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EFFECT OF "PHYTOCHOY" ON LIPID EXCHANGE IN LIVER TISSUE IN ANIMALS WITH HEPATITIS

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Abstract: The article describes changes in the amount of lipids in the liver cells of animals with toxic hepatitis caused by the drug heliorin, as well as the effect and importance of phytotea tincture on these changes.

Key words: phytochay, hepatitis, cirrhosis, liver, hepatocyte, lipid, triacylglyceride, organism, cell, phospholipid, cholesterol.

Аннотация: Мақолада ҳайвонлар организмига гелиорин препарати таъсирида токсик гепатит чақирилиб, гепатит чақирилган ҳайвонларнинг жигар ҳужайраларида липидлар миқдорининг ўзгариши, ва бу ўзгаришларга фиточой дамламасининг таъсири ва аҳамияти ҳақида маълумотлар берилган.

Калит сўзлар:Фиточой, гепатит, цирроз, жигар, гепатоцит, липид, учацилглицерид, организм, ҳужайра, фосфолипид, холестерин.

Аннотация: В статье описаны изменения количества липидов в клетках печени животных при токсическом гепатите, вызванные препаратом гелиорин, а также влияние и значение настойки фиточая на эти изменения.

Ключевые слова: Фиточай, гепатит, цирроз печени, гепатоциты, липиды, триацилглицериды, организм, клетка, фосфолипид, холестерин.

The increase in the number of people with heliotrope liver disease and cirrhosis is 5-8 times more common in Central Asian republics than in Russian cities. By injecting different amounts of heliotrope into the body, a toxic experimental model of liver disease can be created.

In endemic hepatitis, when the liver is infected with various chemical and herbal hepatotoxic substances, morphological changes occur in the liver, leading to dystrophic and necrotic changes of the liver.

This process is caused not only by the influence of external toxic agents on the liver, but also as a result of the violation of blood exchange in the sinusoids of the liver and also leads to hypoxia-oxygen deficiency of hepatocytes.

After 15 days after injection of heliotrin, the amount of lipids in the liver increased by 30.9%, after 30 days this increase was 42.2%, and after 30 days it was 36.8%. These numbers lead

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to the opinion that under the influence of heliothrin, the consumption of lipids in various physiological and biochemical processes in liver cells decreases.

Triacylglycerides accounted for 30-40% of total lipids in the liver, phospholipids for 55-60%, cholesterol and other fractions for 5-10%.

Phospholipids (phosphatides) included in lipids consist of various components, including phosphoric acid, high molecular weight saturated and unsaturated fatty acids, alcohols (glycerol, inositol, sphingosine) and nitrogenous bases (choline, ethanolamine, serine, etc.).

Less than half of the lipids in the animal body are phospho-lipids. The intensity of metabolism of most phospholipids in adult animals is higher than that of glycolipids and cholesterol, which are considered other fractions of lipids. In addition, phospholipids form complex lipoprotein complexes with proteins, which are very important for the body.

After 15 days, the amount of phospholipids in the liver tissue of animals that received heliothrin decreased by 31.3%.

The amount of phospholipids in the liver began to decrease over time after heliotrin was injected into the animals. If on the 15th day of the experiment, the amount of phospholipids decreased by 31.3%, after 30 and 60 days, it decreased by 37.4 and 43.4%, respectively.

Thus, heliotrin caused a decrease in the amount of phospholipids in the liver, and this process heliotrinic hepatitis deepened correspondingly with the extension of its duration.

Cholesterol plays an important role in the normalization of various physiological and biochemical processes in body tissues and cells.

The amount of cholesterol in rat liver is 250-350 mg%. There are 4 forms of cholesterol in the human body: 1) cholesterol-protein; in this fraction, it mainly forms complex lipoprotein complexes with α - and β -globulins; 2) colloidal cholesterol (cholesterol phosphatide); 3) free cholesterol; 4) cholesterol esters, which include high molecular fatty acids.

In a normal state, the body contains mainly the first 2 fractions, the 3rd and 4th fractions are very rare, and in pathological conditions their amount increases sharply, causing hypercholesterolemia. Therefore, it is important to determine whether the amount of cholesterol in the liver increases or decreases when heliotrin is introduced into the body.

According to the obtained results, firstly, the amount of cholesterol in the liver increased sharply under the influence of heliotrin, and secondly, with the extension of the experimental period, the level of increase in the amount of cholesterol increased. In the experiment, the increase in the amount of cholesterol in the liver was 1.55 times after 15 days, 2.55 times after 30 days, and 2.92 times after 60 days.

As mentioned above, the liver plays a central role in the metabolism of fatty acids in the body. The amount of fatty acids in the liver fluctuates around 1.8-3.6%. Fatty acids that enter the liver undergo various changes and turn into the corresponding fatty acids needed

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for the synthesis of certain lipid fractions. In the liver, fatty acids are rapidly oxidized to carbon dioxide gas and water in the three-carbon cycle.

At present, there has been an increase in works on the bioeffector role of semi-saturated fatty acids and their derivatives (monoacylglycerols, amides, oxylipids).

Free unsaturated fatty acids control the activity of phospholipases, ion channels, ATPase activity, G-protein, protein kinase activity, modulate the phosphoinositide and sphingomyelin cycles, control gene transcription and the transport of hormonal signals.

Oxylipids are not stored in a ready state in the cell, they are synthesized from choline fatty acid in response to a biological stimulus when needed by the body. The effects of oxylipids are very diverse and are involved in many processes in normal and pathological organisms.

The introduction of heliotrin into the body led to an increase in free fatty acids in the liver. On the 15th day of the experiment, and after the 30th and 60th days, the amount of free fatty acids in the liver was 58.3; increased by 63.6 and 52.2%. Therefore, poisoning of the body with heliotrin leads to an increase in the amount of free fatty acids in the liver.

We gave "Fitochoy" to animals suffering from heliotrinic hepatitis and studied lipid metabolism in their liver tissue, and the results of these experiments are summarized in Table 2. On the 15th day, when phytotea was injected into the body of rats with hepatitis, the amount of lipids in the liver decreased slightly compared to the amount of lipids in the liver of control rats.

If the amount of lipids in the liver of rats with hepatitis increased by 30.5% compared to the indicator in intact animals, it increased only by 18.6% in animals receiving "Fitochoy". Depending on the duration of administration of "Fitochoy" to rats poisoned with heliothrin, the amount of lipids in their liver tissue approached the indicators of control (normal) animals, and after 60 days there was no difference.

The introduction of "Fitochoy" into the body of animals with hepatitis increased the amount of phospholipids in the liver, equaling the indicators in the liver of intact animals. 15 of experience; The amount of total phospholipids in the liver of animals with hepatitis on days 30 and 60 was the same as that of intact animals 31.3 compared to indicators; decreased by 37.4 and 43.4%, respectively, and in rats receiving "Fitochoy" these indicators were only 16.6; It decreased to 18.1 and 4.5%, respectively.

It is clear from the obtained results that when "Fitochoy" was administered to an organism with hepatitis for 60 days, the amount of phospholipids in the liver was equal to the indicators in intact animals.

When "Fitochoy" was given to rats with hepatitis, it was observed that it had a positive effect on the amount of triglycerides in the liver.

If, the amount of triacylglyceride in the liver of animals with hepatitis is 15 of the experiment; 78.8 respectively compared to the norm on the 30th and 60th days; increased by

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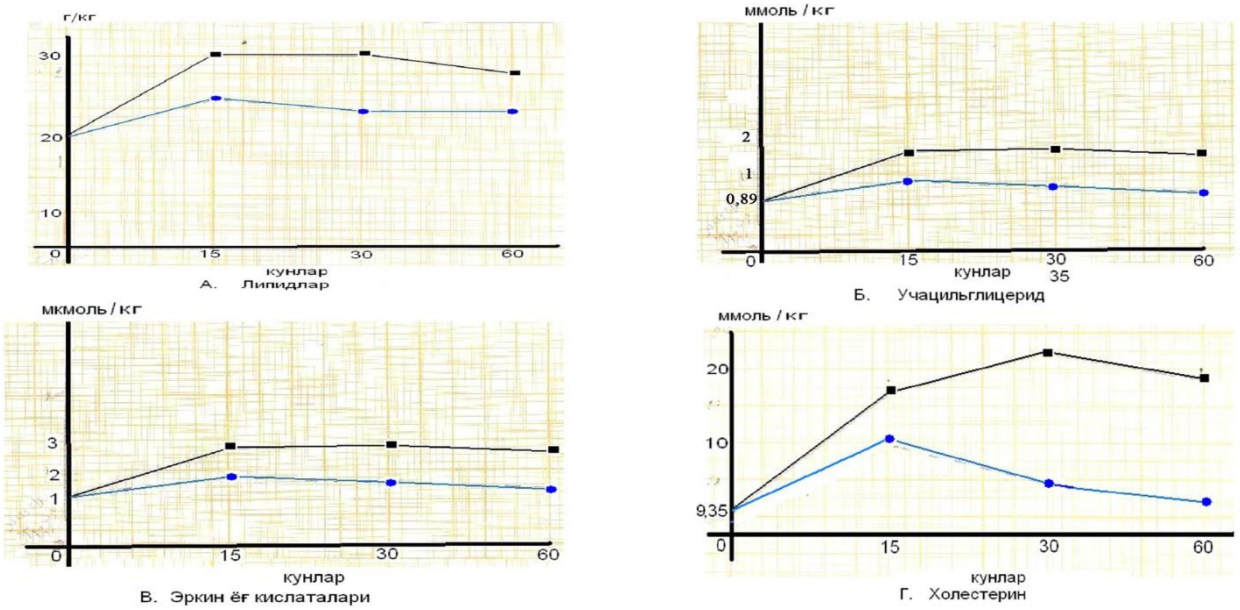
81.6 and 74.7%, and 14.9 when treated with "Fitochoy"; It increased only by 17.0 and 4.1 %. The amount of triacylglyceride in the liver of animals that received "Fitochoy" became normal.

"Fitochoy" significantly reduced the sharply increased amount of cholesterol in the liver of animals with hepatitis.

If, the amount of cholesterol in the liver of animals with hepatitis 15 of experience; 30 and 60 days, respectively, compared to the norm 256.1; increased by 274.5 and 255.2%, and 198.3 when treated with "Fitochoy"; It increased only by 158.1 and 126.3 %. These changes are shown as curves in Figure 1.



under the influence of "Fitochoy" in the blue line

Picture 1. Changes in lipids in the liver in hepatitis under the influence of "Fitochoy".

Summary

As a result of the treatment of animals with hepatitis with "Fitochoy", the increase in the amount of free fatty acids in the liver was much lower compared to animals with hepatitis. If, the amount of free fatty acids in the liver of animals with hepatitis is experimental15; 58.6 compared to indicators in intact animals on the 30th and 60th days; increased by 60.6 and 52.2% and 30.0 in animals with hepatitis that received "Fitochoy"; It increased only by 22.3 and 15.0 %. The obtained results show that the amount of free fatty acids in 2 months is equal to the indicator in intact animals.

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