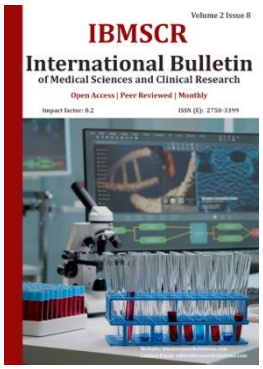

MORPHOFUNCTIONAL CHANGES OCCURRING IN THE HUMAN BODY AS A RESULT OF GROUNDWATER CONSUMPTION.

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ABSTRACT

This article presents the fact that one of the most common impacts currently occurring is the consumed water of various compositions, it has been proven that exceeding the required amount of salts, macro- and microelements, chemical and biological composition of water negatively affects the organs and systems of the body.

Keywords. Bioactive additives, immunological, cytogenetic, hematological methods, seasonal waters, groundwater and interplastic waters.

Any external physical, chemical and biological impact on a living organism leads to a change in the structure and function of the organs of this organism. As a result, the body reacts by changing clinical and laboratory parameters, including organ morphology, within the framework of compensatory and adaptive mechanisms. Among the external influences, one of the most common currently is the consumption of water of various compositions, it has been proven that an excessive amount of salts, macro- and microelements, chemical and biological composition of water negatively affects the organs and systems of the body. "Morphofunctional changes in the stomach caused by the consumption of groundwater are a pathological condition of the body caused by exposure to doses of chemical elements and compounds exceeding the maximum permissible norms." Changes in the body under the influence of consumption of waters with a high chemical composition, including morphological features of organs, as well as the development of therapeutic and preventive measures to reduce the impact of groundwater with a high chemical composition have not lost their relevance.

The indirect effect of groundwater with a high chemical composition is explained by the formation of radiolysis of water, which accounts for 70-80% of the body, when water is ionized, radicals with oxidative and alkaline properties are formed. The formation of atomic hydrogen, hydroperoxyl radicals, and hydrogen peroxide is also important. Oxidizing free radicals enter into an enzymatic reaction, as a result of which active sulfhydryl groups are converted into inactive disulfide compounds. These biochemical processes lead to a decrease in the catalytic activity of enzyme systems, which, in turn, leads to a decrease in the amount of DNA and RNA in the nuclei of cells, which disrupts their regeneration processes.

Research scientists from the world's leading scientific centers are currently conducting research on the maximum doses of groundwater with a high chemical composition on the body, the timing of their occurrence of irreversible and irreversible pathological processes in the body, the degree of exposure of groundwater with a high chemical composition to body systems and organs, the development and use of water purifiers for consumption and they published the results. It also leads to morphofunctional changes in the stomach as a result of the high chemical composition of groundwater. Disorders of the digestive tract are observed on the basis of a variety of clinical syndromes, closely related pathogenetically by various correlations of effects.

Pathomorphological changes in various internal organs under the influence of groundwater with a high chemical composition, the scarcity of scientific research of a new therapeutic and preventive approach to study the effects of groundwater with a high chemical composition on the body in an experiment determined the relevance and necessity of this study. Groundwater with a high chemical composition penetrates the body only during the period of its exposure, under the influence of which various morphological and functional changes occur in the body. Groundwater with a high chemical composition can enter the body through the skin, gastrointestinal tract, and respiratory tract.

The pathogenesis of groundwater with a high chemical composition is explained by the direct and indirect effects of chemicals on the body. Chemical compounds contained in water are associated with its accumulation on the walls of blood vessels and in the parenchyma of whole organs and direct and indirect effects on metabolism. This is accompanied by a violation of the physico-chemical processes in the affected cells. In this case, the permeability of the cell membrane increases or decreases.

Groundwater is water that collects under the surface of the earth, in the pores of the first aquifers. GS itself will be waterproof on top of the second layer. This layer may consist of clay soil, solid limestone, sedimentary and metamorphic rocks. Groundwater arises from the accumulation of channel, river, rainwater from the Earth's surface, water vapor from the atmosphere (after condensation) flowing down the pores of rocks and accumulating in an impermeable layer. The depth of their location depends on the state of occurrence of the impermeable layer and the layer of aquifers. Groundwater settles in the first porous layer at the surface of the Earth. To its level, chemical composition and physical properties in relation to the surface of the Earth, natural (air temperature, type and amount of precipitation, proximity-distance from the surface of the earth of natural reservoirs) and artificial (reservoirs, irrigation facilities, sewerage, etc.) are distinguished.) it varies depending on the reasons. Groundwater fills the pores of alluvial deposits (sand, sandy loam, gravel) in river valleys and dune deposits in rocks and deserts deposited as a result of the repulsion of glaciers.

Groundwater is water in a liquid, solid (icy), evaporating state located in the porous cavities of rock layers in the upper part of the earth's crust. Groundwater is part of the total water resources and is of great importance to the national economy as a source of water supply and irrigation. The reclamation status of irrigated lands is determined by the state of groundwater. The science of hydrogeology studies groundwater. Water can be bound by molecular forces and be in a gravitational or free state under the influence of gravity or pressure difference. The formation of disconnected water-saturated rocks is called aquifers, they form aquifers. Groundwater by the nature of occurrence in water□retaining rocks is divided into porous (in soft rocks), gorge (vascular) - in hard rocks and karst (cave) (fractured karst-in easily soluble carbonate and gypsum rocks). According to the conditions of occurrence, groundwater is divided into groundwater (Q. Groundwater), seasonal water (surface water; formed by precipitation or absorption of irrigation water over water-retaining layers in the aeration zone); groundwater is divided into groundwater (accumulates above the first waterproof layer closest to the earth's surface) and interplastic (non-pressure, pressure, artesian, aquifers located between waterproof layers) [2,5,8].

By origin, groundwater is divided into infiltration, formed as a result of absorption of atmospheric precipitation, river and irrigation waters; condensation, formed as a result of

condensation of water vapor in rock formations; sedimentation, formed as a result of burial of marine waters during the formation of sedimentary rocks, and washing, formed during the cooling of magma or emerging from the Earth's mantle. The natural outlet of groundwater to the surface of the Earth is called bulak (spring) and is divided into flowing and boiling (hot spring).

Groundwater is a natural solution that contains almost all known chemical elements. According to mineralization (the total amount of substances dissolved in water, g/l), groundwater is divided into fresh (up to 1.0), brackish (1.0□10.0), brackish (10.0□ 50.0) and Namakob (more than 50). And according to temperature, they are divided into cooled (up to 4 °), cold (4-20 °), warm (20-37 °), hot (37-42 °), boiling (42-100 °) and super-boiling (above 100 °) groundwater. Infiltration water is widespread in nature, the rest in its pure form are extremely rare. It is used in the water supply of the population, industry and pastures, irrigation, medicine (Mineral Waters), heat supply (hot water), various salts and chemical elements (iodine, boron, bromine, etc.).) groundwater is used in mining. Groundwater causes waterlogging and salinization of land. To combat this, open and closed horizontal drains and drilling wells are dug. Groundwater was widely used in deserts. Karakum, Kyzylkum and Ustyurt pastures are mainly fed by groundwater.

There are more than 150 large groundwater deposits in Central Asia. Their annual renewable operational reserves exceed 1,500 m3/s, the contribution of fresh water is close to 1,000 m3/s, and the rest is mineralized to varying degrees (from 2-3 to 15 g/l). In Central Asia, there are more than 40 thousand drilling wells in operation, of which about 5 thousand are artesian wells from which water flows; Many of them are used for irrigation of crops.

The indirect effect of groundwater with a high chemical composition is explained by the formation of radiolysis of water, which accounts for 70-80% of the body, when water is ionized, radicals with oxidative and alkaline properties are formed. The formation of atomic hydrogen, hydroperoxyl radicals, and hydrogen peroxide is also important. Oxidizing free radicals enter into an enzymatic reaction, as a result of which active sulfhydryl groups are converted into inactive disulfide compounds. These biochemical processes lead to a decrease in the catalytic activity of enzyme systems, which, in turn, leads to a decrease in the amount of DNA and RNA in the nuclei of cells, which disrupts their regeneration processes.

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