



Nutritional Needs in Chronic Liver Disease

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ABSTRACT

In chronic liver diseases, nutritional status is often disturbed with the development of malnutrition of one degree or another. The use of nutritional support based on the nosological and syndromic approach makes it possible to create optimal conditions for the normalization of the function of the affected organ, increasing the effectiveness of other types of therapy and improving the prognosis of the disease.

Keywords:

Chronic liver diseases, chronic hepatitis, diet therapy, nutrition.

The last 30 years have been characterized by significant advances in the study of the etiology and pathogenetic mechanisms of viral hepatitis. To date, the presence of six viral hepatitis has been established: these are hepatitis A, B, C, D, E and G, and most of them - hepatitis B, C, D and G can occur both acutely, cyclically, and take a chronic form. It should be emphasized that the list of viral hepatitis is not exhaustive and at least the possible role of two more hepatotropic agents is being discussed. Consequently, the incidence of hepatitis will persist for many years to come, supported by the so-called carriage of hepatotropic viruses, especially since the specific vaccination of some hepatitis (hepatitis A and B) is still far from providing full protection of the population.

The liver occupies a central place in the hepatobiliary system, participates in all metabolic processes. Almost half of the protein synthesized in the body is formed in the liver - these are structural proteins that provide reparative processes in tissues, as well as enzyme proteins, blood plasma proteins (albumins, globulins, fibrinogen, prothrombin) and protein-lipid complexes (lipoproteins, glycoproteins, bile lipid complexes and etc.). The liver also plays an important role in protein breakdown and amino acid conversion, in the processes of deamination and transamination. The traditional approach to the diet therapy of viral hepatitis attaches great importance to therapeutic nutrition in these diseases. This approach was formed in the middle of the last

century, and many domestic nutritionists and some gastroenterologists continue to adhere to it at the present time.

In infectious diseases, therapeutic nutrition helps to increase the body's defenses, restore damaged tissues, accelerate recovery, prevent the transition of the disease to a chronic form and the formation of complications. Therapeutic nutrition can increase the effectiveness of pharmacotherapy and reduce the likelihood of adverse effects on the body of a number of drugs.

Medical nutrition is based on the following principles.

1. Ensuring the needs of a sick person in nutrients and energy. The basis of therapeutic nutrition is the scientifically based nutrition of a healthy person, the expression of which is the physiological norms of nutrition, depending on gender, age and other factors. This principle is especially important for able-bodied people with chronic diseases that require dieting at home and at work. In addition, the proposed diet should meet the body's need for energy through fats and carbohydrates, as well as provide sufficient intake of vitamins, essential fatty acids, minerals, dietary fiber. The value of needs is calculated according to anthropometric data and the level of physical activity.

2. Ensuring a match between the food taken and the body's ability to absorb it. This requirement of diet therapy is achieved by purposefully prescribing a certain amount of nutrients, selecting products and methods of their culinary processing, diet, taking into account the characteristics of metabolism, the state of organs and systems of a sick person. In chronic hepatitis not complicated by cirrhosis of the liver, as a rule, there are no restrictions on the ability to assimilate food, so the patient can not be limited in the methods of culinary food processing. However, it is worth recommending to patients a fractional diet, as the most physiological for the liver in the presence of chronic inflammation.

3. Accounting for the state of nutrition of the body - indicators of its nutritional status. When prescribing a diet and during diet therapy, the study of nutritional status indicators allows you to make adjustments to

the content of nutrients and energy in diets, depending on the presence or absence of protein or protein-energy malnutrition, obesity, anemia and other manifestations of undernutrition or overnutrition. Since the dosage of antiviral drugs is determined by the patient's body weight, an important task of dietary treatment is to normalize his body weight by changing the caloric content of the diet.

4. Accounting for the local and general effects of food on the body. With local exposure, food affects the senses (vision, smell, taste) and directly on the food canal (oral cavity, stomach, etc.). The attractive appearance of dietary dishes, improving their taste and aroma with the help of herbs, seasonings, spices is of particular importance in diets with a limited set of products, the amount of salt and the predominance of boiled dishes, for example, with cirrhosis of the liver and drug-induced anorexia.

5. The use of sparing, training and unloading methods in nutrition. Sparing is used in case of irritation or functional insufficiency of an organ or system. In a number of liver diseases, the need of a sick person for basic nutrients and energy practically does not differ from that of healthy people, and the use of sparing methods comes to the fore in clinical nutrition. So, for patients with viral hepatitis, the use of alcohol is absolutely contraindicated, both in relation to the principles of sparing and to reduce the risk of complications.

6. As a rule, medicinal substances are compounds that are foreign to the body. The timing of the manifestation of the therapeutic effect and its severity depend on the method of administration of drugs, absorption in the alimentary canal, metabolism in the body and removal of metabolic products from it. All these processes can be influenced to a greater or lesser extent by nutrients and nutrition in general.

The general characteristic of the therapeutic nutrition used was the physiologically normal content of proteins and carbohydrates with a slight restriction of fats (mainly refractory). Foods rich in nitrogenous extractives, purines, cholesterol, oxalic acid, essential oils and fat

oxidation products that occur during roasting were excluded.

Essential in achieving a therapeutic effect is a sufficient content of dietary fiber, which helps to accelerate the excretion of metabolic products and toxic agents from the body. These and other dietary requirements for diseases of the hepatobiliary system are met by the main version of the standard diet.

An important aspect of diet therapy for acute and chronic hepatitis has been and will remain the principle of compliance in the incoming food with the content of basic nutrients and energy.

Proteins are plastic and energetic material. The main source of essential amino acids are animal proteins (milk, eggs, meat, fish). Proteins of plant origin (flour, cereals, etc.) do not have an optimal set of amino acids or contain insufficient amounts of them, unlike animal proteins. Proteins of animal origin are digested by 90%, vegetable proteins - less efficiently - by 60%.

There should be no protein deficiency in the diet of patients with viral hepatitis. This is the oldest position of dietology, however, it is also confirmed in modern clinical practice when monitoring patients with hepatitis A and B.

It has been shown that with an inadequate diet with a lack of a protein component in patients with hepatitis A, disturbances in the system of T- and B-cells persist for a long time and a protracted course of the disease is formed. According to other clinicians, individuals whose diets were deficient in animal protein developed more severe forms of hepatitis B and its unfavorable course was observed, compared with those in patients who were on a balanced protein diet.

And in earlier studies (in the 50-60s of the XX century) it was directly indicated that insufficient protein content in food in patients with liver diseases could lead to the development of protein and fatty degeneration of hepatocytes and further to alimentary cirrhosis of the liver.

Proteins are limited in severe hepatobiliary insufficiency, which can occur in patients with acute hepatitis and cirrhosis of the liver.

Fats, like proteins, are among the necessary components of the diet, since they perform

plastic functions and are part of the cells and tissues of the body and have a high energy value. Food fats contain polyunsaturated fatty acids and fat-soluble vitamins necessary for humans.

There are two groups of edible fats: 1) animal fats and 2) vegetable oils. The first group includes milk fats (butter and ghee), beef fats, mutton, fish fat. The most complete is butter, rich in fat-soluble vitamins and containing up to 2.5% of milk proteins.

Vegetable oils (sunflower, corn, soybean, olive, etc.) contain fat rich in essential polyunsaturated fatty acids, as well as vitamin E and phosphatides. Vegetable oils have a lipolytic effect through the activation of lipolysis enzymes, improve cholesterol metabolism, contributing to the formation of its more labile esters.

In the liver diet, a physiological fat content is recommended, i.e. in a 1:1 ratio with protein.

In addition to the above nutritional properties, fats also contribute to the optimal absorption of proteins, vitamins, minerals and increase the palatability of food and satiety.

With decompensated liver cirrhosis, severe forms of acute hepatitis, fats are excluded from the diet of patients.

Carbohydrates are considered the main source of energy, they are part of the cells and tissues of the body, take an active part in metabolic processes, and contribute to the absorption of other nutrients.

It is known that carbohydrates are divided into simple and complex. The simple ones are mono- and disaccharides, while the complex ones are polysaccharides. The group of monosaccharides consists of glucose or grape sugar, fructose - a sugar found in honey and fruits, galactose, contained in milk sugar. The disaccharides are sucrose (beet and cane sugar), lactose (milk sugar), and maltose. Mono- and disaccharides dissolve easily in water, are quickly absorbed and assimilated by the body, cover energy expenditure and provide vital organs with carbohydrates.

Polysaccharides include starch, glycogen, dextrin, fiber, pectic substances and cellulose. Starch, glycogen, dextrin are slowly digested, well, but more slowly than simple carbohydrates, absorbed by the body, provide

tissues with the necessary energy for a long time.

At the same time, fiber, pectin, cellulose - the so-called dietary fiber, are not digested, not absorbed, but have a beneficial effect on the digestive processes, contributing to the secretion of the digestive glands, the release of bile, and the normalization of the intestinal microflora. Pectins swell in the intestines, adsorb toxic metabolites and remove them from the body.

Simple and complex carbohydrates, necessary in the diet for liver diseases, are introduced with foods such as vegetables, fruits, cereals, bread, flour, sugar, confectionery.

At the same time, it is important to observe the energy balance, that is, to introduce such an amount of carbohydrates that there is no shortage of them, and therefore, the reasons for the development of dystrophic phenomena. On the other hand, it is impossible to flood the body with an excess of carbohydrates, which can contribute to excessive accumulation of fats with adverse consequences (reducing resistance to infections, the formation of allergic reactions, etc.).

The optimal content of carbohydrates in the diet should be physiological, that is, 4 times more than the amount of proteins and fats.

In severe liver failure, a diet with a low energy value, consisting of easily digestible carbohydrates, is prescribed.

In addition to the main food products that provide the plastic and energy needs of the body, the so-called essential nutrients, i.e. vitamins, minerals, microelements, must be present in sufficient (physiological) amounts in the diet for hepatitis. These nutrients are involved in all biochemical processes in the body and are regulators of all physiological reactions.

Vitamins, minerals and trace elements are contained in food, but at present, the population has hypovitaminosis, often combined with a deficiency of macro- and microelements, which is aggravated especially in diseases of the gastrointestinal tract, liver and kidneys.

Therefore, in hepatitis, it seems appropriate to prescribe products enriched with basic macro- and microelements.

Culinary processing of dishes in acute and chronic hepatitis includes boiling, steaming, baking and poaching. With these cooking methods, the formation of extractive, irritating substances is practically not observed.

Vegetables are given in boiled and raw form, when served, vegetable oil is added to them. Ripe fruits and berries of sweet varieties are most preferred and are prescribed both raw and after heat treatment (baked apples, etc.). Food is given in a warm form with a frequency of 5 times a day.

Nutritional support is an important component of treatment for chronic liver disease. Modern scientific data allow a deeper understanding of the mechanism of malnutrition in various types of liver pathology and optimize nutritional support, which improves the prognosis in children with liver diseases. The nosological and syndromic approach to diet therapy makes it possible to individualize medical nutrition and increase the effectiveness of other types of treatment.

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