

УДК 616.36-022:578.891-02

## Такталбаган этиологиядагы вирустук гепатиттин клиникалык жана лабораториялык мүнөздөмөлөрү

Автор, 2021

Л. А. ИМАНБАЕВА

Эл аралык жогорку медициналык мектеби, Бишкек, Кыргыз Республикасы

### КОРУТУНДУ

**Киришүү.** Такталбаган этиологиядагы курч вирустуу гепатиттин 12 учуруна анализ келтирилген. Бейтаптардын вирустук гепатит маркерлери эки жолу терс болгон, аутоиммундук антителолордун жоктугу аутоиммундук мүнөзүн алып салган. HSV (11 бейтап), EBV (9 бейтап) жана CMV (7 бейтап) антителолору (IgG) табылган. Жакында HSV инфекциясын жуктуруп алган бейтаптарда (авиддүүлүктүн төмөн индекси) курч гепатит клиникасы жаштарда иммунокомпетенттүүлүктүн жогорку деңгээлинде өнүгүп, кыска мөөнөттө калыбына келди. Ал эми, жогорку авиддүүлүк менен ооругандардын тобунда, оору узак курстагы улгайган курактык топтун арасында пайда болгон.

**Материалдар жана ыкмалар.** Такталбаган этиологиядагы гепатиттин клиникалык жана лабораториялык мүнөздөмөлөрү 12 бейтапта изилденген. Бардык пациенттер стандарттуу жалпы клиникалык текшерүүдөн өтүштү, анын ичинде даттанууларды жана физикалык экспертизанын маалыматтарын баалоо, биохимиялык кан анализдери, кан жана зааранын жалпы клиникалык анализдери, вирустуу гепатит маркерлерин ИФАнын жардамы менен аныктоо жана ич органдарынын УЗИси бар. HSV, CMV, EBV антителолору ELISA менен текшерилип, ошондой эле IgG менен HSVге чейинки авиддүүлүк аныкталды.

**Жыйынтыгы жана аны талкуулоо.** РКИБ маалыматы боюнча 2014 - 2020-жылдары этиологиясы такталбаган гепатиттин үлүшү 2,3% дан 7,1% га чейин, орто эсеп менен 4,39 ± 0,58 түзгөн. Байкалган пациенттерде теринин жана склеранын саргаруу, алсыздык, ичтин оорушу жана табиттин жоголушунун туруктуу белгилери болгон. Биохимиялык параметрлерди изилдөө бардык текшерилген бейтаптарда "боор тесттеринин" кыйла жогорулагандыгын көрсөттү. Боордун УЗИ маалыматы боюнча, бардык бейтаптарда курч гепатиттин өзгөрүүсүнө туура келген белгилер байкалган. Маркерлер анализдери бир нече жолу терс болуп чыккандан кийин вирустук гепатит диагнозу алынып салынды, бул этиологиялык факторду издөөнүн негизи болуп герпес тобунун вирустары гепатотроптуулугун эске алып ошондой эле аутоиммундук мүнөздү алып салуу үчүн герпес тобунун (HSV, CMV, EBV) вирустарына, AMA жана ANA тесттерине текшерилди. Герпес вирустарын текшерүүнүн жыйынтыгында 11 бейтапта HSVге IgG антителолору, 9 бейтапта EBV жана CMV - 7 бейтапта пайда болгон. 6 бейтаптан Үч HSV, EBV жана CMV вирустардын антителолору, - 3 бейтаптан эки HSV жана EBV вирустардын антителолору, бир бейтапта CMVнын гана антителолор табылган. Герпес вирустарынын (CMV, EBV, HPV-6) гепатотроптуулугу текшерилген бейтаптардын гепатоциттеринде алардын антигендери табылышы менен тастыкталды.

**Натыйжалар.** Изилдөөнүн натыйжалары гепатиттин өнүгүшү менен оорунун этиологиясын, анын ичинде герпес вирустарын тактоо үчүн кененирээк изилдөө керек экендигин көрсөттү. Герпес тобундагы вирустардын гепатотроптуулугу (HSV, CMV, EBV), адабият маалыматтары боюнча, алардын антигендери гепатит менен ооруган адамдардын гепатоциттеринде табылышы менен тастыкталат. Герпесвирус гепатитинин клиникалык жана биохимиялык көрүнүштөрү башка вирустук гепатиттерден айырмаланбайт. Герпетикалык гепатитти цитолитиз синдромунун өнүгүшү менен гематогендик инфекция учурунда пайда болгон, герпетикалык инфекциялардын көзкарандысыз клиникалык формасы катары кароого болот.

**Жыйынтыгы.** Вирустук гепатиттин этиологиялык структурасында, белгилүү бир орунду герпестик вирус, цитомегаловирус, Эпштейн-Барр ж.б. ээлеши мүмкүн; вирустук гепатиттин клиникалык көрүнүшү формасы, оордугу, жүрүшү жана натыйжалары боюнча окшош; А, В, С, D, Е вирустук гепатиттерин лабораториялык четтетүүдө башка вирустук гепатиттердин этиологиясын тастыктоо үчүн лабораториялык изилдөөлөрдү улантуу зарыл.

**Ачкыч сөздөр:** аныкталбаган вирустук гепатит, герпесвирус инфекциясы, клиникалык сүрөт, лабораториялык диагностика, антителонун авиддүүлүгү.

**АВТОР ЖӨНҮНДӨ МААЛЫМАТ:**

Иманбаева Л.А. -<https://orgcid.org/0000-0003-2740-8690>

**КАНТИП ЦИТАТА КЕЛТИРСЕ БОЛОТ:**

Иманбаева Л.А. Такталбаган этиологиядагы вирустук гепатиттин клиникалык жана лабораториялык мүнөздөмөлөрү. Кыргызстандын Саламаттык Сактоо 2021, № 2, б. 48-54; <https://doi.org/10.51350/zdravkg202162648>

**КАТ АЛЫШУУ УЧУН:** Иманбаева Лира Асанбековна, ЭАЖММнын жугуштуу оорулар жана тери оорулардын кафедрасынын ассистенти, дареги: Кыргыз Республикасы, Бишкек шаары, Интергельпо көчөсү 1а, <https://orgcid.org/0000-0003-2740-8690>, e-mail: [lira.iman@mail.ru](mailto:lira.iman@mail.ru), байланыш тел. :+(996) 553 344677.

**Клинико-лабораторная характеристика вирусных гепатитов неуточненной этиологии**

Автор, 2021

Л. А. ИМАНБАЕВА

Международная Высшая Школа Медицины, Бишкек, Кыргызская Республика

**РЕЗЮМЕ**

**Введение.** Представлен анализ 12 случаев острого вирусного гепатита неуточненной этиологии. У пациентов получены отрицательные маркеры вирусных гепатитов двукратно, аутоиммунная природа исключена отсутствием аутоиммунных антител. Обнаружены антитела (IgG) к ВПГ (11 больных), ВЭБ (9 больных) и ЦМВ (7 больных). У больных с недавним заражением ВПГ (низкий индекс авидности) клиника острого гепатита развивалась у лиц молодого возраста на фоне высокой иммунокомпетентности, что привело к выздоровлению в короткие сроки. Тогда как, в группе больных с высокой авидностью заболевание развилось среди старшей возрастной группы с более длительным течением.

**Цель исследования-** изучить клинико-лабораторную характеристику вирусных гепатитов неуточненной этиологии.

**Материал и методы.** Клиническая и лабораторная характеристика гепатитов неуточненной этиологии изучена у 12 больных. Всем пациентам проводилось стандартное общеклиническое обследование, включавшее оценку жалоб и данных физикального осмотра, биохимическое исследование крови, общеклинические анализы крови и мочи, определение маркеров вирусных гепатитов методом ИФА, УЗИ органов брюшной полости. Определяли антитела к ВПГ, ЦМВ, ВЭБ методом ИФА, а также авидность IgG к ВПГ.

**Результаты и их обсуждение.** По данным РКИБ за период 2014 – 2020 гг. доля гепатитов неуточненной этиологии колебалась с 2,3% до 7,1%, в среднем составив  $4,39 \pm 0,58$ . У наблюдаемых больных постоянными симптомами были желтушность кожи и склер, слабость, боли в животе и снижение аппетита. Изучение биохимических показателей показало значительное повышение «печеночных тестов» у всех обследованных пациентов. У всех больных по данным УЗИ со стороны печени выявлены признаки, соответствующие изменениям при остром гепатите. Диагноз вирусных гепатитов исключался после повторных отрицательных анализов на маркеры, что послужило основанием для дальнейшего поиска этиологического фактора и больные были обследованы на вирусы группы герпеса (ВПГ, ЦМВ, ВЭБ), учитывая их гепатотропность, а также на наличие АМА и АНА для исключения аутоиммунной природы гепатита. Результаты обследования на вирусы герпеса показали наличие антител класса IgG к ВПГ у 11 больных, ВЭБ – у 9 и ЦМВ – у 7 больных. Антитела ко всем трем вирусам ВПГ, ВЭБ и ЦМВ обнаружены у 6 больных, к двум вирусам ВПГ и ВЭБ – у 3 больных, у одного больного были антитела только в ЦМВ. Гепатотропность вирусов герпеса (ЦМВ, ВЭБ, HSV) подтверждена выявлением их антигенов в гепатоцитах обследованных больных.

**Выводы.** В этиологической структуре вирусных гепатитов определенное место могут занимать вирусные гепатиты, вызванные вирусом простого герпеса, цитомегаловирусом, вирусом Эпштейна-Барр и др.; клиническая картина вирусных гепатитов схожа по форме, тяжести, течению и исходам; при лабораторном исключении вирусных гепатитов А, В, С, D, Е необходимо продолжить лабораторные исследования для подтверждения этиологии других вирусных гепатитов.

**Ключевые слова:** Вирусный гепатит неуточненный, герпесвирусные инфекции, клиника, лабораторная диагностика, авидность антител.

**ИНФОРМАЦИЯ ОБ АВТОРЕ:**

Иманбаева Л.А. - <https://orcid.org/0000-0003-2740-8690>

**КАК ЦИТИРОВАТЬ:**

Иманбаева Л.А. Клинико-лабораторная характеристика вирусных гепатитов неуточненной этиологии. Здравоохранение Кыргызстана 2021, № 2, с. 48-54; <https://doi.org/10.51350/zdravkg202162648>

**ДЛЯ КОРРЕСПОНДЕНЦИИ:** Иманбаева Лира Асанбековна, ассистент кафедры инфекционных болезней и дерматовенерологии МВШМ, адрес : Кыргызская Республика, г. Бишкек, ул.Интергельпо 1а, <https://orcid.org/0000-0003-2740-8690>, e-mail: [lira.iman@mail.ru](mailto:lira.iman@mail.ru), конт.тел : +(996) 553 344677.

**Clinical and laboratory characteristics of viral hepatitis of unspecified etiology**

Author, 2021

L. A. IMANBAEVA

International Higher School of Medicine, Bishkek, Kyrgyz Republic

**SUMMARY**

**Introduction.** An analysis of 12 cases of acute viral hepatitis of unspecified etiology is presented. In patients, negative markers of viral hepatitis were obtained twice, the autoimmune nature was excluded by the absence of autoimmune antibodies. Antibodies (IgG) to HSV (11 patients), EBV (9 patients) and CMV (7 patients) were detected. In patients with recent infection with HSV (low avidity index), the clinic of acute hepatitis developed in young people against a background of high immunocompetence, which led to recovery in a short time. Whereas, in the group of patients with high avidity, the disease developed among the older age group with a longer course.

**The aim of study.** To study the clinical and laboratory characteristics of viral hepatitis of unspecified etiology.

**Material and methods.** Clinical and laboratory characteristics of hepatitis of unspecified etiology were studied in 12 patients. All patients underwent a standard general clinical examination, which included an assessment of complaints and physical examination data, biochemical blood tests, general clinical blood and urine tests, determination of viral hepatitis markers by ELISA, and ultrasound of the abdominal organs. Antibodies to HSV, CMV, EBV were determined by ELISA, as well as the avidity of IgG to HSV.

**Results and its discussion.** According to the RCIB for the period 2014 - 2020 the proportion of hepatitis of unspecified etiology ranged from 2.3% to 7.1%, averaging  $4.39 \pm 0.58$ . The observed patients had persistent symptoms of yellowness of the skin and sclera, weakness, abdominal pain and loss of appetite. The study of biochemical parameters showed a significant increase in "liver tests" in all examined patients. According to the ultrasound data from the liver, all patients showed signs corresponding to changes in acute hepatitis. The diagnosis of viral hepatitis was excluded after repeated negative tests for markers, which served as the basis for further search for an etiological factor and the patients were examined for viruses of the herpes group (HSV, CMV, EBV), taking into account their hepatotropicity, as well as for the presence of AMA and ANA to exclude an autoimmune nature. The results of examination for herpes viruses showed the presence of IgG antibodies to HSV in 11 patients, EBV - in 9 and CMV - in 7 patients. Antibodies to all three HSV, EBV and CMV viruses were found in 6 patients, to two HSV and EBV viruses - in 3 patients, one patient had antibodies only in CMV. The hepatotropicity of herpes viruses (CMV, EBV, HSV) was confirmed by the detection of their antigens in the hepatocytes of the examined patients.

**Conclusions:** In the etiological structure of viral hepatitis, a certain place can be occupied by viral hepatitis caused by the herpes simplex virus, cytomegalovirus, Epstein-Barr virus, etc., the clinical picture of viral hepatitis is similar in form, severity, course and outcomes; in case of laboratory exclusion of viral hepatitis A, B, C, D, E, it is necessary to continue laboratory studies to confirm the etiology of other viral hepatitis.

**Key words:** *Viral hepatitis, unspecified, herpesvirus infections, clinic, laboratory diagnostics, antibody avidity.*

**INFORMATION ABOUT AUTHOR:**

Imanbaeva L.A. - <https://orcid.org/0000-0003-2740-8690>

**TO CITE THIS ARTICLE:**

Imanbaeva L.A. Clinical and laboratory characteristics of viral hepatitis of unspecified etiology. Health care of Kyrgyzstan 2021, no 2, pp. 48-54; <https://doi.org/10.51350/zdravkg202162648>

**Каржылоо.** Изилдөө демөөрчүлүк колдоосуз жүргүзүлдү.

**Финансирование.** Исследование не имело спонсорской поддержки.

**Financing.** The study had no sponsorship.

**FOR CORRESPONDENCE:** Imanbaeva Lira Asanbekovna, Assistant of the Department of Infectious Diseases and Dermatovenereology of IHSM, address: Kyrgyz Republic, Bishkek, str. Intergel'po 1a, <https://orgcid.org/0000-0003-2740-8690>, e-mail: [lira.iman@mail.ru](mailto:lira.iman@mail.ru), cont.tel: + (996) 553 344677.

## INTRODUCTION

Despite the progress achieved in the study of viral hepatitis, consisting in their diagnosis, disclosure of pathogenetic mechanisms, the development of effective treatment methods, they remain the most urgent problem of modern hepatology. Acute viral hepatitis can often lead to death and the development of chronic liver diseases, including cirrhosis and hepatocellular carcinoma [1]. In recent years, a special place has been occupied by acute viral hepatitis of unspecified etiology (code B.19 according to ICD-10), determined by laboratory exclusion of hepatitis A, B, C, D and E. Thus, in the Russian Federation, a consistent increase in the proportion of acute viral hepatitis of unknown etiology from 1% in 1993 up to 6.7% in 2008 [2]. In addition to the well-known viruses that cause hepatitis, several new viruses have been identified over the past 10-15 years (HGV, TTV, SEN, as well as NV-F, first identified in 2006) that have the ability to cause the development of both acute and chronic hepatitis in people. However, the etiological role of these viruses in the development of liver damage is completely unclear so far [3]. It has been established that viruses of the herpes group (herpes simplex virus (HSV), cytomegalovirus (CMV), Epstein-Barr virus (EBV)) also have hepatotropicity and can cause the icteric form of acute hepatitis [4]. However, the etiological role of these viruses in the development of acute hepatitis of unspecified etiology is rare in the scientific literature [5–7]. For clinical practice, deciphering each case of acute viral hepatitis of unspecified etiology is a difficult task. In this connection, the purpose of this study was to characterize the clinical picture and laboratory changes in acute viral hepatitis of unknown etiology based on the materials of the Republican Clinical Infectious Diseases Hospital (RCIDH) for 2019–2020.

## MATERIAL AND METHODS

In 2019–2020 in RCIDH (Republican Clinical Infectious Diseases Hospital) (chief physician G.K. Aaliev) 2071 patients with viral hepatitis were treated. The etiological structure of acute hepatitis is represented by HAV in 1661 (80.2%) cases, HBV without delta agent - 235 (11.3%), HBV with delta agent - 4 (0.2%), HCV - 58 (2.8%), unspecified etiology - 113 (5.5%) cases.

The clinical and laboratory characteristics of hepatitis with unspecified etiology were studied in 12

patients. All patients underwent a standard general clinical examination, which included an assessment of complaints and physical examination data, biochemical blood tests, general clinical blood and urine tests, determination of viral hepatitis markers by ELISA, and ultrasound of the abdominal organs. Antibodies to HSV, CMV, EBV were determined by ELISA, as well as the avidity of IgG to HSV.

Patients were diagnosed with hepatitis of unspecified etiology on the basis of the clinical and laboratory picture of the icteric form of acute hepatitis and the absence of markers of hepatitis A, B, C, E and D.

The research results were statistically processed using parametric and nonparametric analysis methods. Statistical analysis was performed using the STATISTICA 13.3 program (developed by StatSoft.Inc). We calculated the arithmetic mean values (M) and standard errors of the mean values (m), the boundaries of the 95% confidence interval (95% CI), Student's t-test, Pearson's correlation coefficient (r). Differences in indicators were considered statistically significant at a significance level of  $p < 0.05$ .

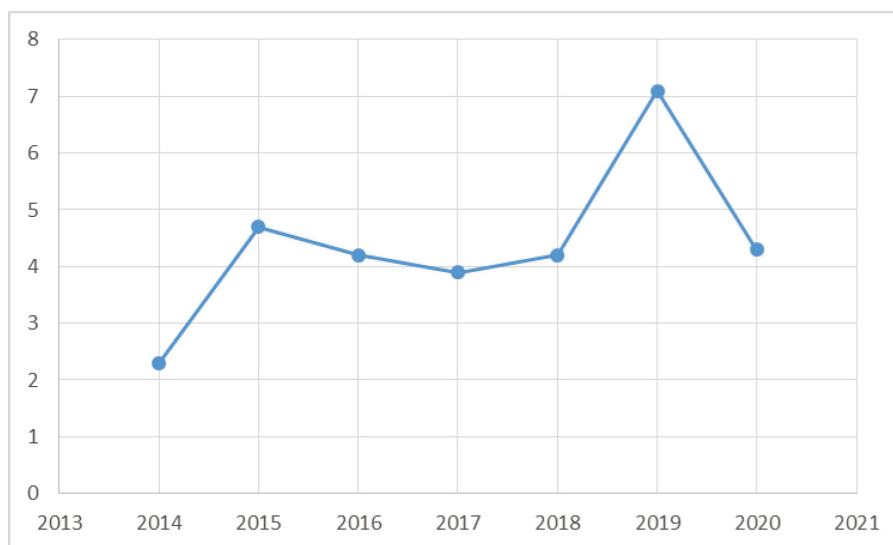
## RESULTS AND ITS DISCUSSION

According to RCIDH data for the period 2014 – 2020, the proportion of hepatitis of unspecified etiology ranged from 2.3% to 7.1%, averaging  $4.39 \pm 0.58$  (Fig. 1).

The average age of the patients was  $27.8 \pm 3.52$  years, there were 5 males and 7 females. Patients were admitted to the hospital in the icteric period of the disease at the end of the 1st and 2nd week of illness on average on  $11.5 \pm 2.46$  day of illness in a state of moderate severity (50%) and severe (50%). 4 patients noted passed HAV in the anamnesis. The frequency of detection of symptoms and syndromes of the disease in the hospital, as well as their duration are presented in table 1.

As can be seen from the data presented in table 1, the observed patients had yellowness of the skin and sclera, weakness, abdominal pain and decreased appetite as persistent symptoms. Prolonged fever up to febrile numbers, nausea and vomiting were common (83.3%; 83.3% and 66.7%). Headache, catarrhal symptoms and arthralgia were less common (33.3% to 41.7%). Hemorrhagic syndrome and pruritus were noted in 25% of cases. Physical examination revealed hepatomegaly in all patients (on average,  $1.5 \pm 0.8$  cm below the edge of the costal arch along the mid-clavicular line), enlargement of the spleen was found in 6 (50%) patients.





**Fig. 1.** The proportion of hepatitis of unspecified etiology according to RCIDH data for the period 2014–2020.

**Table 1.** Frequency of symptoms of the disease and their duration in patients with hepatitis of unknown etiology.

Symptoms	n/%	Duration (days)
Yellowness of the skin and sclera	12/100	17,6±3,45
Nausea	10/83,3	6,2±1,3
Vomiting	8/66,7	3,3± 0,9
Decreased appetite	12/100	14,4±2,67
Abdominal pain	12/100	13,2±3,01
Weakness	12/100	16,3±3,2
Temperature rise	10/83,3	8,2±2,02
Headache	5/41,7	3,2±0,8
Catarrhal syndrome	4/33,3	2,7±0,6
Arthralgia	4/33,3	2,7±0,6
Hemorrhagic syndrome	3/25	2,2±0,58
Itchy skin	3/25	7,1±2,1

The study of biochemical parameters showed a significant increase in "liver tests" in all examined patients. The activity of aspartic and alanine aminotransferases (AST and ALT) in patients exceeded 8-10 times, amounting to 0.8 (0.18-2.5) and 1.1 (0.48-2.8)  $\mu\text{katt} / \text{min.L}$ . The content of total bilirubin in the blood averaged  $166.9 \pm 42.4$  (36-530)  $\text{ml mol} / \text{l}$ , an increase was noted due to the direct fraction ( $113.3 \pm 26.9$   $\text{ml mol} / \text{l}$ ). The level of total protein and albumin was within the normal range, but the thymol test was increased to  $10.7 \pm 2.2$  units. Indicators of the prothrombin index and prothrombin time in the blood of patients during the hospi-

tal stay were within the normal range. There were no abnormalities in the indicators of the clinical analysis of blood and urine. According to the ultrasound data from the liver, all patients showed signs corresponding to changes in acute hepatitis.

To verify the diagnosis, all patients on admission to the hospital were examined for markers of viral hepatitis (anti-HAV IgM, HBsAg, anti-HBcIgM, anti-HCV total, anti-HDV total), in case of negative results, they were re-examined after 10 days and additionally determined anti-HEV IgM. The diagnosis of viral hepatitis was excluded after repeated negative tests for mark

ers, which served as the basis for further search for an etiological factor and the patients were examined for viruses of the herpes group (HSV, CMV, EBV), taking into account their hepatotropy, as well as for the presence of AMA and ANA to exclude an autoimmune nature hepatitis A.

The autoimmune nature of hepatitis was ruled out based on negative results of autoimmune antibodies in the blood. The results of the examination for herpes viruses showed the presence of IgG antibodies to HSV in 11 patients, EBV - in 9 and CMV - in 7 patients. Antibodies to all three HSV, EBV and CMV viruses were detected in 6 patients, to two HSV and EBV viruses - in 3 patients, one patient had antibodies only in CMV. Since antibodies to HSV were detected in most cases, the avidity index of IgG antibodies was determined. Antibodies with low ( $> 50\%$ ) and high ( $<60\%$ ) avidity index were found equally in 10 patients. Low avidity IgG index is an indicator of recent infection (from 10-14 days to 1 month) with primary liver damage, while high avidity antibodies indicate long-term persistence of the virus with possible reactivation and liver damage.

In the group of patients (5 people) with low avidity of IgG antibodies, the average age was  $25.2 \pm 2.1$  years, hospitalized on the  $11.2 \pm 3.2$  day of illness, with subfebrile fever lasting up to 7 days, the presence of icteric and dyspeptic syndromes, a pronounced indicator of cytolytic syndrome (ALT  $1.2-0.17 \mu\text{katt} / \text{min L}$ , total bilirubin  $135.7-58.1 \text{ mmmol} / \text{L}$ ), a slight increase in thymol test ( $6.3-1.1$  units). The data of the prothrombin index and prothrombin time in the blood of patients are within normal limits. The average hospital stay was  $13.4 \pm 1.9$  bed-days.

In the group of patients (5 people) with high avidity of IgG antibodies, the median age was  $33.8 \pm 7.9$  years, hospitalized on days  $10.4 \pm 5.5$  of illness, the disease began acutely with fever lasting up to 11.3 days, severe icteric and dyspeptic syndromes, the presence of cytolytic syndrome (ALT  $0.94 \pm 0.37 \mu\text{katt} / \text{min L}$ , total bilirubin  $130.2 \pm 34.9 \text{ mmmol} / \text{L}$ ), a significant increase in thymol test ( $11.6 \pm 4.2$  units). The data of the blood tests, urine, prothrombin index and prothrombin time in the blood of patients were within normal values. The extinction of jaundice was noted after  $22.3 \pm 9.6$  days from the beginning of its appearance. The average bed-day

was  $22.6 \pm 5.9$ .

Thus, in patients with recent infection with HSV (low avidity index), the clinic of acute hepatitis has developed in young people against the background of high immunocompetence, which leads to recovery in a short time. Whereas, in the group of patients with high avidity, the disease developed in older persons with a longer course. Treatment corresponded to the severity of the disease (detoxification and symptomatic therapy).

Hepatitis of herpetic etiology was first described in 1969, which develops as a result of hematogenous dissemination of the virus. The clinical picture of acute HSV hepatitis does not differ from other viral hepatitis, the disease is manifested by an increase in body temperature, symptoms of intoxication, jaundice, hepatosplenomegaly, an increase in the level of conjugated bilirubin and transaminase activity [8]. Hepatotropicity of herpes viruses (CMV, EBV, HPV-6) was confirmed by the detection of their antigens in the hepatocytes of the examined patients. The spectrum of herpes-induced liver lesions is very wide: from asymptomatic hepatitis (acute and chronic) to fulminant forms, LC and hepatocellular carcinoma. An increasing number of researchers agree on the need to take into account herpes viruses in the differential diagnosis in immunocompromised and immunocompetent patients with various liver lesions [9].

## CONCLUSION

The results of the study demonstrated that with the development of hepatitis, a broader study is needed to clarify the etiology of the disease, including herpes viruses. Hepatotropicity of viruses of the herpes group (HSV, CMV, EBV), according to the literature, is confirmed by the detection of their antigens in hepatocytes of patients with hepatitis. Clinical and biochemical manifestations of herpesvirus hepatitis do not differ from other viral hepatitis. Herpetic hepatitis can be considered as an independent clinical form of herpetic infections, which occurs during hematogenous infection with the development of cytolytic syndrome.

**Жазуучу ар кандай кызыкчылыктардын чыр жок- тугун жарыялайт.**

**Автор заявляет об отсутствии конфликтов интересов.  
The author declare no conflicts of interest.**

## REFERENCES

1. Malyi V.P., Lyadova T.I., Gololobova O.V., Boyko V.V. Clinical and diagnostic characteristics of genotyping of obligate hepatotropic viruses. The influence of viral genotypes on clinical manifestations and outcomes of the disease. // Actual Infectology. - 2013. - № 1 (1). - P. 37-43.
2. Mukomolov S.L., Semenenko T.A., Gerasimova I.E. The burden of hepatitis A in the Russian Federation: a scientific overview. // Epidemiology and Vaccine Prophylaxis. - 2014. - № 6 (79). - P. 24-34.
3. Yushchuk N.D., Tsyganova E.V., Znoiko O.O. et al. Acute

- hepatitis of unspecified etiology: etiological structure and clinical and laboratory features. // *Experimental and Clinical Gastroenterology*. –2009. – № 8. – P.12-18.
4. Totolyan G.G., Storozhakov G.I., Fedorov I.G. and other Viruses of the herpes group and liver damage. // *Medicine*. - 2009. –№ 2. – P. 4-11.
  5. Anthony Khoo. Acute cholestatic hepatitis induced by Epstein-Barr virus infection in an adult: case report. // *Journal of medical case reports*. - 2016. – № 10 (75) –P. 1-3.
  6. Moreno-Treviño María G. et al. Acute cytomegalovirus hepatitis in a non-immunosuppressed patient: a case report. // *Rev. Latinoam.Patol.Clin.Med.Lab*. –2017. - № 64 (2). - P. 60-62
  7. Chaudhary D. et al. Acute liver failure from herpes simplex virus in an immunocompetent patient due to direct inoculation of the peritoneum. // *ACG case reports journal*. - 2017. - № 4 P. 23
  8. Zaitsev I.A., Kirienko V.T. Hepatitis caused by herpes simplex viruses. // *Family medicine*. - 2016.- № 3 (65). - P. 127-130.
  9. Uchaikin V.F., Smirnov A.V., Chuelov S.B. and other Herpesvirus hepatitis in children. // *Pediatrics*. - 2012. - № 3 (91). – P. 136-142.

Алынды 17.05.2021

Получена 17.05.2021

Received 17.05.2021

Жарыялоого кабыл алынды 06.07.2021

Принята в печать 06.07.2021

Accepted 06.07.2021