INFLUENCE OF THE MINERAL COMPOSITION OF WATER ON HUMAN HEALTH

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In this paper, we will consider the effect on human health of water that is excessively rich in minerals. The pathogenic effect on the human body of water will be considered, which contains an increased concentration of iron, zinc, manganese, selenium and chlorides.

Keywords: water, health, minerals.

Water is the foundation of human life. All biochemical processes in the body can occur only in solutions, that is, the functioning of the body is possible only in the presence of water. But, in order for the use of water to benefit the body, to ensure its normal functioning, water must have a certain mineral composition. Normally, water should have a certain concentration of minerals. Consider what changes in health can be expected with the use of water changed in mineral composition.

When drinking water that is excessively rich in iron, a person may have impaired blood formation, and the course of redox reactions will be disrupted. Also, with the use of such water, the likelihood of developing atopic dermatitis is high.

Excessive chloride content in water also causes health problems in people who use this water daily. First of all, digestive system dysfunction, dyspeptic symptoms will be observed. With the use of hyperchlorinated water, cases of the development of cancer of the esophagus and larynx were detected.

When the water contains an excessive amount of manganese, it also has a pathogenic effect on the human body. Manganese has a cholestatic effect. If a person has hepatic pathology, then when drinking water rich in manganese, his health condition may deteriorate as a result of the progression of hepatic pathology, which will be caused by manganese.

Excessive saturation of water with zinc has a pathogenic effect on the normal activity of the stomach and causes diseases of the motor apparatus.

Water that is excessively rich in selenium can adversely affect dental health - the integrity of tooth enamel is compromised.

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THE CARCINOGENIC EFFECT OF BENZAPIRENE AS A SUBSTANCE IN THE COMPOSITION OF EXHAUST GASES OF CARS

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The essence of benzapyrene as a chemical substance is determined in the work, the concept of a carcinogen-ic effect and the mechanism of action of benzapyrene on body cells are considered. The pathogenesis of leukemia is described as the main manifestation of the pathogenic effects of a carcinogen by inhalation of automobile ex-haust.

Keywords: benzapyrene, exhaust gases, automobiles, leukemia, carcinogenic effect.

A carcinogenic effect is the property of a substance to activate and stimulate the development of malignant neoplasms in the human body. Benzapyrene fully possesses this effect.

Banzapiren is a polycyclic hydrocarbon that is released into the environment by burning automobile fuel. Thus, this substance enters the human body through the upper respiratory tract. It is chemically and thermally sta-ble. In addition, it has the property of accumulation in the body, that is, accumulation in it.

In the body, benzapyrene acts through damage to the genetic apparatus of cells, that is, damage to their DNA molecule. Once in the human body, benzapyrene passes through the gastrointestinal tract and then enters the liver. In the liver, benzapyrene is converted to dihydroxyepixide, which has a carcinogenic effect on the cells of the human body. Significant changes occur in the cell as a result of DNA damage. Multiple nuclei are formed in it, vio-lations occur in the chromosome system. As a result of the disturbed structure, the cell begins to behave in a non-normal manner, starting a malignant process. Most often, benzapyrene causes leukemia. Also, genetic changes caused by benzapyrene are preserved and can cause disturbances in future offspring in the form of malformations.

Often with a carcinogenic effect of benzapyrene, an oncological process in the form of leukemia develops in the body. The pathogenesis of leukemia is that bone marrow cells, which normally should produce normal blood cells, mutate and can no longer form mature cell forms. A large number of undifferentiated and immature blood cells are formed in the body. A feature of this type of cancer is that the tumor has no borders, tumor cells are spread throughout the body. Leukemia treatment is a difficult and long process.

To protect yourself from the carcinogenicity of benzapirene, places with a lot of transport should be avoid-ed, thereby limiting contact with car exhaust.

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EXCESS AND LACK OF FLUORINE IN DRINKING WATER AS THE BASIS OF PATHOLOGICAL CHANGES IN THE ORGANISM

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The influence of drinking water with excessive and insufficient fluorine saturation on the state of human health is considered. The main pathogenetic aspects of diseases developing as a result of a deficiency or excess of fluorine intake into the human body are indicated.

Keywords: fluorine, water, enamel, teeth, bones.

Water gets fluoride from the soil. According to sanitary rules and regulations, the optimal concentration of fluoride in drinking water is 1,0 mg / l. Less or more of its content in water will pathogenically affect human health when consumed.

Fluorine is part of all the cells of our body, but the largest amount of fluoride is found in the cells of bone and dental tissues. That is why with excess fluoride in the human body, the following pathologies most often occur, such as fluorosis and osteoporosis, and with insufficient fluoride in drinking water, tooth decay develops.

Fluorosis is an endemic disease characterized by damage to tooth enamel. Violation of the integrity of enamel occurs as a result of the damaging effect of fluorine on its structure. Stains and defects of various colors and shapes are formed on the enamel. Fluorosis can occur without damage to the tooth tissue, violating the integrity of tooth enamel only, and can damage the tooth tissue directly in the form of an invasive and destructive form.

When drinking water with excess fluoride, osteoporosis often develops. It is characterized by a decrease in bone density and an increase in bone fragility. This occurs as a result of a violation of fluoride metabolism in the skeletal system of the body.

Damage to the enamel and tooth tissue can occur not only with an excess of chlorine in the consumed water, but also with insufficient concentration in it. An example of tooth tissue damage with insufficient fluoride is caries. With caries, the integrity of not only enamel, but also dentin is violated, which, if the process is neglected, can lead to the formation of pulpitis.

Having examined the types of damage to the body, to a greater extent the teeth and the skeletal system, we can say that the degree of saturation of fluorine water is an important factor that determines the state of human health.

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