Therapeutic efficacy of the phyto-collection "Hepaton" in the complex therapy of alcoholic liver damage in patients with chronic alcoholism

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SUMMARY

In a clinical setting, work has been carried out to study the effectiveness of the herbal remedy "Hepaton" in alcoholic liver damage. There were two groups of patients under observation according to the duration of the disease up to 5 years - group 1 and more than 5 years - group 2. Within each group, subgroups A and B were distinguished. Patients of subgroup A took the herbal remedy "Gepaton", patients of subgroup B did not take "Gepaton". In addition, all patients received the same type of detoxification treatment; no other drugs affecting the hepatobiliary system were prescribed. To assess the functional state of the liver in patients, the serum activity of the following enzymes was determined: alanine aminotransferase (ALT), aspartate aminotransferase (AST), alkaline phosphatase (ALP), gamma glutamyl transferase (GGT), as well as indicators of cholesterol, creatinine, total bilirubin. The degree of antioxidant activity of "Hepaton" was judged by the content of malondialdehyde (MDA) in the blood serum, as well as by the activity of catalase in the blood serum. As a result of the study, it was found that the phyto-drug "Hepaton" in case of alcoholic liver damage has a pronounced hepatoprotective effect, providing stabilization of the membrane structures of hepatocytes and preventing the development of cytolysis and cholestasis syndromes.

Key words: "Hepaton", chronic alcoholism, phyto-collection, liver damage,complex therapy.

RESUME

Pharmacotherapeutical efficiency of herbal remedy "Hepaton" have been studied in clinics. Two groups of patients less than 5 year, and more than 5 year of disease were examined within each group two subgroups (A and B) were formed. Patients of A subgroup took "Hepaton", patients of B subgroup didnot take "Hepaton". All patients were simultaneously treated with antitoxic drug. No other hepatopoprotective drags were applied. The functional capacity of patients' liver was estimated by enzyme activity in blood serum: alanine aminotransferase (ALT), aspartate aminotransferase (AAT), acid phosphotase (AP), ––– glutamine transferase (GGT). The contents of cholesterol, creatinine and total bilirubin were also determined. Antioxidant activity of "Hepaton" was estimated by the content of malondialdehyde and catalase activity in blood serum.

Key words: "Hepaton, cronic alcoholism.

INTRODUCTION

According to the WHO, alcoholism ranks third in the frequency of causes of death, behind cardiovascular diseases and malignant neoplasms [9].

One of the most specific manifestations of the pathogenic effect of alcohol on the human body is liver damage. Ethanol has a complex effect on hepatocytes, the interstitial tissue of the liver, the endothelium of the hepatic vessels, significantly alters the normal metabolic processes in the organ, causing both microscopic and macroscopic damage [8]. Chronic hepatitis of alcoholic etiology is characterized by vacuolar degeneration and necrosis of hepatocytes, gradual proliferation of connective tissue [7, 8]. Pharmacotherapy of this disease is a complex and unsolved problem, which is associated with the known limitations in the use of drug therapy, which, as a rule, affects one of the most organ-specific functions of the liver - detoxifying and

exerts an additional load on the affected organ [7, 10]. Therefore, the attention of researchers is directed to the creation of drugs that affect the pathogenetic mechanisms of additive states that stimulate the adaptive capabilities of the patient's body and, at the same time, are devoid of the above disadvantages [3, 4, 12].

In this regard, the search for and creation of detoxifying drugs, as well as agents that stimulate recovery processes in the liver, seems relevant. The purpose of this study was to study the clinical efficacy and tolerability of the complex herbal remedy "Hepaton", consisting of flowers Matricaria recutita L. - 10 hours, leaves of Mentha piperita L. - 10 hours, fruits of Rosa sp. - 30 hours, fruits of Crataegus sp. - 20 hours, herbs Hypericum perforatum L. - 10 hours, roots Glycyrrhiza uralensis Fisch. - 10 hours, rhizomes and roots of Inula helenium L. - 10 hours. When used in patients with chronic alcoholism, and also as a hepatoprotective agent in alcoholic liver damage (ALD) [1].

MATERIALS AND RESEARCH METHODS

A clinical study of the effectiveness of the herbal remedy polyphytochol in alcoholic liver damage was carried out in 2005–2006. on the basis of the Republican Narcological Dispensary (Ulan-Ude) in inpatient and outpatient settings. 151 patients of different age groups (21–54 years old) with a disease duration from 2 to 11 years were under observation; the majority of patients were diagnosed with advanced stage II of alcoholism with a binge-drinking type of alcohol abuse (duration of binge drinking is 14–20 days). Almost all patients, according to the anamnesis and clinical studies, by the end of the binge showed signs of alcoholic liver damage: a sharp decrease in appetite, nausea, vomiting, lingering of the tongue, pain and heaviness in the right hypochondrium, hepatomegaly, jaundice of the skin, icterus sclera, the presence of urine, bile pigments, etc. All patients were divided into 2 groups according to the duration of the disease: up to 5 years (group 1 - 58 people), over 5 years (group 2 - 58 people). The control group (group 3 - 35 people) consisted of patients who occasionally consume alcohol. Within each group, subgroups A and B were distinguished. Patients of subgroup A took, and patients of subgroup B did not take the phytomedicine "Hepaton". In addition, all patients received the same type of detoxification treatment; no other drugs affecting the hepatobiliary system were prescribed. and patients of subgroup B did not take the herbal remedy "Gepaton". In addition, all patients received the same type of detoxification treatment; no other drugs affecting the hepatobiliary system were prescribed. and patients of subgroup B did not take the herbal remedy "Gepaton". In addition, all patients received the same type of detoxification treatment; no other drugs affecting the hepatobiliary system were prescribed.

"Gepaton" was taken in the form of a decoction (at the rate of 1 teaspoon per 200 ml of boiling water), 100 ml 3 times a day 30 minutes before meals for 7 days. To assess the functional state of the liver in patients, the serum activity of the following enzymes was determined: alanine aminotransferase (ALT), aspartate aminotransferase (AST), alkaline phosphatase (ALP), gamma glutamyl transferase (GGT), as well as indicators of cholesterol, creatinine, total bilirubin. The degree of antioxidant activity of "Hepaton" was judged by the content of malondialdehyde (MDA) in the blood serum, determined by the method of R.A. Temirbulatova and E.I. Seleznev [11], as well as by the activity of catalase in the blood serum, determined by the method of G.A. Bobenko [2].

Biochemical studies were carried out twice: on the 1st day of observation and on the 7th day. Clinical data on the course of treatment with phytomeans "Hepaton" were entered into a special clinical trial card. A scoring was carried out for each of the above signs of alcoholic liver damage: 0 - no, 1 - mild, 2 - medium, 3
- strong expression. When evaluating the clinical signs of the effectiveness of "Hepaton", first of all, we took into account its ability to reduce pain and a feeling of heaviness in the right hypochondrium.

Statistical analysis of the reliability of the difference in the averaged indicators in the studied groups of patients was carried out using the Student's t-test.

RESULTS OF THE STUDY

In most cases, already from the third day of taking "Gepaton" there was a decrease in pain in the right hypochondrium. Complex treatment of patients with alcoholic liver damage has already

by the 3rd day of treatment it made it possible to significantly reduce the severity of the main clinical signs, and by the 7th day - to completely stop the pain syndrome in most patients of the 1st group (Table 1). The effect of "Hepaton" in patients of group 2 was also accompanied by positive dynamics, although clinical symptoms persisted longer than in patients of group 1 (Table 2). These changes in the course of hepatopathies in patients were accompanied by positive dynamics of biochemical parameters.

Changes in blood biochemical parameters were expressed in the following: the activity of the AST enzyme in the blood serum during treatment with "Hepaton" decreased by 45-50%, ALT by 42-61%. In group B patients who did not take Hepaton, the activity of the AST enzyme decreased by 30–43%, and in ALAT, by 39–54%. A decrease in cholesterol content and alkaline phosphatase activity was also clearly observed. The bilirubin content decreased by 4 times. Indicators of creatinine content and the level of GGT activity remained elevated by the 7th day, especially in the group with a longer history of alcoholism (Table 3).

When "Hepaton" was included in the therapy on the 7th day of observation, the general somatic and mental state of the patients improved significantly: the mood background leveled off, the craving for alcohol decreased, the blood pressure and heart rate returned to normal. According to the self-reports of patients who have repeatedly experienced a state of alcohol withdrawal, during the treatment with "Gepaton" the process of getting out of this state proceeded much easier and faster than with conventional therapy. In the study of LPO parameters in the blood serum of patients receiving "Gepaton", a decrease in the MDA content by 31–43% was found, while in group B patients by 18–20%.

An increase in catalase activity was also noted in group A patients by 33–41%, in group B patients by 10–26%, which indicates the activation of the endogenous antioxidant system (Table 4).

Table 1

The effect of "Hepaton" on the clinical signs of hepatopathies in patients with chronic alcoholism with a disease duration of up to 5 years

№	Клинические признаки	Подгруппы	До лечения	Выраженность признаков в баллах		
				Дни лечения		
				3	5	7
1	Боль и тяжесть в правом подреберье	А Б	3,0	2,6 2,4	1,5 1,6	0 1,0
2	Увеличение печени	А Б	2,1	2,1 2,0	2,0 2,0	1,7 1,8
3	Желтушность кожных покровов	А Б	2,2	2,0 1,8	1,7 1,8	1,3 1,6
4	Иктеричность склер	А Б	2,2	2,1 2,1	1,7 1,8	1,1 1,6
5	Наличие желчных пигментов в моче	А Б	2,6	2,2 2,4	1,5 1,8	0 1,0

Примечание: здесь и далее: А – больные, получавшие дезинтоксикационную терапию и «Гепатон»; Б – больные, получавшие только дезинтоксикационную терапию.

table 2

The effect of "Hepaton" on the clinical signs of hepatopathies in patients with chronic alcoholism with a disease prescription for more than 5 years

№	Клинические признаки	Подгруппы	До лечения	Выраженность признаков в баллах		
				Дни лечения		
				3	5	7
1	Боль и тяжесть в правом подреберье	А Б	3,0	2,7 2,8	2,2 2,4	1,2 1,8
2	Увеличение печени	А Б	2,6	2,5 2,4	2,3 2,4	2,1 2,2
3	Желтушность кожных покровов	А Б	2,8	2,5 2,6	2,0 2,4	1,7 2,0
4	Иктеричность склер	А Б	2,8	2,4 2,4	2,0 2,2	1,5 1,8
5	Наличие желчных пигментов в моче	А Б	2,8	2,2 2,6	1,7 2,0	1,1 1,6

Table 3

Influence of "Hepaton" on biochemical parameters in patients with alcoholic injury liver
depending on the duration of the disease on the 7th day

Длительность заболевания	АсАТ мкМ/лч	АлАТ мкМ/лч	Холестерин Мм/л	Щелочная фосфатаза, ЕД	Креатинин, мкМ/л	Общий били-рубин, мкМ/л	ГГТ ЕД/л
1-й день (при поступлении)							
До 5 лет (n = 68)	1,30 ± 0,01	2,10 ± 0,04	11,0 ± 2,12	310,0 ± 21,0	315,0 ± 22,4	70,2 ± 7,5	130,0 ± 12,8
Более 5 лет (n = 68)	1,40 ± 0,06	2,60 ± 0,12	12,60 ± 2,30	340,0 ± 18,0	356,5 ± 21,6	66,2 ± 9,9	360,0 ± 26,8
7-й день							
До 5 лет							
Подгруппа А (n = 34)	0,72 ± 0,04*	0,82 ± 0,06*	8,40 ± 0,5*	140,0 ± 12,2*	110,4 ± 12,4*	19,0 ± 0,6*	100,0 ± 3,12*
Подгруппа Б (n = 34)	0,92 ± 0,02*	0,96 ± 0,02*	9,30 ± 0,4*	170,0 ± 12,2*	140,0 ± 8,4*	26,0 ± 1,4*	125,2 ± 5,20*
Более 5 лет							
подгруппа А (n = 34)	0,70 ± 0,02*	1,5 ± 0,04*	8,30 ± 0,7*	146 ± 12,4*	128,5 ± 9,5*	17,0 ± 1,2*	115,0 ± 5,0
Подгруппа Б (n = 34)	0,80 ± 0,05*	1,60 ± 0,05*	9,0 ± 0,5*	170,0 ± 16,2*	170,5 ± 15,2*	23,0 ± 1,0*	150,0 ± 7,14*
Контроль (эпизодическое употребление) (n = 45)	0,65 ± 0,02	1,12 ± 0,05	7,0 ± 1,20	111 ± 12,50	100,0 ± 13,20	11,0 ± 2,10	65,2 ± 13,10

Примечание: * – различие достоверно по сравнению с данными при поступлении при $P \leq 0,05$.

CONCLUSION

The data obtained indicate the presence of detoxification and hepatoprotective action of "Hepaton" in alcoholic liver damage.

Judging by the results of the study (Table 4), "Hepaton", the pharmacological activity of which is provided by a wide range of biologically active substances (flavonoids, vitamins, coumarins, saponins, essential oils, microelements, etc.), is an effective antioxidant. It is known that flavonoids, vitamins, coumarins and other biologically active substances inhibit lipid peroxidation, stabilize membranes [1, 5, 6], this herbal remedy reduces the permeability of cell membranes of hepatocytes, restores the amount of glycogen, and improves metabolic processes in the affected liver. An important feature in the action of "Hepaton" is its ability to quickly reduce the severity of the affected liver, in particular the manifestation of cytolysis and cholestasis syndromes.

Table 4

Dynamics of changes in LPO and antioxidant system indicators in patients with alcoholic liver damage before and after the appointment of "Hepaton"

Длительность заболевания	МДА, мкМ/мл		Каталаза, мкат/л	
	1 день	7 день	1 день	7 день
До 5 лет				
Подгруппа А Подгруппа Б	2,47±0,11	1,42±0,03* 2,50±0,04*	0,50±0,05	0,85±0,14 0,55±0,10
5–10 лет и более				
Подгруппа А Подгруппа Б	2,66±0,11	1,84±0,02* 2,20±0,03*	0,40±0,02	0,60±0,12* 0,54±0,10
Контроль (эпизодическое употребление)	1,77±0,11	1,79±0,12	0,66±0,02	0,55±0,02

Примечание: * – различие достоверно по сравнению с данными при поступлении при $P \leq 0,05$.

Preventing gross violations of the structure and function of the liver, "Gepaton" accelerates regeneration and helps to restore the functional activity of the organ. Taking into account the fact that "Hepaton" activates biochemical detoxification systems and has antioxidant properties, it seems reasonable and expedient to use it for pharmacological correction of toxicogenic disorders in complex therapy and prevention of alcoholic liver damage. In this case, the optimal is the appointment of "Hepaton" at the initial stage of treatment of patients with alcoholism.

CONCLUSIONS

1. Appointment of the phytomedicine "Hepaton" to a group of patients with alcoholic liver damage characterized by a decrease in signs of intoxication, normalization of biochemical parameters in blood serum and an improvement in the general condition of patients;

2. The obtained results of the research carried out prove the feasibility of the use of a new hepatoprotective agent - "Hepaton" for the treatment and prevention of alcoholic liver damage in combination with other therapeutic and prophylactic measures. In this case, the optimal is the appointment of "Hepaton" at the initial stage of treatment of patients with alcoholism.

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