



CHANGE OF PROTEIN IN THE LIVER IN HEPATITIS

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Abstract

In endemic hepatitis, liver disease with various chemical and herbal hepatotoxic substances causes morphological changes in the liver, leading to dystrophic and necrotic changes of the liver. In this process, the process of protein metabolism in the liver is also disturbed, resulting in a change in the amount of protein in the liver.

Key word

Liver, blood, organism, hepatotoxic substances, cell, oxygen, enzyme, protein, albumin, globulin, fibrinogen, hepatocyte.

Аннотация

При эндемическом гепатите поражение печени различными химическими и растительными гепатотоксичными веществами вызывает морфологические изменения в печени, приводящие к дистрофическим и некротическим изменениям печени. При этом процессе нарушается и процесс белкового обмена в печени, в результате чего изменяется количество белка в печени.

Ключевые слова

Печень, кровь, организм, гепатотоксичные вещества, клетка, кислород, фермент, белок, альбумин, глобулин, фибриноген, гепатоцит.

Аннотация

Эндемик гепатитда жигарнинг ҳар хил кимёвий ва ўсимлик таркибидаги гепатотоксик моддалар билан хасталанишида, жигарда морфологик ўзгаришлар бўлиб, жигарни дистрофик ва некротик ўзгаришига олиб келади. Бу жараёнда жигарда оксил алмашинуви жараёни ҳам бузилиб, натижада жигарда оксил микдорининг ўзгаришига олиб келади.

Калит сўз

Жигар, қон, организм, гепатотоксик моддалар, хужайра, кислород, энзим, оксил, альбумин, глобулин, фибриноген, гепатоцит.

As a result of internal blood circulation disorders of the liver, when the body is exposed to hepatotoxic substances, a lack of oxygen occurs in the liver cells; as a result, it leads to a decrease in the activity of intracellular enzymes

One of the important functions of the liver is related to protein metabolism, which keeps many proteins in the blood in moderation, such as albumin, globulin, and fibrinogen. All albumins, up to 90% of α -globulins, 50-60% of β -globulins are synthesized in hepatocytes, and proteins such as prothrombin, fibrinogen and proconvertin are synthesized in parenchymatous tissues of the liver.

γ -globulins are formed in reticuloendothelial tissues of the liver and plasmatic, reticular tissues of the spinal cord. If the human body produces 80-100g of protein in one day, half of it is synthesized in the liver. The main part of the protein produced in the liver is used to meet the needs of organs and tissues. In one night, 12 g of serum albumin is synthesized in the liver. At the same time, ferritin and ceruloplasmin, transport proteins carrying hormones and vitamins, are also synthesized in the liver.

The amount of total protein in blood serum under moderate conditions is 80-120g/l, of which 35-50g/l are albumins, 25-35g/l are globulins, and the ratio of albumins to globulins is 1.5-2.3. Changes in total protein and albumin, globulins in the blood serum are observed during inflammation of the liver. Accordingly, the ratio of albumins to globulins can change to 1.5 and even less than 1. This process is aimed at compensating the decrease of albumins with the increase of globulins. It also indicates that globulins are used more to neutralize toxic substances that have entered the body.

As a result of failure of albumin synthesis in liver inflammation, its amount decreases in the liver and blood serum.

A decrease in the amount of albumin in the blood serum is mainly observed in long-term mechanical inflammation of the liver and liver cirrhosis. As a result of long-term inflammation of the liver, as a result of disruption of the activity of protein synthesizing enzymes in liver cells, protein synthesis there fails.

A decrease in the amount of γ -globulins in the blood serum occurs in liver dystrophy, mechanical inflammation of the liver, and fatty dystrophy of the liver. In all mammals, nitrogen is used to produce urine as the end product of protein metabolism.

In all mammals, nitrogen is used to produce urine as the end product of protein metabolism. 90% of all nitrogen in urine is excreted in urine.

Liver of rabbits with hepatitis under the influence of "Dunyosi Phytochoi". changes in the tissue

The liver is central to protein metabolism. One of the important functions of the liver is related to protein metabolism, which maintains a moderate amount of many proteins in the blood, such as albumin, globulin, and fibrinogen. Current tests show that up to 90% of all albumins, 50-60% of α -globulins, β -globulins are synthesized in hepatocytes, proteins such as prothrombin, fibrinogen and proconvertin are synthesized in parenchymatous tissues of the liver.

If the human body produces 80-100g of protein in one day, half of it is synthesized in the liver. The main part of the protein produced in the liver is used to meet the needs of organs and tissues. 12 g of serum albumin is synthesized in the liver during one night and day. At the same time, ferritin, ceruloplasmin, transport proteins carrying hormones and vitamins are also synthesized in the liver. Taking this into account, in our next experiment, we set out to determine how the amount of liver proteins changes when heliotrin is injected into the body of animals and when poisoned animals are exposed to "Dunyosi Phytochoi"

The introduction of heliothrin into the body of animals led to a decrease in the amount of proteins in the liver, and this process deepened as the experiment continued. 15, 30 and 60 days after the start of the experiment, the total amount of proteins in the liver was 33.5, respectively, compared to the indicator in the liver of intact animals; 32.4; and decreased by 32.0%.

When we determined the protein fractions, the amount of both albumin and globulins decreased in the liver of animals with hepatitis, this process is especially noticeable for the globulin fraction.

As the duration of the disease increases, the decrease in the amount of these proteins deepens, and the amount of albumin in the liver on the 15th, 30th, and 60th days is 27.0, respectively; by 25.8 and 21.0%, the amount of globulin is 38.2; It decreased by 41.2 and 40.2%.

As it can be seen from the obtained results, the reduction of the amount of globulin in the liver under the influence of heliotrin is more profound than the reduction of the amount of albumin

When heliotrin was injected into the body of the experimental animals, the amount of uric acid in their livers decreased, and depending on the duration of the experiment, this process also increased, that is, 15, 30 and 60 days after the start of the experiment, the amount of uric acid in the liver was 25.2 compared to the amount of uric acid in the liver of intact animals; It decreased by 25.1 and 25.2%. So, the introduction of heliotrin into the body leads to a decrease in the amount of uric acid in the liver tissue, and this process deepened as the experiment continued.

Positive changes in the amount of proteins in the liver tissue were observed when "Dunyosi phytochoi" was introduced into the body of rabbits with hepatitis.

In hepatitis, it is clearly seen that the amount of proteins in the liver is significantly reduced, and the amount of proteins in animals with hepatitis that received "Dunyosi Phytochoi" is increased, and the

indicators in intact animals are almost equal. 15 of experience; After 30 and 60 days, the amount of proteins in the liver of animals with hepatitis is 33.5; It decreased by 31.4 and 32.0%, but only 11.1 in animals with hepatitis that received Dunyosi Phytochoi; It decreased by 7.4 and 5.5%, approaching normal indicators.

He amounts of albumin and globulins in the liver of animals with hepatitis that received "Dunyosi Phytochoi" also began to increase gradually, and on the 60th day of the experiment, they were equal to the indicators of intact animals. 15 in experience; After 30 and 60 days, the amount of albumin in the liver of animals with hepatitis was 27.0; by 25.8 and 21.0%, the amount of globulin is 38.2; decreased by 41.2 and 40.2%, while in the animals that received Dunyosi Phytochoi, the amount of albumin decreased by 21.4% in 30 days, by 12.5% after 60 days, and globulin decreased by only 22.4 and 16.9%.

After the 60th day of the experiment, the amount of these proteins was equal to the indicators in the liver of intact animals under the influence of "Dunyosi Phytochoi". In hepatitis with heliotrin, the activity of transaminases increases, the AST/ALT ratio decreases and moderates under the influence of Dunyosi Phytochoi.

When we observed changes in the amount of uric acid in the liver of animals with hepatitis under the influence of Dunyosi Phytochoi, we witnessed an increase in its amount. The thymol pattern indicates damage to the liver mesenchyme. Its amount was found to increase by 2-2.2 times compared to the norm in all periods of examination.

15 of experience; On the 30th and 60th days, the amount of uric acid in the liver of rabbits with hepatitis was 25.2; It decreased to 25.1 and 25.2%, and in the animals that received Dunyosi Phytochoi, it was only 10.2%; It decreased only to 9.9 and 5.9%.

In hepatitis with heliotrin, the amount of total proteins and fractions in the liver homogenate was found to be significantly reduced. On the 15th day of the test under the influence of world phytotea, the total protein content in heliotrin hepatitis was 167.8 ± 0.65 g/kg, on the 30th day it was 172.2 ± 0.58 g/kg, and on the 60th day it was 180.7 ± 0.42 g/kg. equals to the amount of protein in the liver homogenate under moderate conditions (184.61 ± 4.66 g/kg).

In hepatitis with heliotrin, the change in the amount of albumin in the liver homogenate is as follows, in moderate conditions, the amount of albumin in the liver homogenate was 108.71 ± 0.72 g/kg. On the 15th day of the examination, the amount of albumin in the liver homogenate was 79.42 ± 0.68 g/kg, on the 30th day it was 83.8 ± 0.81 g/kg and on the 60th day it was 87.0 ± 0.74 g/kg, moderate in comparison with the amount of albumin in the liver homogenate under these conditions, it is observed to decrease by 26.95%, 22.86%, 19.68%, respectively.

When we observed changes in the amount of uric acid in the liver homogenate in heliotrinic hepatitis, the amount of uric acid in the liver homogenate was 206.1 ± 0.65 mmol/kg under moderate conditions. On the 15th day of the examination, the amount of uric acid in the liver homogenate was 151.5 ± 0.48 mmol/kg, on the 30th day it was 153.0 ± 0.61 mmol/kg, and on the 60th day it was 155.1 ± 0.46 mmol/kg. it was determined to decrease by 26.5%, 25.77%, 24.75% respectively.

Conclusion:

Based on the results presented in the article, it is observed that the amount of proteins decreases in the liver of animals poisoned with heliothrin, and the synthesis of proteins in the liver tissue increases and the functional state of the liver is restored under the influence of "Dunyosi Phytochoi".

In toxic hepatitis, as a result of inflammation of the liver, the process of uric acid synthesis is disturbed and the amount of uric acid in blood serum is sharply reduced. Energy is needed for urine synthesis.

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