The role of nutrition in violation of the acid-base balance of the body and methods of its correction L. D. Tolstykh, E. D. Lykova, E.A. Igoshin, O. N. Tkachenko, S.V. Artyomenko

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Violation of acid-base balance in the body is one of the key factors in the development of various pathologies. This is due to the fact that even minor deviations in the acidic or alkaline side significantly affect the metabolic processes.

Ideally, the pH inside the cells should be 7.4; The pH of the blood is between 7.3 and 7.2. These numbers represent the results of measurements on a special scale created to determine the degree of acidity in the body. The range from 1 to 7 on this scale indicates an acidic environment, with a value of "1" corresponding to a higher level of acidity than "7". From 7 to 14 on the scale there is an alkaline segment, and the number "7" means less alkali content than "14". On the pH scale, the number "7" corresponds to a neutral medium.

The functions that ensure the health of the body must be carried out strictly within the above indicators of the acidity of the intracellular and extracellular environments.

When the acidity of the blood rises, the body begins to give alarm signals. According to Guyton's Handbook of Medical Physiology, "the lower limit at which a person can live for only a few hours is about 6.8; and the upper limit is about 8.0". In other words, if a person's blood pH approaches 6.8 and remains at this level, then this person will be able to stay alive for only a few hours.

Exactly the same threat to life is posed by a critical shift to the alkaline side, when the pH of the blood will be 8 for several hours [5].

In addition, the acid-base balance performs the important task of filtering the circulating blood and removing waste products from it that are formed during metabolism. First of all, these are nitrogen-containing products arising from the breakdown of protein, such as urea and uric acid, which must be excreted from the body. This also includes numerous acids obtained as a result of fermentation and putrefaction in the intestine, followed by foreign and poisonous substances, some of which are formed in the process of their own metabolism, while others enter the body with food and medicines [2, 4].

The body has a large number of mechanisms that protect it from acid and regulate the acid-base balance.

When exposed to acidifying or alkalizing factors, the body uses compensatory reserves, the so-called "buffer systems" - carbonate, phosphate and protein. Due to the existence of these three systems, the pH value of the fluids of the internal environment is strictly kept in the weakly alkaline zone. In general, the body's resistance to alkalization is several times higher than to acidification, i.e. it is much easier to acidify it [1].

One of the main mechanisms of this kind is directly related to the breathing process.

Gas exchange processes in the lungs regulate the acidity of the body. Hemoglobin is a very complex molecule that delivers carbon dioxide to the lung tissue in order to saturate the air that must leave the body, and capture oxygen from this air, which must enter the circulatory system.

Hemoglobin collects excess hydrogen atoms - a very strong acidic factor - and attaches them to its own protein structure, neutralizing their dangerous acidity [3].

Another important mechanism is nutrition.

If there is a lot of animal protein in the diet, pathological chronic acidification of the body may occur, which often leads to impaired calcium metabolism, its leaching from bone tissue and intensive excretion through the kidneys. This leads to the destruction of bones and the formation of kidney stones. Pains in muscles and joints appear, osteoporosis can develop, as well as hypothyroidism. Headaches, anxiety, edema, fluctuations in blood pressure often occur.

Currently, this problem is relevant at any age, starting from the earliest.

In our center, during the diagnostic examination over the past year (635 people in total), violations of the acid-base balance were revealed in patients with a shift to the acidic side in 79% of cases.

According to the diagnostic data by the method of vegetative resonance test (ART) on the APK "IMEDIS-EXPERT", the presence of acidification of 3-5 degrees prevails in the patients. The pancreas was the most affected organ, and uric acid diathesis was also detected. Often these patients have a history (43%) of gout in older relatives.

Individual treatment and rehabilitation programs were developed for all patients. Diet schemes were selected based on the results of food testing. Drainage homeopathic remedies, sessions of bioresonance therapy, detoxification, and a course of physiotherapy exercises were prescribed. If necessary, courses of massage, osteopathy, acupuncture, hirudotherapy were connected.

The main recommendations in the future were;

- compliance with a balanced diet;

- restriction of animal proteins (especially meat

mammals), dairy products, sugar, bread and products containing wheat.

Clinical example

The mother of the child, Gleb N., 3 years old, turned to our clinic with complaints of frequent colds, which have been constant since the age of 1 year, and pain in the legs.

Despite the ongoing treatment with antibiotics, antiviral drugs, immunomodulators, the child was worried about a constant cough and runny nose. Sometimes the temperature rises, moreover, as the temperature rises the mother noted the presence of the smell of acetone from the head of the child.

Anamnesis revealed: grandmothers on both sides had manifestations of gout. The child was fed meat 3-4 times a day, every day the child ate 200 grams of cottage cheese with sour cream, washed it down with milk, and for breakfast he always ate a sandwich with butter and cheese and milk porridge!

The child was consulted by a phthisiatrician, allergist, rheumatologist, and immunologist. No pathology was found. At the same time, the state of the internal organs, except for the respiratory organs, was not investigated.

Examination of the child by R. Voll's method revealed a decrease in indicators on the meridians of the pancreas, liver, stomach, large intestine, lymph, and lungs.

In the study of the child by the method of vegetative resonance test on the APK "IMEDIS-EXPERT", the primary affected organ was revealed - the pancreas, the most affected organ - the liver, stomach, large intestine.

Violations of acid-base balance with grade 4 acidity, enzymatic insufficiency of the stomach and pancreas, uric acid were tested.

Ultrasound of the abdominal cavity and kidneys revealed hypomotor-type biliary dyskinesia, reactive changes in the liver and pancreas, and the presence of hyperechoic suspension in the renal pelvis on the left.

In the general analysis of urine were present: squamous epithelium 3-4 in the field of vision, a large amount of uric acid salt, mucus. In the analysis of blood for uric acid and creatinine, significant deviations from the age norm were revealed in both indicators, i.e. the child had all the signs of the presence of neuro-arthritic diathesis.

Were prescribed: a diet with restriction of protein and fatty components of nutrition, exercise therapy, drainage homeopathic preparations, as well as detoxification treatment on the device "ELKA" and BRT.

A runny nose and cough disappeared a week after starting treatment.

When re-examining by the method of R. Voll and ART, almost all indicators returned to normal.

After a month of well-being, the mother, having decided to "expand the diet" again, began to give a lot of meat, milk and cottage cheese, which soon again led to the appearance of a runny nose and cough in the baby.

An explanatory conversation was held with my mother, then an approximate food ration for 3 months was drawn up with her.

A second course of treatment was prescribed, after which the child's condition improved, and for 5 months he has not been sick.

The results of laboratory studies have also come to the age norm.

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