# OIV-INFEKSIYASIDA SURUNKALI VIRUSLI GEPATIT-C NI ZAMONAVIY DIAGNOSTIKASI

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**Annotatsiya:** Surunkali gepatit C virusi (HCV) infeksiyasi butun dunyo bo‘yicha muhim muammolardandir, ayniqsa inson immun tanqisligi virusi (OIV) bilan bir vaqtda kasallangan bemorlar o’rtasida. Ushbu ikki infeksiyaning birgalikdagi mavjudligi jigar kasalligining tez rivojlanishi, yuqori kasallanish va o‘lim ko‘rsatkichlariga olib keladi. OIV-infeksiyalangan bemorlarda surunkali HCV ni aniq va erta tashxislash samarali davolash va boshqaruv uchun juda muhimdir. Ushbu maqolada serologik, molekulyar va invaziv bo‘lmagan tasviriy usullarni o‘z ichiga olgan zamonaviy diagnostika usullariga, shuningdek, koinfeksiya kasallik kechishi va davolash strategiyalariga ta’siriga oid batafsil ma’lumot beriladi.

**Kalit so‘zlar:** surunkali virusli gepatit, fibroz, jigar sirrozi, HCV, diagnostika, davo usullati

## Mavzuning dolzarbligi

HCV va OIV koinfeksiyasi ularning umumiy yuqish yo‘llari tufayli, ayniqsa inyeksiya orqali giyohvandlik vositalarini iste’mol qiluvchilar va ifloslangan qon mahsulotlarini qabul qilgan shaxslar orasida, muhim jamoat salomatligi muammosidir [1-3]. OIV infeksiyasi HCV bilan bog‘liq jigar fibrozi rivojlanishini tezlashtiradi va gepatosellyulyar karsinoma rivojlanish xavfini oshiradi [4,5]. OIV-infeksiyalangan bemorlarda HCV ni erta va aniq tashxislash og‘ir jigar asoratlarining oldini olish hamda to‘g‘ri davolash qarorlarini belgilashda hal qiluvchi ahamiyatga ega [6-9].

HCV infeksiyasini tashxislashning dastlabki bosqichi anti-HCV antitanachalariga serologik testlar o‘tkazishni o‘z ichiga oladi [10-14]. Bunda ferment bilan bog‘langan immunosorbent tahlillari (ELISA) va immunotahlillar (CLIA) qo‘llaniladi. Biroq OIV-infeksiyalangan immuniteti pasaygan shaxslarda antitanacha ishlab chiqarish jarayonining buzilishi tufayli serologik testlar yolg‘on-manfiy natijalarni berishi mumkin [15-20].

Molekulyar usullar, masalan, polimeraz zanjir reaksiyasi (PZR) va transkripsiyaga asoslangan kuchaytirish (TMA), HCV RNKsini aniqlash hamda faol infeksiyani tasdiqlash imkonini beradi [21-25]. Ushbu usullar yuqori sezuvchanlik va xoslikka ega bo‘lib, erta tashxislash va virus yuklamasining dinamikasini kuzatish imkonini beradi. Miqdoriy PZR HCV RNK darajasini aniqlashda keng qo‘llaniladi, bu esa davolanish samaradorligini baholashda muhim hisoblanadi[26-28].

HCV sezilarli genetik xilma-xillikka ega bo‘lib, uning turli genotiplari kasallikning rivojlanishi va davolanish natijalariga ta’sir ko‘rsatadi. Genotipik testlar ketma-ketlash yoki gibridizatsiyaga asoslangan usullar yordamida amalga oshiriladi va ular ayniqsa, to‘g‘ridan-to‘g‘ri ta’sir etuvchi antiviral vositalar bilan davolashni tanlashda muhim ahamiyatga ega [29-32].

OIV koinfeksiyasi jigar fibrozi rivojlanishini tezlashtiradi, shuning uchun muntazam ravishda fibrozni baholab borish zarur [33-36]. Invaziv bo‘lmagan usullarga quyidagilar kiradi:

- **Tranzient elastografiya (FibroScan):** jigar qattiqligini o‘lchaydi va fibroz darajasi bilan bog‘liq.
- **Serum biomarkerlari (FIB-4, APRI, FibroTest):** biokimyoviy ko‘rsatkichlarni birlashtirib, jigar fibrozini baholaydi.
- **Magnit-rezonans elastografiya (MRE):** ilg‘or tasvirlash texnologiyalari yordamida jigar qattiqligining batafsil bahosini beradi.

**Tadqiqot maqsadi:** Klinik-diagnostik markerlar va zardob (serum) prediktorlarini o‘rganish asosida OIV-infeksiyasida surunkali virusli gepatit C ni o‘z vaqtida tashxislash algoritmini ishlab chiqish.

## MATERIALLAR VA USULLAR

**Laboratoriya tadqiqot usullari.** Tekshiruvdan o‘tgan bemorlar orasida OIV-infeksiyani (18 oydan katta bolalarda) aniqlashning asosiy usuli ferment bilan bog‘langan immunosorbent tahlil (ELISA) yoki immunotahlil (IFA) bo‘ldi. OITSda ELISA usuli bo‘yicha OIV diagnostikasi **ELISYS QUATRO** (Human GmbH, Germaniya) avtomatik immunoferment analizatori (fotometrik usul) yordamida hamda **“iMark”** mikronaychalar uchun fotometr (BioRad Laboratories, Inc., AQSH) yordamida amalga oshirildi [37-39]. OIV diagnostikasi ICLA usuli bo‘yicha **«ARCHITECT i2000 sr module»** (Abbott, AQSH) immunokimyoviy analizatorida (xemilyuminessent usul) o‘tkazildi.

ELISA (IFA) da ijobiy natijani tasdiqlash uchun **immunoblotting (IB)** usuli qo‘llanildi. Ushbu usul tekshirilayotgan qon zardobi (plazmasi) namunalarida OIV-1 yoki OIV-2 ga qarshi antitanachalarni aniqlash imkonini beradi. Bu usul test-striplarga joylashtirilgan OIV-1 yoki OIV-2 antigenlari bilan o‘zaro ta’sir orqali namunadagi seropozitivlikni tasdiqlaydi yoki nonspecific reaksiyalarni aniqlaydi. IB usuli bilvosita immunoferment usuliga asoslanadi va OIV oqsillariga qarshi antitanachalar spektrini aniqlash imkonini beradi.

Barcha bolalarda klinik qon tahlillari o‘tkazildi. Eritrotsitlar, leykotsitlar, trombotsitlar, gemoglobin, gematokrit darajalari, leykotsitlarni populyatsiyalarga differensiyalash va boshqa ko‘rsatkichlar aniqlangan. Tadqiqot davomida quyidagi qon biokimyoviy ko‘rsatkichlari o‘rganildi: ALT, AST, umumiy bilirubin va uning

fraksiyalari, gamma-glutamil transpeptidaza, ishqoriy fosfataza, umumiy xolesterin, glyukoza, mochevina, kreatinin, umumiy oqsil, albumin.

## TADQIQOT NATIJALARI

Adabiyotlarni tahlil qilish shuni ko‘rsatdiki, molekulyar diagnostika, ayniqsa PZR asosidagi tahlillar, OIV bilan zararlangan bemorlarda faol HCV infeksiyasini aniqlashda “oltin standart” hisoblanadi. Jigar fibrozini invaziv bo‘lmagan baholash usullari — **FibroScan** va **APRI** skorlari — jigar fibrozining bosqichini aniqlashda yuqori aniqlikni namoyon qildi hamda jigar biopsiyasiga ehtiyojni kamaytirdi. Genotipik testlarning klinik amaliyotga joriy etilishi individual antiviral terapiya tanlash imkonini berib, davolash samaradorligini oshirdi.

Biroq cheklangan resurslarga ega hududlarda diagnostika bilan bog‘liq muammolar mavjud bo‘lib qolmoqda. Bularning sabablari — yuqori xarajatlar va ilg‘or diagnostika vositalarining yetishmasligi.

**Diagnostikadagi qiyinchiliklar:**

- Immunosupressiya bilan bog‘liq diagnostik cheklovlar
- Koinfeksiya tufayli jigar fermentlari darajasining o‘zgarishi
- Dorilar o‘zaro ta’sirining diagnostik natijalarga ta’siri
- Resurslari cheklangan hududlarda ilg‘or diagnostika vositalariga cheklangan imkoniyat

## XULOSA

OIV-infeksiyalangan bemorlarda surunkali HCV infeksiyasini zamonaviy tashxislash yondashuvlari serologik, molekulyar va invaziv bo‘lmagan tasviriy usullarni o‘z ichiga oladi. Erta va aniq tashxis og‘ir asoratlarning oldini olish, o‘z vaqtida aralashuv va optimal davolash natijalarini ta’minlash uchun muhimdir. Molekulyar diagnostika va fibrozni baholash vositalaridagi yutuqlar HCV/OIV koinfeksiyasining klinik boshqaruvini sezilarli darajada yaxshilamoqda, natijada jigar bilan bog‘liq kasallanish va o‘lim ko‘rsatkichlari kamaymoqda.

## Foydalanilgan adabiyotlar ro’yxati:

1. Choi YJ, Kim JH, Koo JK, Lee CI, Lee JY, Yang JH, Ko SY, Choe WH, Kwon SY, Lee CH Prevalence of renal dysfunction in patients with cirrhosis according to ADQI-IAC working party proposal. Clin . Mol. Hepatol . 2014 ;20:185 –191. doi : 10.3350/cmh.2014.20.2.185.
2. Oblokulov Abdurashid Rakhimovich Mukhammadieva Musharraf Ibrokhimovna Sanokulova Sitora Avazovna Khadieva Dora Isakovna. (2023). CLINICAL AND LABORATORY FEATURES OF SPONTANEOUS BACTERIAL PERITONITIS IN PATIENTS WITH VIRAL LIVER CIRRHOSIS. Journal of Advanced Zoology, 44(S-2), 3744–3750. Retrieved from http://jazindia.com/index.php/jaz/article/view/1716
3. Russ K.B., Stevens T.M., Singal A.K. Acute Kidney Injury in Patients with Cirrhosis. J. Clin. Transl. Hepatol. 2015;3:195–204.
4. Allegretti A.S., Ortiz G., Wenger J., Deferio J.J., Wibecan J., Kalim S., Tamez H., Chung R.T., Karumanchi S.A., Thadhani R.I. Prognosis of Acute Kidney Injury and Hepatorenal Syndrome in Patients with Cirrhosis: A Prospective Cohort Study. Int. J. Nephrol. 2015;2015:108139.

doi: 10.1155/2015/108139.
5. Cholongitas E., Senzolo M., Patch D., Shaw S., O'Beirne J., Burroughs A.K. Cirrhotics admitted to intensive care unit: The impact of acute renal failure on mortality. Eur. J. Gastroenterol. Hepatol. 2009;21:744–750. doi: 10.1097/MEG.0b013e328308bb9c.
6.Barbaud A., Waton J., Herbeth B., Bursztejn A. C., Bollaert M., Schmutz J. L., et al. (2014). Comparison of cytokine gene polymorphism in drug-induced maculopapular eruption, urticaria and drug reaction with eosinophilia and systemic symptoms (DRESS). J. Eur. Acad. Dermatol. Venereol. 28 (4), 491–499. 10.1111/jdv.12130
7. Isakovna, K. D. (2024). DIAGNOSIS AND PROGNOSIS OF LIVER FIBROSIS IN CHRONIC VIRAL HEPATITIS C IN HIV-INFECTED CHILDREN. JOURNAL OF HEALTHCARE AND LIFE-SCIENCE RESEARCH, 3(5), 127-133.
8. Ibrokhimovna, M. M. . (2024). Improvement of Primary Prophylaxis and Treatment of Spontaneous Bacterial Peritonitis Complicated in Virus Etiology Liver Cirrhosis. Journal of Intellectual Property and Human Rights, 3(4), 19–25. Retrieved from http://journals.academiczone.net/index.php/jiphr/article/view/2506
9. Elmurodova A.A. (2023). Viral Hepatitis Delta: An Underestimated Threat. Texas Journal of Medical Science, 26, 1–3. Retrieved from https://zienjournals.com/index.php/tjms/article/view/4610
10. Oblokulov Abdurashid Rakhimovich Mukhammadieva Musharraf Ibrokhimovna Sanokulova Sitora Avazovna Khadieva Dora Isakovna. (2023). CLINICAL AND LABORATORY FEATURES OF SPONTANEOUS BACTERIAL PERITONITIS IN PATIENTS WITH VIRAL LIVER CIRRHOSIS. Journal of Advanced Zoology, 44(S2), 3744–3750. Retrieved from http://www.jazindia.com/index.php/jaz/article/view/1716
11.Mukhammadieva M.I. (2022). Modern clinical and biochemical characteristics of liver cirrhosis patients of viral etiology with spontaneous bacterial peritonitis //Texas Journal of Medical Science. – 2022.- P. 86-90
12.Abdulloev Mukhriddin Ziyodulloevich. (2023). Modern Therapy of Viral Hepatitis. Texas Journal of Medical Science, 26, 66–69. Retrieved from https://www.zienjournals.com/index.php/tjms/article/view/4636
13. Abdulloev Mukhriddin Ziyodulloevich. (2023). Modern Therapy of Viral Hepatitis. Texas Journal of Medical Science, 26, 66–69. Retrieved from https://www.zienjournals.com/index.php/tjms/article/view/4636
14.Mukhammadieva M.I. (2023). Вирус этиологияли жигар циррози беморларида спонтан бактериал перитонит билан асоратланишнинг профилактикаси ва давосини такомиллаштириш//Oriental Renaissance: Innovative, educational, natural and social sciences. -2023.-P.947-953.
15. Oblokulov A.R., M.I.Mukhammadieva.(2022). Clinical and biochemical characteristics of liver cirrhosis patients of viral etiology with spontaneous bacterial peritonitis//Academicia Globe: Indersciense Research.-2022.- P. 210-216.
16. Khadieva Dora Isakovna. (2024). Diagnosis and Prediction of Liver Fibrosis in Chronic Viral Hepatitis C in Hiv-Infected. International Journal of Integrative and Modern Medicine, 2(6), 89–94. Retrieved from https://medicaljournals.eu/index.php/IJIMM/article/view/515
17.Sanokulova Sitora Avazovna. (2023). COVID-19 IN CHILDREN. Academia Science Repository, 4(06), 25–32. Retrieved from https://academiascience.com/index.php/repo/article/view/843
18. Mukhammadieva Musharraf Ibrokhimovna. (2024). TREATMENT OF SPONTANEOUS BACTERIAL PERITONITIS COMPLICATED IN VIRUS ETIOLOGY LIVER CIRRHOSIS. JOURNAL OF EDUCATION, ETHICS AND VALUE, 3(6), 73–80. Retrieved from https://jeev.innovascience.uz/index.php/jeev/article/view/723
19. Sanokulova Sitora Avazovna. (2023). Factors of Development of Hepatorenal Syndrome in Patients with Liver Cirrhosis of Viral Etiology. Texas Journal of Medical Science, 26, 4–9. Retrieved from https://www.zienjournals.com/index.php/tjms/article/view/4611
20. Авазовна, С. С. . (2023). Факторы Развития Гепаторенального Синдрома У Больных

Циррозом Печени Вирусной Этиологии. AMALIY VA TIBBIYOT FANLARI ILMIY JURNALI, 2(12), 1–8. Retrieved from https://www.sciencebox.uz/index.php/amaltibbiyot/article/view/8673
21. Санокулова, Ситора Авазовна ОСОБЕННОСТИ ТЕЧЕНИЯ КОНТОГИОЗНЫХ ГЕЛЬМИНТОВ АССОЦИИРОВАННОГО С ЛЯМБЛИОЗОМ // ORIENSS. 2023. №2. URL: https://cyberleninka.ru/article/n/ocobennosti-techeniya-kontogioznyh-gelmintov-assotsiirovannogo-s-lyambliozom (дата обращения: 12.12.2023).
22. Jalilova, A.S. (2022). THE SPREAD OF CIRRHOSIS OF THE LIVER BY ETIOLOGICAL FACTORS. Oriental renaissance: Innovative, educational, natural and social sciences, 2 (6), 253-257.\
29. A. A., E., A. S., D., & A., M. S. (2022). Modern Approaches to Treatment of Chronic Giardiasis. Central Asian Journal of Medical and Natural Science, 3(2), 102-105. Retrieved from https://www.cajmns.centralasianstudies.org/index.php/CAJMNS/article/view/631
23. Облокулов, А., & Муҳаммадиева, М. (2022). КЛИНИКО-ЛАБОРАТОРНАЯ ХАРАКТЕРИСТИКА СПОНТАННОГО БАКТЕРИАЛЬНОГО ПЕРИТОНИТА ПРИ ЦИРРОЗЕ ПЕЧЕНИ ВИРУСНОЙ ЭТИОЛОГИИИ. Журнал вестник врача, 1(3), 66–69. извлечено от https://inlibrary.uz/index.php/doctors_herald/article/view/2016
24. Oblokulova Z.I, Oblokulov A.R, & Jalilova A.S. (2022). Diagnostic Significance of Hepatic Fibrosis in Patients with Extrahepatic Chronic Viral Hepatitis C. Central Asian Journal of Medical and Natural Science, 3(3), 438-443. Retrieved from https://www.cajmns.centralasianstudies.org/index.php/CAJMNS/article/view/806
25. Aslonova.M.R. (2022). Determination of suicidality against the background of Parasitic Diseases in children // INTERNATIONAL JOURNAL OF PHILOSOPHICAL STUDIES AND SOCIAL SCIENCES. – 2022.- P. 9-12.
26. Jalilova, A. S. (2022). Approaches to Etiotropic Therapy of Covid-19 in Outpatient Patients. INTERNATIONAL JOURNAL OF HEALTH SYSTEMS AND MEDICAL SCIENCES, 1(1), 41-44.
27. Mukhtarova Sh.A. (2022) Age-related features of clinical manifestations of giardiasis // International journal of medical sciences and clinical research 2022;17-21.
28. Jalilova A.S. (2022). FEATURES OF CLINICAL MANIFESTATIONS OF CYTOMEGALOVIRUS INFECTION IN CHILDREN. International Journal of Medical Sciences And Clinical Research, 2(09), 12–16. https://doi.org/10.37547/ijmscr/Volume02Issue09-04
29. Raximovich, O. A., Sadilloyevna, J. A., Abdulloyevna, M. S., & Farxodovich , R. F. (2022). Microbiological Indicators of Patients with Confirmed Sars-Cov-2 - Infection. Central Asian Journal of Medical and Natural Science, 3(2), 289-294. https://doi.org/10.17605/OSF.IO/9CFP6
30. Жалилова А. С. Дилноза Саётовна Косимова. Клинико–Лабораторная Характеристика Пациентов С Covid-19 И Предиктор Антибактериальной Терапии //CENTRAL ASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES. – 2021. – С. 81-86.
31. Abdulloyevna, M. S. . (2023). Tez-Tez Kasal Bo’lgan Bolalarda O’tkir Respirator Kasalliklarning Klinik-Laboratoriya Xususiyatlari. AMALIY VA TIBBIYOT FANLARI ILMIY JURNALI, 2(12), 29–34. Retrieved from https://sciencebox.uz/index.php/amaltibbiyot/article/view/8680
32. Muxtorova, S. A. (2022). Clinical and laboratoriya features of acute respiratory disease in frequently ill children. Web of scientist: International scientific research journal, 1026-1030.
33. Mukhtarova, S. H. (2022). A.(2022) AGE-RELATED FEATURES OF CLINICAL MANIFESTATIONS OF GIARDIASIS. INTERNATIONAL JOURNAL OF MEDICAL SCIENCES AND CLINICAL RESEARCH, 17-21.
34. Mukhtorova Shokhida Abdulloevna. (2023). Microbiological Indicators of Patients Infected with SarsCov-2. Texas Journal of Medical Science, 21, 41–45. Retrieved from https://www.zienjournals.com/index.php/tjms/article/view/4116
35. Mukhtorova Shokhida Abdulloevna. (2023). CYTOMEGALOVIRUS INFECTIONS IN CHILDREN WITH PRIMARY AND SECONDARY IMMUNE DEFICIENCIES. Academia Science Repository, 4(06), 23–28. Retrieved from http://academiascience.com/index.php/repo/article/view/832

36. Aslonova.M.R. (2023). VITAMIN DEFICIENCY CASES RESULTING FROM PARASITIC DISEASES // Galaxy International Interdisciplinary Research Journal.-2023.-P. 404-409
37. Mukhtorova Shokhida Abdulloevna. (2023). CHARACTERISTIC FEATURES OF THE COURSE OF CITOMEGALOVIRUS INFECTION IN CHILDREN. Galaxy International Interdisciplinary Research Journal, 11(4), 484–487. Retrieved from https://giirj.com/index.php/giirj/article/view/5150..
38.Raximovich, O. A., Sadilloyevna, J. A., Abdulloyevna, M. S., & Farxodovich , R. F. (2022). Microbiological Indicators of Patients with Confirmed Sars-Cov-2 - Infection. Central Asian Journal of Medical and Natural Science, 3(2), 289-294. https://doi.org/10.17605/OSF.IO/9CFP6
39. Ш. А, М. (2023). Профилактика Сезонного Распространения Орви Среди Детей Раннего Возраста. AMALIY VA TIBBIYOT FANLARI ILMIY JURNALI, 2(12), 22–28. Retrieved from https://www.sciencebox.uz/index.php/amaltibbiyot/article/view/8678