

Problems of liver cirrhosis

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Abstract: The liver is one of the most important organs of the human body, which ensures the purification of blood from toxins. This organ is also actively involved in the digestive system, in the metabolism of carbohydrates, lipids and proteins. It is not surprising that any malfunction of the liver has a negative impact on the whole organism and the life of the patient. Cirrhosis of the liver is a serious disease, as a result of which liver tissue is replaced by connective tissue, and the organ stops performing its function. Cirrhosis of the liver is a chronic progressive disease that can lead to life-threatening consequences. Liver cirrhosis is the final histological stage of a wide range of chronic liver diseases: damage to hepatocytes and protective mechanisms in the liver leads to regeneration and fibrosis. In 2020, The Lancet Gastroenterology & Hepatology published a seminal study of the epidemiological indicators of cirrhosis in 195 countries from 1990 to 2017. He also noted clear geographical fluctuations in the frequency of the pathology. Among the population of the Asia-Pacific region, Central Latin America, and Central and Eastern Europe, the incidence of compensated cirrhosis was found to be 5-6 times higher than in North America, Southeast Asia, and Australia. The incidence of decompensated cirrhosis was highest in the same areas. In most regions, the incidence of compensated and decompensated cirrhosis was higher in men than in women. Cirrhosis of the liver is the result of long-term active hepatitis of various etiologies, so the frequency of liver diseases in different countries is of interest. A large study of 1,016,743 hospitalizations for chronic liver disease in the United States between 2012 and 2016 was conducted. During this period, the frequency of hospitalizations per 100,000 population increased from 3,056 to 3,757, and the financial costs for treating patients increased from 14.9 billion US dollars to 18.8 billion. The average age of patients was 56.8 years in 2012, and 57.8 years in 2016. organized.

Keywords: cirrhosis of the liver, clinical symptoms, diagnosis, elimination of causes, treatment

Chronic inflammatory diseases of the liver are increasingly attracting the attention of doctors of various specialties. It is associated with the spread of chronic hepatitis, cirrhosis is the last stage of hepatitis and the mortality rate is high. The socio-economic importance of the disease is also determined by the frequent spread of cirrhosis of the liver among people of working age. In addition, the treatment of cirrhosis of the liver is a complex task, and its implementation requires large financial costs. The therapeutic

strategy for cirrhosis of the liver consists of treating the main disease that led to its development, and therapy aimed at eliminating complications. In cases of ineffectiveness of these methods and the exacerbation of the disease, liver transplantation is indicated. Cirrhosis of the liver is a serious disease, as a result of which liver tissue is replaced by connective tissue, and the organ stops performing its function. According to the literature, more than half of all cases of liver cirrhosis in Europe, as well as in the former CIS countries, are associated with alcohol consumption. However, a quarter of these patients were shown to have a history of hepatitis. In addition to alcoholic beverages, viral hepatitis B, C, D (the role of TTV- and SEN viruses in liver pathology is being studied), metabolic diseases (hemochromatosis, Wilson-Konovalov disease, alpha1-antitrypsin deficiency, metabolic-accumulating diseases), blood - vascular diseases (Badd-Chiari syndrome), immunological factors (autoimmune hepatitis) and drugs. Despite the great diagnostic possibilities, even in Western Europe and the USA, the etiology of liver cirrhosis remains unclear in 20% of cases (cryptogenic cirrhosis).

Pathological mechanisms of liver tissue damage in cirrhosis are similar, regardless of etiology. First, it is the formation of a bridge-like and staged necrosis in the parenchyma, which disrupts the normal regeneration of the liver, because instead of dead hepatocytes, connective tissue develops, which cuts the lobule into several irregular parts - false lobules.

Newly formed connective tissue septa contain vessels leading from the portal vein to the central vein, which circulates blood around the hepatocytes. This creates conditions for their replacement by connective tissue (fibrosis) in the future. With cirrhosis of the liver, all types of fibrosis can be observed (perihepatocellular, centrolobular, portal and periportal, multilobular, bridging, perivenular, etc.). The predominance of one or another type of fibrosis depends to some extent on the etiological factor.

For example, perivenular fibrosis is characteristic of alcoholic liver damage. However, it should be understood that liver fibrosis itself is not a sign of cirrhosis. Cirrhosis is a diffuse process with a combination of fibrosis, nodular changes of the parenchyma, and fibrous septa connecting the portal system to the hepatic venous system.

Clinical symptoms depend on the duration of the disease, the functioning of the liver parenchyma, the violation of portal blood circulation and the prescribed treatment. In 30-40% of patients, liver cirrhosis is completely asymptomatic and is diagnosed by chance. Cirrhosis without symptoms of metabolic dysfunction and complications of portal hypertension is called compensated.

Clinical signs include:

1. General symptoms: general weakness and fatigue (the main and only subjective symptom for a long time), subfebrile temperature, loss of appetite, weight loss, characteristic silhouette ("spider figure" - thin lower and upper legs -arms, due to muscle atrophy and abdominal girth expansion) painful muscle spasms (especially disturbing at night), itching.

2. Skin changes: jaundice, stellate hemangiomas (called spider veins), telangiectasias, erythema of the palms and feet, skin hyperpigmentation, leukonychia, xanthelasma, hair loss on the chest and armpits in men, hirsutism, dilated veins, collateral circulation on the skin of the abdominal wall ("Jedusa's head"), when hemorrhagic diathesis develops (mainly due to impaired synthesis of blood clotting factors and thrombocytopenia by hepatocytes), petechiae, as well as bleeding from the gums and nose, bleeding from the mucous membranes are observed.

3. Dysfunction of the digestive system: flatulence, nausea and vomiting, flattening of the tongue papillae, swelling of the salivary glands (in some patients), pain under the right rib cage, splenomegaly (in patients $\approx 60\%$), significant superficial nodular hepatomegaly, (only in some patients, usually the liver is reduced and hidden deep under the rib cage), accumulation of ascites fluid in the abdominal cavity, hernias of the anterior abdominal wall (blue often umbilical hernia) is observed.

4. Dysfunction of the reproductive system: hypogonadism (decreased libido, menstrual disorders and infertility, in men - testicular atrophy and feminization (gynecomastia, spider veins, palmar erythema, changes in the character of hair growth).

5. Typical course of the disease: liver cirrhosis is a progressive disease, and laboratory and clinical signs of decompensation develop over time. According to the Child-Pugh classification, the degree of liver failure in liver cirrhosis from the initial stage of the disease, which can be determined only by histological examination, to severe liver failure depends on the etiology and the applied treatment measures. From the moment the first signs of decompensation appear, 45% of patients live up to 5 years, and 10-20% live up to 10 years.

List of basic and additional diagnostic measures:

1. General blood test with determination of platelet level;
2. Indicators of liver function - aspartate aminotransferase, alanine aminotransferase, γ -glutamyl transpeptidase, alkaline phosphatase, bilirubin by fractions;
3. Iron metabolism (serum iron, ferritin);
4. Serum protein and albumin concentration;
5. Creatinine concentration;
6. Coagulogram: prothrombin index;
7. Concentration of sodium, potassium in blood serum;

8. Immunological examination: markers of hepatitis viruses: HBsAg; against HCV; against HDV; HCV-RNA – qualitative analysis*; HBV-DNA - qualitative analysis*; HDV-RNA – qualitative analysis*; ANA; AMA;
9. Blood group and Rh factor;
10. General blood analysis;
11. Electrocardiogram;
12. Ultrasound examination of abdominal organs;
13. Esophagogastroduodenoscopy;
14. Magnetic resonance imaging.

Treatment of liver cirrhosis. The choice of treatment methods for cirrhosis of the liver depends on many factors, but regardless of them, the therapeutic course is aimed at eliminating the cause of cirrhosis (the disease that causes liver damage), mandatory nutrition and medication. A separate point of the treatment program is prevention and elimination of complications that can worsen the situation.

Eliminating the causes. If liver cirrhosis develops against the background of viral hepatitis, first of all, the entire therapeutic course is aimed at treating this disease. The main treatment for alcoholic and toxic (drug) cirrhosis is the elimination of substances that affect the liver (ethanol, drugs). Biliary (autoimmune) cirrhosis of the liver caused by bile stagnation due to inflammation of the bile ducts requires not only the use of immunosuppressants to reduce the aggressive effect of the immune system, but also, if necessary, surgery to eliminate bile stagnation. also requires intervention. Congenital cirrhosis, which manifests itself due to hereditary diseases that cause damage to the liver, requires urgent treatment of these congenital diseases.

Medicinal treatment. The choice of drugs should be made only by a doctor, because the use of a particular drug depends on the cause of liver damage, the stage of cirrhosis and general health. Self-medication is dangerous!

The main directions of medical treatment: preparations aimed at increasing the metabolism of liver cells, stabilizing and restoring them (Heptral, Hepa-merz, glutamine and lipoic acid, Essential, cocarboxylase, vitamins). Transfusion therapy (blood, plasma transfusion) - blood products and its components, blood substitutes, electrolyte solutions, substances that have a hemostatic effect, affect the blood clotting system and increase the number of platelets are sent.

Indications for the use of transfusion therapy: liver failure, portal hypertension, hypersplenism, ascites, manifestations of electrolyte imbalance.

Glucocorticoid hormones are prescribed only according to the instructions. As a rule, these drugs are indicated for viral and biliary cirrhosis, manifestations of hypersplenism, the active stage of alcoholic cirrhosis (especially in combination with alcoholic hepatitis, liver failure or encephalopathy).

Enzyme preparations are used to eliminate constipation, and adsorbents are needed to clean the intestines from toxic substances. The main purpose of these drugs is to reduce the absorption of toxic substances into the blood.

Diuretics are drugs that help remove excess water from the body and are used in the development of ascites (accumulation of large amounts of water in the abdominal cavity, which is a complication of cirrhosis).

Follow the diet. Diet is one of the main ways to prevent and treat further recurrence of the disease. The choice of dietary foods should be made only by a doctor, because any restriction or preference for certain foods over others depends on the stage of the disease, the degree of liver damage, the presence of concomitant complications and other diseases. need

Dietary nutrition in cirrhosis of the liver not only provides the full physiological needs of the body, but also protects the damaged liver, stomach, and intestines to the maximum extent, which leads to the restoration of their impaired functions.

The main goals of the therapeutic diet are: - prevention of further development of the disease; - stimulation of regeneration of liver cells; - improvement of the functional state of the liver; - restore metabolism and increase immunity; - preventive measures.

As a rule, with compensated cirrhosis, when the liver is still able to perform its functions, foods rich in proteins and amino acids (cottage cheese, lean fish, milk, beef, eggs, buckwheat, oatmeal, millet, bread, vegetables) are included in diet food. Foods rich in protein and amino acids for alcoholic cirrhosis also improve metabolism and strengthen the body's protective function, because with liver damage, the level of protein in the blood remains very low.

In case of decompensated cirrhosis, it is necessary to limit the consumption of proteins contained in dietary foods, because the liver can no longer neutralize toxic substances and end products of metabolism (for example, ammonia) formed in the body. In severe cases, when decompensation increases, protein-rich products are removed from consumption.

Fat consumption depends on the degree of liver damage. With compensated cirrhosis, the use of limited amounts of vegetable and dairy fats is allowed (animal fats are not allowed). In decompensated cirrhosis and cirrhosis with symptoms such as nausea, vomiting, diarrhea, fats are removed from the diet.

In addition, all patients with cirrhosis of the liver should avoid alcohol, fried and smoked foods, sausages, canned goods, mushrooms, tomatoes, and chocolate. The main dishes recommended for consumption - vegetable soups, low-fat boiled meat, cereals, low-fat dairy products, fruits, kissels are included in the daily diet. The main principle of the diet for cirrhosis of the liver is the use of fast-digesting foods, the mandatory presence of vitamins in the diet and the consumption of a large amount of liquid. In addition, it is necessary to eat small amounts every 3-4 hours.

Surgical treatment. Surgical treatment of cirrhosis of the liver is a radical method used only in extreme cases, when therapeutic treatment no longer gives a positive result.

Liver transplantation is required in cases of cirrhosis of the liver, when other treatment methods have failed. Liver transplantation is a surgical intervention in which the damaged part of the organ is removed and liver tissue from a healthy donor is transplanted in its place. Liver transplantation is recommended for patients with decompensated liver cirrhosis, because they have complications of various forms in addition to the main disease. These complications include: complicated internal and external bleeding, accumulation of ascites fluid in the abdominal cavity, hepatorenal syndrome, hepatic encephalopathy, bacterial peritonitis.

Conclusion: Therefore, early diagnosis of the disease in patients with cirrhosis of the liver and the correct selection of treatment measures will help to improve the quality of life of patients along with increasing the effectiveness of treatment. Currently, the widespread implementation of liver transplantation in our country, as well as in the whole world, helps hundreds of patients to return to life. But there are several treatment methods that prevent the development of the disease even in the early stages. The main recommendation: do not drink alcohol. Proper nutrition should be observed: fatty foods, chocolate, canned foods, smoked foods should not be eaten. The diet should include vitamins, fruits, plenty of liquid, dairy products, boiled meat without fat. It is necessary to eat small amounts 3-4 times a day. Following this diet, a person can protect himself from cirrhosis of the liver.

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