TRACINE ELEMENTS STATUS AS AN EFFECTIVE BIOMARKER IN PREDICTIVE AND PERSONALIZED MEDICINE

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Medicine of the XXI century is inseparably linked and more often uses data of omiks technologies for the diagnosis and treatment of different diseases. The using of myltu-omics technology in biomedicine contributes to the formation of innovative concept of individual approach to each patient, i.e. personalized medicine¹,².

Personalized medicine does not only use genomic technologies and genotyping, but other Omiks technologies such as metabolome research, methabonome, metal- lom, etc.

Metallom – is a quantitative measurement of metallom components (products of interaction of ionic and atomic forms of metals with endogenous ligands). Nowadays the role of many chemical elements is established in processes of growth, differentiation, regeneration, cell apoptosis and necrosis, as well as in the pathogenesis of some diseases, which is accompanied by significant changes in the element status of body³.

Materials and Methods. Contents of metallom component more than 25 chemical elements including vitally important in people’s blood were determined. Which was used for improvement of the personalized approach to each patient based on identified regularities of quantitative changes in the body.

Results. As it was expected elementogrammas were mostly in the normal range, and some deviations had multidirectional nature. Deviations of essential and trace elements from normal ranges was more specific (for such elements as cobalt, zinc and copper downward and for sili-
con upward, that might indicate or lead to in the future to certain orphan diseases or disturing signal comprehensive study and personalized approach). Thus, it can be concluded, that personalized approach based on the multi-omiks technology could be considered as the method which could increase the effectiveness of the treatment for each patient. Deviations of essential and trace elements can be informative for prediction of the specific therapeutic effects, risk of unwanted side effects, drugs ineffectiveness, will help to develop predictive and preventive medicine.

Reference:


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