GALAXY INTERNATIONAL INTERDISCIPLINARY RESEARCH JOURNAL (GIIRJ)
ISSN (E): 2347-6915
Vol. 10, Issue 7, July (2022)

BIOLOGICAL IMPORTANCE OF COPPER ELEMENT

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ANNOTATION

this article provides information about the amount of copper element in the human body, its application in the field of Medicine, hereditary diseases, as well as the manifestation of many biologically active properties, the occurrence of various diseases as a result of lack of copper element and the content of copper preservative products.

Keywords: copper element, protein, vitamin, blood serum, liver, vitiligo(pes) disease, Menquez syndrome, Kanovalov-Wilson's disease.

INTRODUCTION

Copper (Cu) belongs to the group of microbesogen d - elements, the total amount of which in the human body is 100-150 mg/kg. Copper in the body is often combined with proteins and vitamins. The main depot is the liver. The main part of the copper in the blood serum is contained in protein substances with globulins (without compounds)- copper. It is called Komplex seruloplasmin, and it is synthesized in the liver, after which it passes into the blood composition.

The abundance of copper in the composition of dietary products leads to an increase in the amount of vitamin B1 in them and a good assimilation by the body. Alternatively, an increase in the amount of copper in the body leads to a decrease in vitamin C. The main reason for this is the penetration of copper into the composition of ascorbic acidase Ferm (an enzyme that oxidizes vitamin C), increasing its activity

In turn, an increase in the amount of vitamin A leads to a decrease in the activity of copper and ascorbic acidase. Copper is an element that participates in the process of blood formation. It penetrates into the composition of erythrocytes, has a positive effect on their absorption and synthesis of hemoglobin under the influence of copper in the bun, the activity of iron exchange processes is observed. Copper affects the metabolism of carbohydrates in the body. For example, patients with diabetes mellitus 2,5 μg Coso, when given 52o μg, their blood and a decrease in the amount of sugar in the urine are observed.

In medicine, an aqueous solution of Cus4o2o with 0,25 μo/5 μo is used as an antiseptic solution.Its 1% li solution is used in anemia. Sometimes this salt can be used in the treatment of vitiligo (pes)disease. In addition, the violation of the assimilation of copper by the body causes the occurrence of some hereditary diseases. In particular, Menques syndrome-associated with X-chromosomes can cause a violation of the exchange of Cu2+ ions.As a result, the amount of Cu2+ in the kidneys increases sharply, while the amount in the liver and brain decreases. Quantitative changes in the body of this element are caused by a genetic (hereditary) violation of the synthesis of protein molecules that can bind Cu2+ ions in the cells of this organ. Another of the hereditary diseases is Kanovalov-Wilson's disease, in which the amount of copper in the blood cell decreases almost twice as much as in the norm ;the amount in the liver increases

sharply.In turn, the excess amount of Cu2+ in the liver can be decomposed into blood slowly or incredibly quickly.In the result, the following two cases are observed:

1) as a result of the gradual decomposition of copper, the amount of the element in the blood membrane increases by 5-10 times more than the norm.This leads to the fact that the transformation of liver cells into fatty substances leads to irreversible pathological states in the liver, brain and other organs.

2) copper very quickly decomposes from liver cells into blood, which leads to hemolysis of red blood cells in large quantities.And this can also end with death for the organism.

Copper salts affect the cardiovascular system. Increases blood clotting in high amounts and narrows peripheral blood vessels. Pre-introduction of cystine amino acid reduces the pressure effect of copper. Copper salts reduce the amount of adrenaline and the activity of large cholesterol , kuchaytiradi intensiveness of glycolysis and respiratory processes.

One day of extention to copper is 2-3 mg. From the lack of this microelement, premature hair loss occurs.Excess of copper in the human body leads to Wilson's disease. Copper is abundant in cereals, seafood, cereals and legumes, buckwheat and oats, nuts. In milk and dairy products, copper is threeraydi in very small quantities. Prolonged consumption of milk diet can lead to a deficiency of copper in the body. Lack of copper leads to a decrease in the activity of the enzyme system in the Chondro and osteoblasts, slowing protein metabolism, violation of the work of the connective tissue.

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