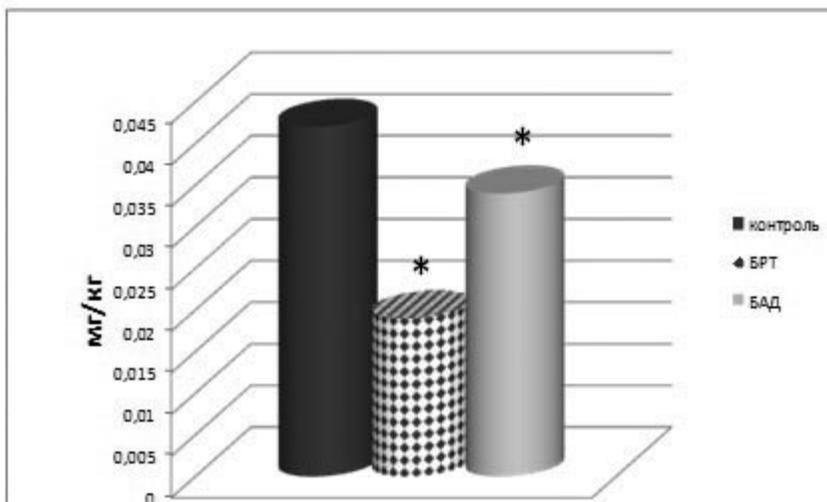


Рис. 1. Content of samarium (Sm) in biosubstrate (hair) in the study groups: * - reliability of differences between groups, $p < 0.05$

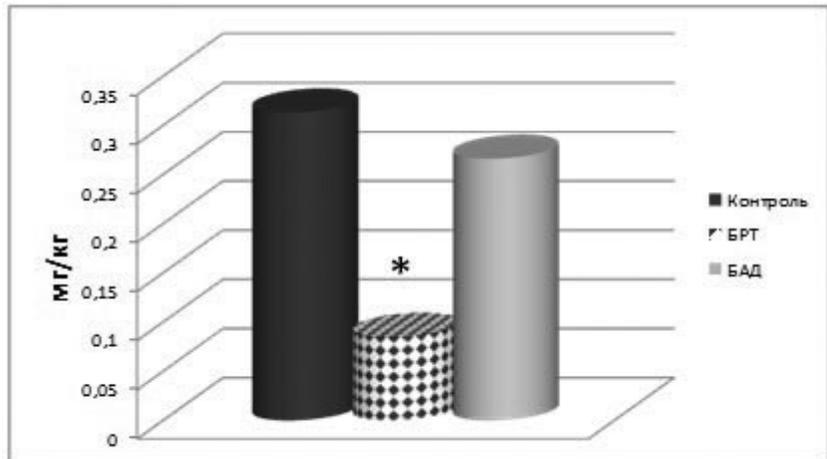
According to the data of statistical analysis, the concentration of samarium (Fig. 1) in the group of people who consumed dietary supplements is significantly higher than in the other two groups.

In our studies, it was found that BRT leads to a significant decrease in the content of lanthanum in the hair of patients (Fig. 2).

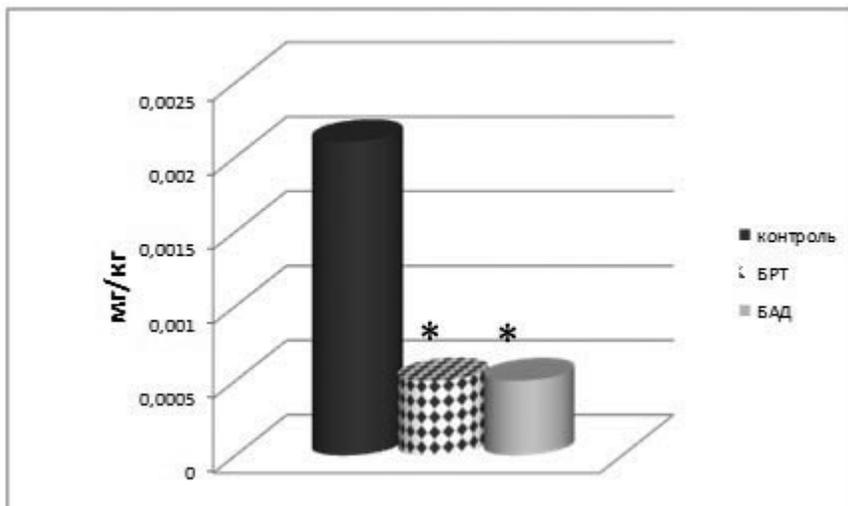


Rice. 2. The content of lanthanum (La) in biosubstrate (hair) in the studied groups: * - reliability of differences between groups, $p < 0.05$

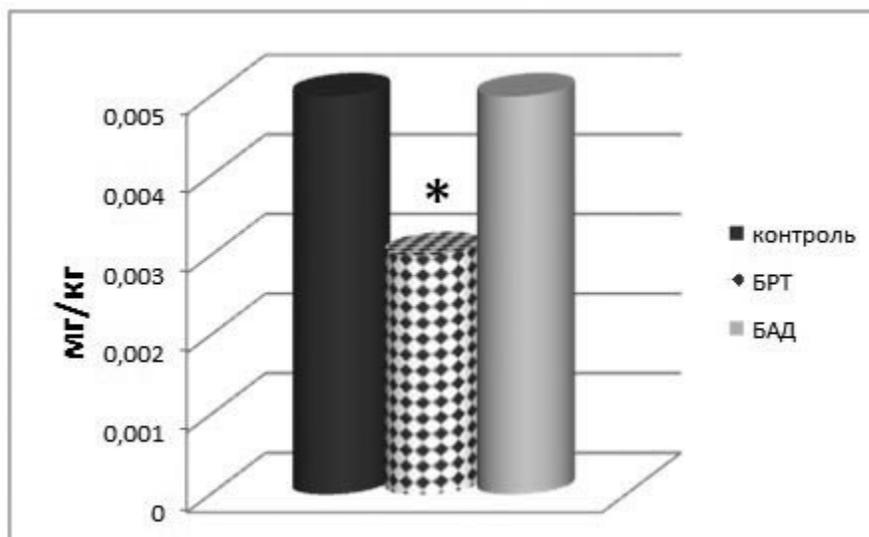
There was also a significant decrease relative to the control group of the elements cerium, lutetium and ytterbium (Fig. 3, 4, 5). Moreover, it should be noted that it is BRT that more significantly reduces the concentration of cerium, lutetium and ytterbium. At the same time, in both study groups there was an increase in europium compared with the control group, a more pronounced accumulation was observed in patients taking dietary supplements (Fig. 6).



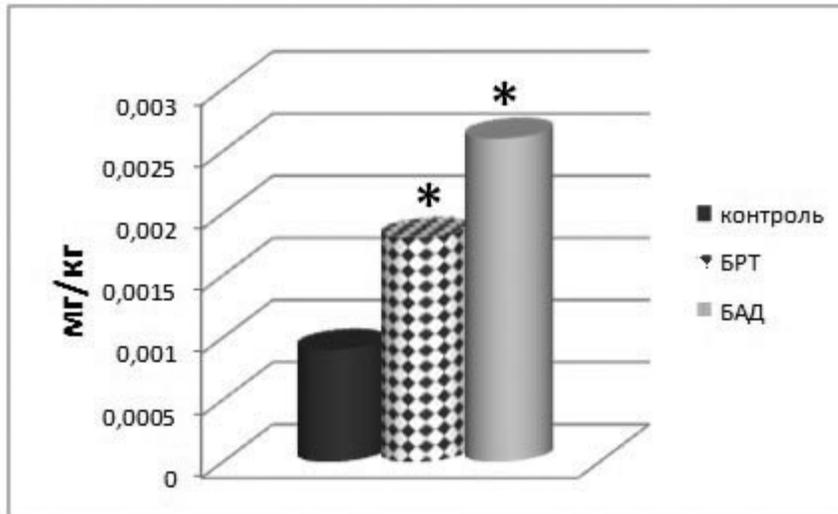
Rice. 3. The content of cerium (Ce) in the biosubstrate (hair) in the studied groups: * - reliability of differences between groups, $p < 0.05$



Rice. 4. The content of lutetium (Lu) in biosubstrate (hair) in the study groups: * - reliability of differences between groups, $p < 0.05$

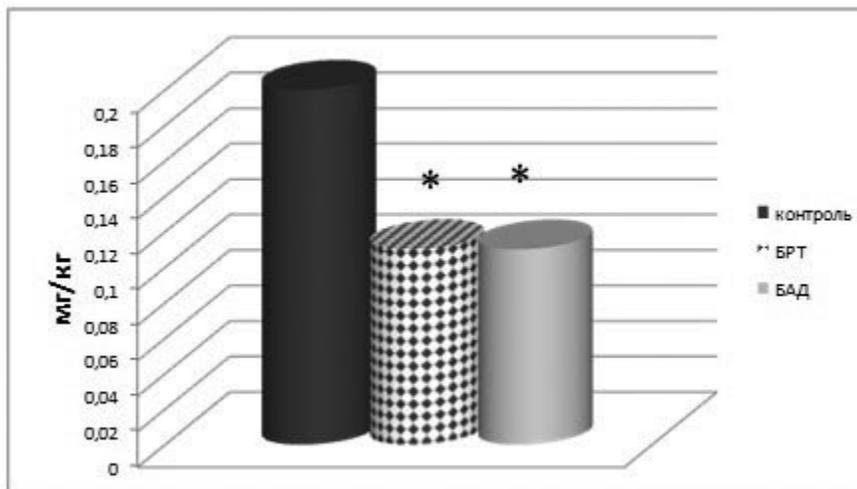


Rice. 5. The content of ytterbium (Yb) in biosubstrate (hair) in the study groups: * - reliability of differences between groups, $p < 0.05$



Rice. 6. The content of europium (Eu) in biosubstrate (hair) in the study groups: * - reliability of differences between groups, $p < 0.05$

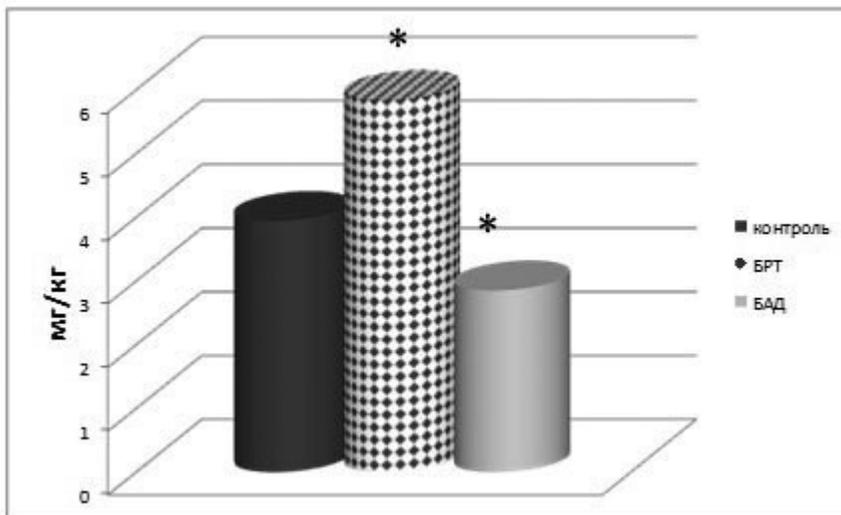
The gold content in the control is significantly higher than in the other two studied groups. Based on this, it can be assumed that BRT and the use of dietary supplements reduce the gold content. In this case, the effect of dietary supplements and BRT on the concentration of gold is equivalent (Fig. 7).



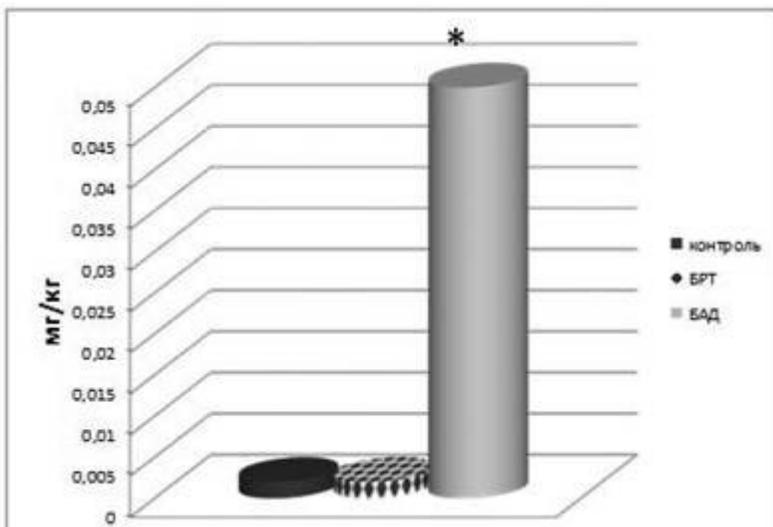
Rice. 7. Gold content (Au) in the biosubstrate (hair) in the study groups. * - reliability of differences between groups, $p < 0.05$

Increased bromine content was observed in patients receiving BRT therapy. A significant decrease in bromine concentration was observed in patients receiving dietary supplements (Fig. 8). At first glance, the conclusion suggests itself that iodides, which are an antagonist of bromine and contained in dietary supplements, displace bromine. However, with prospective observation of patients with an increased content of bromine in the hair, who were given dietary supplements with iodine, this assumption is not confirmed.

On this topic, the results of the work of Doctor of Medical Sciences are of particular interest. N.V. Baranovskaya, TPU, which testify that in the Tomsk region there is a bromine subprovince associated with the objects of technogenesis [6, 12]. Further study of this issue is currently underway.



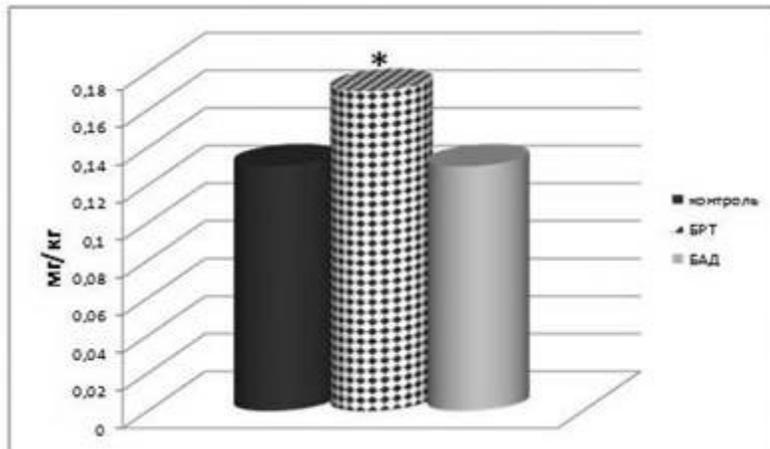
Rice. 8. Bromine content (Br) in the biosubstrate (hair) in the study groups. * - reliability of differences between groups, $p < 0.05$



Rice. 9. The content of cesium (Cs) in the biosubstrate (hair) in the study groups. * - reliability of differences between groups, $p < 0.05$

The cesium content in patients receiving BRT (Fig. 9) did not differ from the control. However, in the group of patients receiving dietary supplements, the cesium content increased tenfold. Probably, this fact can be explained by the cesium content in the taken dietary supplements. But the possibility of the influence of dietary supplements on the redistribution of this element cannot be ruled out.

The increased content of cobalt in the group receiving BRT significantly differs from the control and the group of dietary supplements.



Rice. 10. Content of cobalt (Co) in the biosubstrate (hair) in the study groups. * - reliability of differences between groups, $p < 0.05$

Observation in dynamics was also carried out. Samples were taken one year after treatment in the group of patients receiving BRT, both separately and in combination with food supplements. At the same time, the phenomenon of approaching the conditionally background values of the content of elements in the hair as a whole was observed, with the exception of 1–2 elements that were in accumulation.

The use of homeopathic remedies according to these elements led to the clinical cure of patients, which can be considered as their homeopathic constitution. These data have something in common with the works of K.N. Mkhitaryan, T.V. Akaeva. [8.9].

However, in the case when homeopathic remedies for these elements were not given, an exacerbation of chronic pathology arose.

conclusions

The results obtained suggest that natural medicine methods (BRT in combination with food additives and without them) lead to:

1) to the normalization of the elemental composition of hair in people, their general health improvement;

2) to objectify approaches to determining regional constitutional characteristics of people living in Tomsk and the Tomsk region;

3) understanding why in some cases the use of BRT and other methods natural medicine can give only short-term results, and also lead to difficult-to-correct exacerbations of chronic pathology in patients.

It was also noted that the maximum accumulation of lanthanides was in the group receiving dietary supplements. At present, it is not possible to give an exact explanation for this fact. Our observations require deeper study and continued research.

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