Pathological conditions caused by an imbalance of ME in the human body.

Ismatov N., Akhmedov A.A.

Samarkand State Medical University

Abstract: formation of the elemental composition of the organism in the process of ontogenesis is dictated by its current physiological need for macro and microelements, and is also significantly influenced by biogeochemical factors and the degree of environmental pollution with toxic elements (Revich B.A., 1996; SaetYu.E . et al . , 1990) .

Keywords: macro- and microelements, biogeochemical factors, individual elements.

Deviation in the intake of macro- and microelements into the body, a violation of their ratio in the diet directly affects the activity of the body, can reduce or increase its resistance, and hence the ability to adapt (Kovalevsky V.V., 1982; Rikhvanov L.P. and et al ., 1993; Agadzhanyan HA et al ., 1998; Skalny AB, Kudrin AB, 2000; Suslikov V.L., 2000; Agadzhanyan HA, Skalny AB, 2001).

To date, a large number of works have been carried out relating to the study of the content and distribution of individual elements in the body, their physiological role, imbalances in the balance of elements in the body and the development of pathological conditions associated with this. (Avtsyn A.P. et al ., 1991; Agadzhanyan HA et al ., 1999; Skalny AB, 2000; Skalny AB, Rudakov I.A., 2004).

Early detection of metabolic disorders and related therapeutic measures require modern diagnostic methods. One of these methods is the assessment of the mineral balance in the human body by quantitative determination of the elemental composition of various biosubstrates (hair, nails, urine, saliva, etc.).

It is known that the content and, especially, the ratio of elements in biosubstrates are a sensitive indicator of mineral homeostasis, and the effectiveness of such determinations increases with increasing the number of characteristics taken into account (in this case, determined in one

cyberlinka.ru

sample elements). The process and signs of metabolic disorders of mineral elements is one of the most sensitive and early diagnosed indicators of the “failure” of immunity mechanisms (Skalny AB et al ., 2004).

In recent years, close attention has been paid to the study of the elemental composition of hair, which reflects the internal state of the body (Avtsyn A.P. et al ., 1989-1991; Skalny AB, 2004).

The composition of hair is much less subject to fluctuations in comparison with biological fluids. Hair is an ideal object for studying the content of macro- and microelements: it is easy to collect, transport and store. Hair has a high degree of growth, combined with a lack of metabolic activity in the grown hair. Thus, there are numerous reports on the use of saliva as an unconventional material for clinical and laboratory analysis. The study of saliva has several advantages over routine laboratory diagnostic methods using blood taken from a finger or vein. First of all, this is the simplicity and convenience of saliva collection, non-invasiveness and painlessness of this procedure, no risk of infection, the possibility of multiple sampling (Shabas M.V., 1997, Ordzhonikidze G.Z., 2004).

The stability of the chemical composition of various living fluids organism is a necessary condition for the effective functioning organs and systems. This fully applies to saliva, which plays an important role in ensuring the normal function of the organs of the oral cavity, gastrointestinal intestinal tract and the whole organism. However, the composition of saliva including the chemical elements contained in it, has not been studied enough. Thus, in the most complete of the published data on the content chemical elements in the tissues and fluids of the human body (Semenov N.K. 1971; Iyengar GV, Kollmer WE, Bowen HJM, 1978; Treagan L., 1983), there is poor comparability, and even some inconsistency

available information, due, among other things, to the imperfection of the analytical technique used.

Cyberlininka.ru

Currently, doctors are particularly interested in two groups of chemical elements. These are, first of all, essential elements, which are indispensable nutritional factors. Their value is basically like vitamins. Essential elements cannot be synthesized by the organism, but must be supplied to it from the external environment. The second group of these substances are toxic microelements, which are currently among the main environmental pollutants. If in diseases caused by a deficiency of essential microelements, we mainly encounter deficiency diseases, then in various forms of contact of the body with toxic microelements, doctors are concerned about diseases and syndromes of intoxication (toxicopathies). The complexity of the problem lies in the fact that the manifestations of insufficiency and intoxication can be extremely diverse, but also in the fact that the essential elements themselves under certain conditions can cause toxic reactions, and individual toxic microelements at a certain dosage and exposure can reveal the properties of essential microelements, i. e. turn out to be useful and even irreplaceable (Avtsyn A.P., 1989).

Each of the microelements has both general and individual features of its reception, utilization, storage and transportation.

In accordance with existing ideas about the physiological role of chemical elements and their content in the human body and vertebrates, it seems reasonable to classify elements with their division into three large groups - macroelements, essential microelements, toxic microelements (Skalny AB et al., 2004) . Group of macroelements represented by calcium, phosphorus, magnesium, potassium, sodium , sulfur, chlorine. Group essential (and conditionally essential) trace elements are represented by fluorine, vanadium, silicon, selenium, copper, lithium, manganese, zinc, boron, etc.

LITERATURE:

1. Avtsyn AP, Zhavoronkov AA Human microelementoses . Concept and classification // Materials of Vses . Symposium " Human microelementoses ". - M., 1989. - S.11-15.

Cyberlininka.ru

2. Avtsyn A.P., Zhavoronkov A.A., Rish M.A., Strochkova JI.C. Human microelementoses : etiology, classification, organopathology. -M.: Medicine, 1991. - 496 p.
3. Agadzhanyan HA, Veldanova M.V., Skalny AB Ecological portrait of a person and the role of microelements - M.: KMK Publishing House, 2001.- 236 p.
4. Agadzhanyan HA, Gubin G.D., Gubin D.G., Radysh I.V. Chronoarchitectonics of biorhythms and habitat. M.-Tyumen: Publishing House of TSU, 1998. - 168 p.
5. Agadzhanyan HA, Rocky AB Chemical elements in the habitat and the ecological portrait of a person. - M .: KMK Publishing House, 2001. - 83p.
6. Agadzhanyan HA, Severin A.E. Human adaptation and ecology: the role of microelements. / UMaterialy 2 of the Russian school "Geochemical ecology and biogeochemical zoning of the biosphere", Moscow; January 25-28, 1999. - M., 1999. - S.168-169.
7. Babenko G.A. On the violation of the metabolism of microelements - metals in
8. medicine. - Kiev: Health . 1972. - S.3-10.
9. Babenko G.A. Trace elements in experimental and clinical medicine. - Kyiv: Health, 1965. - 183 p.
10. Babenko G.A., Reshetkina L.P. The use of trace elements in medicine. - Kyiv: Health, 1971. - 180 p.
11. Babenko G.A. Microelementoses , their role in the pathogenesis of diseases and the mechanism of occurrence // Materials of Vses . Symposium " Human microelementoses ". - M., 1989. - S.32-33.
12. Amanova N.F Amanova F.F . innovative activity in the field of tourism. euro-asia conferences, http://papers.euroasiaconference.com/index.php/eac/article/view/9718

Cyberlininka.ru

13. Amanova N.F Amanova F.F (2022) Malum bir maqsadga qaratilgan va maxsuslashgan til. https://conf.iscience.uz/index.php/yumti/article/view/118/11019
14. Amanova N, and Amanova F. "problems of quality of distance learning online." ta'lim va rivojlanish tahlili onlayn ilmiy jurnali (2022): 89-91. http://sciencebox.uz/index.php/ajed/article/view/1515/140320
15. Shakhnoza, A. . (2022). Legal Basis of the Environmental Impact Assessment System. Journal of Ethics and Diversity in International Communication, 2(2), 46–49. Retrieved from https://openaccessjournals.eu/index.php/jedic/article/view/1033
16. Ахмедова, Ш. (2019). Пути совершенствования экологического законодательства республики Узбекистан в области обеспечения благоприятной окружающей среды. Обзор законодательства Узбекистана, (4), 37–42. извлечено от https://inlibrary.uz/index.php/uzbek_law_review/article/view/12686
17. Akhmedova S. correlation of environmental impact assessment with other organizational and legal mechanisms of environmental protection measures //international bulletin of medical sciences and clinical research. – 2023. – Т. 3. – №. 1. – С. 5-14. http://www.researchcitations.com/index.php/ibmscr/article/view/449/312 http://www.researchcitations.com/index.php/ibmscr/article/view/449
18. .Normuradova N, and Amanova N. "teaching english language for medical purposes in higher school." https://eprajournals.com/jpanel/upload/1206am_41.EPRA%20JOURNALS-2147.pdf21
19. Amanova N.F. "active teaching strategies in higher education." academicia: an international multidisciplinary Research Journal https://doi.org/10.5958/2249-7137.2021.02068.122
20. Pulatov F A. (2022). the importance of tourism. conference zone, retrieved from http://conferencezone.org/index.php/cz/article/view/147

Cyberlininka.ru

21. Furkatovna, A. N., & Furkatovna, A. F. (2021, January). innovative activity in the field http://papers.euroasiaconference.com/index.php/eac/article/view/9724
22. Furkatovna A. N., Furkatovna A. F. problems of quality of distance learning online //таълим ва ривожланиш таҳлили онлайн илмий журнали. –2022. –С. 89-91. http://www.sciencebox.uz/index.php/ajed/article/view/1515/1403http://www.sciencebox.uz/index.php/ajed/article/view/151525
23. ..Н.Ф Аманова. О роли контекста при выделении односоставных предложении страны. языки. культура: сборник материалов xi-й международной научно-практической конференции/ 2020 https://kpfu.ru/staff_files/F312709112/SBORNIK_MATERIALOV_NPK_2020__1___1_.pdf#page=4326
24. .Farangiz F A employees as an integral part of the tourism product // scientific progress. 2021. No2. URL: https://cyberleninka.ru/article/n/employees-as-an-integral-part-of-the-tourism-product http://scientificprogress.uz/storage/app/media/2-2.%20259.%201496-1498.pdf2
25. Amanova, N. F. "active teaching strategies in higher education." academicia: an international multidisciplinary research journal 11.10 (2021): 150-152. Hosted Online from Bilbao, Spain on November 10th, 2022." https://scholar.google.com/scholar?cluster=14830870474617470731&hl=en&oi=scholarr
26. Amanova Nodirabegim Furkatovna. (2022). effective method of teaching. *conference zone*, 53–55. retrieved from http://conferencezone.org/index.php/cz/article/view/124
27. A.N Furkatovna, A.F Furkatovna Problems of quality of distance learning online. https://www.sciencebox.uz/index.php/ajed/article/download/1515/1403 - ta'lim va rivojlanish tahlili onlayn ilmiy 2022

Cyberlininka.ru

28. Amanovich P. F., Furkatovna A. N., Furkatovna A. F. CULTURAL LINGUISTICS AS THE MAIN DIRECTION OF MODERN LINGUISTICS //British View. – 2022. – Т. 7. – №. 1. https://britishview.co.uk/index.php/bv/article/view/94
29. Furkatovna A. N. Active teaching strategies in higher education //ACADEMICIA: An International Multidisciplinary Research Journal. – 2021. – Т. 11. – №. 10. – С. 150-152. http://dx.doi.org/10.5958/2249-7137.2021.02068.1 https://www.indianjournals.com/ijor.aspx?target=ijor:aca&volume=11&issue=10&article=024
30. Amanova Nodirabegim Furkatovna. (2022). EFFECTIVE METHOD OF TEACHING. Conference Zone, 53–55. Retrieved from http://www.conferencezone.org/index.php/cz/article/view/124
31. Burxanova Gulnoza Lutfulloevna. (2022). OPTIMIZATION OF REHABILITATION FOR LESIONS OF THE LOCOMOTOR APPARATUS OF ATHLETES PARTICIPATED IN CHESS. Conference Zone, 404–409. Retrieved from https://conferencezone.org/index.php/cz/article/view/876
32. Ibragimova Malika Shavkatovna. (2022). characteristics of rehabilitation of children with cerebral palsy and speech defects. conference zone, 410–414. retrieved from https://conferencezone.org/index.php/cz/article/view/877
33. Ibragimova Malika Shavkatovna. (2022). effectiveness of hydrokinesiotherapy in the rehabilitation of children with spastic cerebral palsy. conference zone, 507–511. retrieved from http://conferencezone.org/index.php/cz/article/view/887
34. Burkhanova, G., Mavlyanova, Z., & Kim, O. (2017). The influence of sports nutrition on the physical development of children and adolescents with increased physical activity. Journal of Problems of Biology and Medicine, (4 (97), 24–26. retrieved from https://inlibrary.uz/index.php/problems_biology/article/view/3242

Cyberlininka.ru

35. Egamova, M., Mavlyanova, Z., & Burkhanova, G. (2018). The use of physiotherapy exercises for children with cerebral palsy at home. Journal of Physician's Gazette, 1(2), 114–117. retrieved from https://inlibrary.uz/index.php/doctors_herald/article/view/2931
36. БУРХАНОВА Г. Л., МАВЛЯНОВА З. Ф., РАВШАНОВА М. З. Convulsive Syndrome In Children: Tactics Of Conduct //Журнал Биомедицины И Практики. – 2022. – Т. 7. – №. 1. https://tadqiqot.uz/index.php/biomedicine/article/view/4368 https://tadqiqot.uz/index.php/biomedicine/article/view/4368/4135
37. РАВШАНОВА М. З. ранняя реабилитации спортсменов с травмой голеностопного сустава различными методами восстановления //журнал биомедицины и практики. – 2022. – т. 7. – №. 4. https://tadqiqot.uz/index.php/biomedicine/article/view/5519 https://tadqiqot.uz/index.php/biomedicine/article/view/5519/5224

cyberlininka.ru