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MAIN GROUPS OF HEPATOPROTECTOR SUBSTANCES

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Annotation: In this article given about the outline of the primary drugs and home cures for hepatobiliary system disorders given in this article. An overview of the primary drugs and home cures for hepatobiliary system pathology. It displays the indications for the use of the primary classes of hepatoprotectors as well as their categorization by mechanisms of action. A wide range of plant hepatoprotective compounds given particular consideration, with their mechanisms of action based on their chemical makeup. According to the chemicals that make them up. Lists of dietary supplements and medicinal plants that shown in clinical and experimental research to have choleric, hepatoprotective effects and experiments.

Key words: hepatoprotectors, flavonoids, phospholipids, lipid peroxidation, lipids, liver

Аннотация: В статье дано описание основных препаратов и домашних средств лечения заболеваний гепатобилиарной системы. Обзор основных препаратов и домашних средств лечения патологии гепатобилиарной системы. Приведены показания к применению основных классов гепатопротекторов, а также их классификация по механизму действия. Особое внимание уделено широкому спектру растительных гепатопротекторных соединений, механизм действия которых основан на их химическом составе. По химическим веществам, из которых они состоят. Перечни БАД и лекарственных растений, у которых в клинических и экспериментальных исследованиях и экспериментах показано желчегонное, гепатопротекторное действие.

Ключевые слова: гепатопротекторы, флавон иды, фосфолипиды, перекисное окисление липидов. липиды, лекарственные растения, печень.

Introduction. The liver is involved in many pathological processes, and its damage causes serious disorders, including metabolic disturbances at the organismal level, immune response, detoxification and antimicrobial defense. The liver is one of the organs capable of regenerating after damage, due to cellular cooperation, the presence of molecular mechanisms of acute phase reaction and synthesis of a number of substances in the body a protective nature. Most often-liver damage realized through chemical and immunological mechanisms. In recent decades, diffuse liver diseases of predominantly viral etiology have taken a strong position among the most common liver diseases.

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Predominantly viral etiology have taken a strong position among the most urgent problems of modern medicine. Urgent problems of modern medicine, because they reduce the quality of patients, lead to disability. In recent years, the knowledge in the field of etiology, immunogenesis knowledge in the field of etiology, immunogenesis, and pathmorphology of these diseases considerably expanded in recent years.

Possibilities of diagnostics and specific prophylaxis. The most difficult and far issue of therapy of patients with acute and chronic viral hepatitis (VH) remains the most difficult and far from being solved. Hepatitis (VH), steatohepatitis of alcoholic and non-alcoholic etiology. In accordance with modern principles of treatment of liver diseases, the program of complex therapy of such pathology includes two main directions. The first represents etiotropic therapy aimed at suppressing the pathologic pathogen, its elimination and sanitation of the body. In clinical practice etiotropic therapy used only in viral hepatitis with parenteral mechanism of infection.

The second direction corresponds to pathogenic therapy, aimed at adequate pharmacological correction of universal, multifactorial and multitemporal links of pathogenesis. It should be noted that universalism of the main links of pathogenesis of various liver lesions and allows to polyetiologic character of this pathology to use rather close pathogenetic therapy. Pathogenetic therapy, the basis of which may be drugs with a targeted action on hepatic cells when discussing the pathogenetic therapy of HBV, it is necessary to consider the general provisions and some features in acute and chronic infections. Some peculiarities in acute and chronic infections. In acute HBV, signs of liver dysfunction detected in the midst of the disease, and their severity correlates with the severity of the course of the disease. Liver and the degree of their severity correlates with the severity of the course of the disease.

Despite the presence of diffuse liver damage, cytolysis and dystrophy of hepatocytes in the majority of cases, the disease is mild. The majority of cases of diseases occur in mild and moderately severe forms, that due to the enormous compensatory-adaptive capabilities of this both this organ, as well as systems and the whole organism. For example, HAV is an acute, self-limiting disease, characterized by a benign course, and in the majority of cases represented by mild low-symptoms. Most cases represented by mild, asymptomatic forms. Mild forms VH essentially do not need drug therapy. The main task of therapeutic measures is to create optimal conditions for sanogenesis and repairing. This achieved by limiting various loads on the liver as an organ involved in metabolism detoxification, digestion and regulation of metabolic processes.

In this regard, the crucial importance of compliance with the regimen - bed rest in the acute and sparing in the period of reconsolidation, as well as a strictly regulated therapeutic diet in mild forms of acute HBV, treatment may be limited to adherence to a regimen and diet. In this case, the use of vitamins, enzyme preparations is justified (panzinorm, pancitrate, mesim-forte, etc.). In diffuse liver diseases of particular importance is the attitude “do no harm”, as any unjustified therapeutic drugs can serve as an additional load on the defective liver. The manifestation of severe forms of HF indicates the depletion of reserves of the organ and the organism as a whole, depletion of compensatory-adaptation mechanisms, which justifies the use of a wide range, but weighted, pathogenetic means of therapy. As medicaments means having hepatoprotective effect, increasing the resistance of hepatocytes to pathological influences, a large group of medications is used, it formed by drugs

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preparations of different origin (animal, vegetable, synthetic). For pharmacological correction of various diseases of hepato-biliary system, depending on the etiologic factors, pathogenesis peculiarities and clinical manifestations drugs used, which can be conditionally divided into the following groups of drugs:

1. Influencing the processes of tissue metabolism (vitamins, amino acids and protein hydrolysates, peptides, steroidal and non-steroidal anabolics, adaptogens);

2. Increasing the detoxification function of the liver and other organs

(adsorbents, antidotes);

3. Diuretics;

4. Antiviral and antimicrobial;

5. Immunomodulators;

6. Anti-inflammatory (steroidal and non-steroidal);

7. Inhibitors and inducers of microsomal systems that carry out the

Metabolism of xenobiotics;

8. Hepatoprotectors;

9. Antioxidants.

The assortment of drugs used in diseases of the hepatobiliary system, counts more than a thousand names. However, such a variety of drugs there is a small group of drugs that have an effect on hepatobiliary system diseases. A relatively small group of drugs that have a selective effect on the liver - hepatoprotectors. Their action aimed at restoring homeostasis in the liver, increase resistance of the organ to the action of pathogenic factors, normalization of functional activity and stimulation of reparative and regenerative processes in the liver. The main requirements for an ideal hepatoprotector are as follows: sufficiently complete absorption, the presence of the effect of “first passage” through the liver, a pronounced ability to bind or prevent the formation of highly active damaging compounds, ability to reduce inflammation, suppression of fibrogenesis, stimulation of liver regeneration and natural metabolism in pathology. Natural metabolism in liver pathology, extensive enterohepatic circulation, absence of toxicity Classification of drugs of hepatoprotective action

1. Containing natural or semi-synthetic milk thistle flavonoids: Hepabene,

Legalon, Karsil, hepatofalk-planta, Silibor.

2. Natural or semi-synthetic flavonoids of other plants: chophytol catergene

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(cyanidanol), LIV-52 (hepapiv).

3. organopreparations of animal origin: sirepar, hepatosan.

4. Essential phospholipids: essenciale, phosphoglive, essliver, eplir

5. Drugs of different groups: bemitil, ademethionine (heptral), lipoic acid

(thioktacid), hepa-merz (ornithine), ursodeoxycholic acid (ursofalk), non-steroidal

Anabolics (methyluracil, pentoxyl, sodium nucleinate), mildronate.

Indications for the use of hepatoprotectors are chronic hepatitis, cirrhosis, toxic liver damage, nonspecific reactive changes in the liver in a variety of organ pathology.

Recently, the leading role in the development of liver pathology given to lipid peroxidation (LPO). Taking LPO it seems to be the most important in the treatment of hepatobiliary system pathology is the use of antioxidant agents. For this purpose, the following used as hepatoprotectors vitamins E, A, C, enzyme antioxidants superoxide dismutase, which leads to the inhibition of LPO processes.to inhibition of POL processes, stabilization of hepatocyte membranes and acceleration of reparative processes in the liver. A similar hepatoprotective effect observed when administering selenium containing compounds, thiobarbituric acid derivatives In their chemical structure, phospholipids are similar to triglycerides, but in their molecule, one of the fatty acids is replaced by a phosphoric acid residue. The main phospholipids are lecithin (phosphatidylcholine), phosphatidylethanolamine, phosphatidy inositol, phosphacetylserine, phosphatidic acid.

Phospholipid preparations, being a constituent part of cytoplasmic membranes of the

Cell's membranes, contribute to the restoration of the structure, replace defects of the damaged lipid layer of biological membranes and restore its physicochemical properties.

The most well-known and long-used hepatoprotector is essential, a complex preparation containing diglycerine esters of choline phosphoric acid. It prevents inflammation, necrosis of hepatocytes, decreased mitochondrial and endoplasmic reticulum enzyme activity, reticulum, lysosomes. These drugs stimulate antitoxic function of the liver; prevent inactivation of cytochrome P-450. Essential, unlike other hepatoprotectors to great extent activates reduced glutathione conjugationxenobiotics. The hepatoprotective mechanism of action of this group of drugs determined by stimulation of RNA polymerase activity and ribosomal protein synthesis in hepatocytes, as well as antioxidant effect. This group of compounds used as the most effective hepatoprotectors in clinical practice. The use of medicinal plants with a high content of flavonoids, contributes to the inhibition of LPO processes, prevents the development of dystrophy, necrosis of hepatocytes, hyperfermentemia and cholestasis. The same group of drugs used as effective choleretic agents with a favorable effect on the functional state of the liver. Another class of biologically active substances with hepatoprotective effect are saponins: derivatives of glycyrrhizic acid, which used in the treatment of chronic hepatitis. Currently used in the treatment of chronic hepatitis (glycyram, glycyrrhizin in the form of aqueous extract from

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licorice roots, saponin B2)]. There is data on the anti-hepatotoxic effect of various plants – lemongrass Chinese and other representatives of the Magnoliacea family, ginseng preparations, Asian yarrow, celandine, bitter wormwood, mugwort, mugwort mellifera, clover lupine, alfalfa. Many herbal remedies are categorized as hepatoprotectors, although their biologically active substances are not sufficiently studied their biologically active substances. Hepatoprotective effect of many

Planted preparations researchers attribute to the action of substances of phenolic nature.

Phenolic compounds have a pronounced antioxidant effect are universal stabilizers of biological membranes, have a pronounced hepatoprotective, hepatoprotective, hepatoprotective, antispasmodic, anti-inflammatory, angioprotective actions. A significant advantage of phenolic BAS over other classes of natural compounds is their low toxicity (marigold medicinal, maakia Amur, astragalus sainfoin, and late serrated bison). Antioxidants of plant origin include food plants: artichoke, radish juice, garlic extract, rice bran, carrot aqueous extract, sunflower seeds, and soybeans. Preparations containing artichoke extract include. Hepar SL, Carminagal, Hevehol. Based on plant phospholipids developed domestic drug phospholiv, comprehensively studied eplir, hepatoprotective agent of phospholipid nature.phospholipid means of phospholipid nature, obtained from mud mud, which is a lipid extract containing phospholipids and carotenoids.

In conclusion. Thus, in hepatology, phospholipid preparations considered one of the most effective variants of hepatoprotective substances. In Tibetanmedicine uses a wide range of drugs for the treatment of liver diseases of medicines, with preference given to multicomponent preparations (Norbu-dun-tan, Dig-da-shitan, etc.). According to the main sources, their number reached, which included more than 100 species of plants from the flora of Transbaikalia. These collections most often include saffron seed saffron, in Transbaikalia as a seed saffron used as marigold. Complexity of intervention in the pathologic process, diversity of liver functions, the need for an optimal combination of biologically active substances contributing to the recovery of the organ, determine the need for the use of multicomponent drugs with a pronounced therapeutic effect that do not cause toxic reactions, have no side effects. The literature presents data, testifying to the effectiveness of complex preparations: Naterman phyto teas, “Zakarpattya tea”, Ayurvedic, Chinese, Indian, means of traditional medicine, total tablet preparations (hepatogard, hepona, hepabene). Because of intensive search for hepatoprotective agents in recent years, significant progress made in the study of hepatoprotective agents.significant progress achieved in the study, development and creation of new herbal drugs,preparations. Complex preparations contribute to a more rational use of herbal.

This review of the literature shows that out of the total number of works on creation and application of hepatoprotectors, most of them are devoted to the study of means of plant origin. The reason for this is high harmlessness, expressiveness of action, availability of sources of obtaining, cost-effectiveness. Along with this insufficiently studied the possibility of using means of mineral and animal origin of natural natural sources (local resorts) as hepatoprotectors. In pathogenetic therapy of chronic liver and gallbladder diseases. The complex of therapeutic and prophylactic treatment is important a complex of therapeutic and prophylactic measures is of importance: diet therapy, regimen of labor and rest, efficiency of medical examination at the outpatient stage, informing the patient about etiopathogenesis of

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the disease. It is necessary among the means pathogenetic therapy in addition to herbal natural remedies to use other natural factors, such as sanatorium-resort treatment, used among the means of pathogenetic therapy in addition to herbal natural remedies.

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