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DISTRIBUTION OF MICROELEMENTS NI, CO, MN and Zn IN SOME TISSUES RATS.

Nurimov Pakhlavon Bakhtiorovich
Samarkand State Medical University, assistant of the Department of Physiology.
Umirov Abdulla Sulaimonovich
Samarkand State Medical University (DKTF), assistantof the Department of Traumatology and Orthopedics

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Abstract:

Microelements Ni, Co, Mn and Zn in some tissues of rats in this work I study distribution. To do this, the internal organs of rats are the kidneys, muscles, lungs and liver. there is a change in its composition. Determine the amount of trace elements in the body of mammals The experiment was carried out on rats bred for experiments in two districts of the city of Samarkand. Samarkand, Liver, lungs, muscles and kidney organs of two rats from each Taylak region. experiment was carried out on tissues. Experience of scientific expertise of Samarkand State University
carried out in the laboratory. Trace elements using the biochemical apparatus "Sobus111" this experiment has been defined. According to the results, the amount of Zn in the body is higher than other trace elements. This. Zinc is mainly found in the muscles, less in the liver than in the muscles, less in the kidneys than in the liver. it is less in the lungs than in the kidneys. The amount of Mn in the body is small compared to Zn. He's with a cookie almost the same amount in the kidneys. The amount of Mn in the lungs is four compared to the liver and kidneys. one and a half times less, and in the muscles seventeen times less. Sum of Ni with Co there are very few of them in the tissues of the body, because these microelements are toxic substances Considered The examination showed that trace elements Ni, Co, Mn and Zn are present in the tissues. lack of metabolism slows down, immune - supplement cells and functional organs decreased activity negatively affects the development of bone tissue. [5,7,9,12]

Keywords: Cobalt, Nickel, Manganese, Zinc, Sobus, spectrometry, muffle furnace.

RELEVANCE OF THE TOPIC: Prolonged lack of trace elements and exposure to ionizing radiation on the body, first of all, negatively affects the metabolism of minerals and vitamins, deterioration of the functional state of muscles, lungs, liver, kidneys and thyroid gland and immunocomplementary cells and causes a decrease in the functional activity of cells.

The main purpose of the work: in mammals (crossbred rats)
Determining the changes that occur when Ni, Co, Mn and Zn are deficient Now well known trace elements widely used in the life of animals and plants. [1,2,8,10]. The knowledge in this area, the important observations made and the expected results, undoubtedly, were of great practical importance. The cost-effectiveness of micronutrient prevention in livestock production is high, and this provision is of great importance in the detection of diseases and the rescue of farm animals.

RESEARCH MATERIALS: The experiment was conducted in the Scientific Testing Laboratory of Samarkand state university.

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Organs of rats fed for the experiment

Research method: Determination of trace elements was carried out on a biochemical device

"Sobus111".
Research result: Trace elements are a group of chemical elements necessary for humans and In the body of animals, it is present in very small quantities, i.e. within 10-3-10-12% .
Nickel is considered one of the new trace elements, and its vital necessity has been defined in the 1970s. The concentration of nickel in the organs and tissues of rats is low. This element is relatively more abundant inthe bones and lungs and has been found to increase in the elderly. The absorption of food nickel is about 1-10%. Nickel can also enter the body through the lungs.

Cobalt is better absorbed in the body of animals than other metal trace elements. Cobalt is involved in the formation of blood, that is, in the formation of red blood cells. If there is not enough cobalt in the body, the number of red blood cells in the blood decreases. If the amount of cobalt increases, the circulatory system in the body will be disturbed. Cobalt is an industrial poison. It can enter the body through the respiratory system, gastrointestinal tract and skin. The toxic effect is manifested in disorders of the respiratory system, bleeding, disorders of the nervous systems and organs of the digestive system. . [3,15,14,16]
The supply of zinc in the body is not very large. In adults, it is 22.9-30.6 mmol, that is 1.5-2 g. It is found in all organs and tissues, and its amount ranges from 0.15 to 3.3 mmol per 1 g of dry tissue. Skeletal muscles are relatively rich in zinc, its amount is 62.6% of the total amount of this trace element. the norm of some trace elements in individual organs of rats (µg/g). Table 1

Organs	zinc	Mn	IN	Who
Liver	20	3,7	0,2	0,06
Bud	11.1	3,8	0,2	0,05
muscles	30	0,1	0,008	0,016
Oppa	14	0,82	0,2	0,06

Manganese activates enzymes in the body. Get rid of accumulated toxinsin the liver. Lack of the element Mn in the body leads to improper bone formation.

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Accidental manganese poisoning is impossible. The daily dose of Mn is 2-10 mg. Mn plays an importantrole in brain function. Its function is much higher in the pineal gland, olfactory glands, the center of the hypothalamus and the basal ganglia. It assembles melanin storage structures. Mn deficiency manifests itself in the functions of the brain. . [4,7,19,17]

The number of trace elements in the organs of rats.

Table 2.

Organs	zinc norm µg/g	and	Tailak	Samarkand
Liver	20		29,97	27,66
Bud	11.1		20.12	19.00
muscles	30		35,26	35,76
Oppa	14		10,83	10.55

Table 3.

Organs	Mn norm µg/g	and	Tailak	Samarkand
Liver	20		2,43	2,79
Bud	11.1		3,05	3,37
muscles	30		0,32	0,34
Oppa	14		0,94	0,59

Table 4.

Organs	Who norm µg/g	and	Tailak	Samarkand
Liver	0,06		0,05	0,06
Bud	0,05		0,045	0,045
muscles	0,016		0,010	0,011
Oppa	0,06		0,06	0,05

Table 5.

Organs	IN norm µg/g	and	Tailak	Samarkand
Liver	0,2		0,21	0,19
Bud	0,2		0,18	0,21
muscles	0,008		0,007	0,006
Oppa	0,2		0,18	0,14

In order to determine the amount of trace elements Ni, Co, Mn and Zn in the body mammals, it was carried out on rats fattened for experiments in two districts of Samarkand. The experiment was carried out on the

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tissues of the liver, lungs, muscle and kidney organs of four rats from the Samarkand and Tailak regions. The experiment was carried out at the Scientific Testing Laboratory of Samarkand State University. This experiment was carried out on the biochemical apparatus Sobus111 microelements were determined with the help of To carry out the experiment, 5 g of tissue of each organ was taken, placed in an oven at 1800 Co !i until completely dry, and burned until it was partially blackened. Then the experiment is transferred to a muffle heater and heated at 4500 Co until ash is formed. To speed up the combustion process, add a few drops of nitric acid and pour it into the oven until it burns out completely. The prepared experience was dissolved in 0.1 N. hydrochloric acid. The operation of an atomic absorption spectrophotometer is carried out by the method of atomic absorption spectral analysis. Liquid experience is transferred to the atomic state, after which the necessary elements are determined in the process of irradiation. A semi-cathode lamp or an electrodeless lamp was used as a radiation source. The average value of the results obtained from the organs of rats fed for the experiment in each area was calculated and presented in tables 1-2-3-4-5.

According to the results, the amount of Zn in the body is higher than other micronutrients (Table 2). Zinc is found primarily in the muscles, less in the liver than in the muscles, less in the kidneys than in the liver, and less in the lungs than in the kidneys. The amount of Mn in the body is small compared to Zn. Approximately the same amount in the liver and kidneys. The amount of Mn in the lungs is four and a half times less than in the liver and kidneys, and in the muscles - seventeen times (Table 3). The amount of Co and Ni in the tissues of the body is very small, since these microelements are toxic substances. . [11,12,13,20]

We compared the results obtained during our experiment. According to the results obtained, as shown in Table 2, the trace element Zn in the liver was normal in Tailok, 8% or less in Samarkand. There is 5% less zinc in tailok, and 10% less in Samarkand compared to the norm in the kidneys. Compared to the norm in the muscles of Tailak, Samarkand, the Zn element was low. Zn in the lungs is 22% less compared to the norm in Taylak and Samarkand.

According to the results presented in Table 3, the trace element Mn in the liver: 34% by compared with the norm in Tailok, 24% in Samarkand. came out low. Kidneys: 19% in Taylak, 11% in Samarkand. Little trace element Mn. In the muscles: in Tailak, Samarkand, more trace element Mn is released compared to the norm. In the lungs: 14% more in Tailak, 28% less in Samarkand, less Mn is excreted.

According to the results presented in table. 4, the content of the microelement Co in the liver was 17% less than the norm in Tailok and 16% more in Samarkand. Kidneys: 10% less released in Tailak and Samarkand, Co. In muscles: 37% in Tailak, 31% in Samarkand, less Co. In the lungs, Taylak showed the norm, Samarkand was 16% more than Co. According to the results presented in table. 5, Ni's trace element liver was 5% more in Kattakogon and 5% less in Samarkand compared to the norm. Kidneys: Taylak has 10% less nickel, Samarkand has 25% less nickel. In the muscles: Tailak is 12% less, Samarkand is 25% less. In the lungs: 10% less in Tailak, 30% less in Samarkand, the Ni element came out. In a word, trace elements are of great importance for every organism, that is, organs and fabrics. The survey showed that the lack of microelements Ni, Co, Mn and Zn in tissues slows down metabolism, reduces the functional activity of immunocomplementary cells and organs, negatively affects the development of bone tissue, stress of enzymatic systems. y causes osteodystrophy. Each trace element plays a specific role in the body, and these elements perform different functions. Depletion or excess of trace elements in the body can cause various diseases. Manganese activates enzymes in the body, cleanses the body of toxic substances, accumulates structures that store melanin. Lack of Mn in the body leads to a decrease in brain activity and improper bone formation. Decomposition processes of cobalt carbohydrates stimulates. Cobalt is involved in the formation of blood. Cobalt deficiency causes anemia. The lack of zinc in the body is a violation of the oxidation processes, slowing down protein synthesis, growth and development, the relationship of zinc with enzymes, hormones, hematopoiesis in the body, reproduction, development and growth of the body, the metabolism of carbohydrates, proteins and fats, takes part in such vital processes like redox reactions, energy metabolism. Nickel accelerates the metabolism of iron and the production of hemoglobin, and therefore has a beneficial effect on the formation of red blood cells and tissue oxygenation. Nickel deficiency leads to hypopigmentation of the skin, a decrease in red blood cells, anemia, and a decrease in physical activities.

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