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ONKOLOGIK KASALLIKLAR FONIDA VIRUSLI GEPATITLAR: ZAMONAVIY QARASHLAR

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Annotatsiya. Onkologik kasalliklarga chalingan bemorlarda virusli gepatitlar (ayniqsa HBV va HCV) ning klinik kechishi va asoratlari global tibbiy ahamiyatga ega. Kimyoterapiya, radioterapiya va immunoterapiya fonida virusning latent holatdan faol replikatsiyaga o‘tishi, ya’ni reaktivatsiya xavfi sezilarli darajada ortadi. Bu jarayon klinik belgilar va laboratoriya ko‘rsatkichlarining o‘zgarishi, jigar funksiyasining susayishi, fulminant gepatit hamda terapiya rejasining o‘zgarishiga olib kelishi mumkin.

Xalqaro tadqiqotlar bilan bir qatorda, O‘zbekiston olimlari ham virusli gepatitlar tarqalishi, klinikasi va profilaktika choralari bo‘yicha keng miqyosda ilmiy ma’lumotlar taqdim etmoqda. Ushbu maqolada zamonaviy jahon adabiyoti va mahalliy tadqiqotlar asosida virusli gepatitlarning onkologik kasalliklar fonida tarqalishi, patogenezi, klinik xususiyatlari, diagnostika va monitoringi, profilaktika hamda davolash choralari tahlil qilindi.

Maqola nafaqat klinik shifokorlar, balki epidemiologlar, virusologlar va tibbiy tadqiqotchilar uchun ham foydali ma’lumotlarni o‘z ichiga oladi. Shuningdek, HBV va HCV reaktivatsiyasini solishtiruvchi jadvallar, xavf omillari va terapevtik yo‘llar ham taqdim etildi. Yaqin istiqbolda virusli gepatitlarni nazorat qilish va onkologik kasalliklarni davolash strategiyasini takomillashtirish uchun fundamental va amaliy bilimlar taqdim etiladi.

Kalit so‘zlar: Virusli gepatit, onkologik kasalliklar, HBV reaktivatsiyasi, HCV reaktivatsiyasi, immunomodulyatsiya, profilaktika.

ВИРУСНЫЕ ГЕПАТИТЫ НА ФОНЕ ОНКОЛОГИЧЕСКИХ ЗАБОЛЕВАНИЙ: СОВРЕМЕННЫЕ ВЗГЛЯДЫ

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Аннотация. Клиническое течение и осложнения вирусных гепатитов (особенно HBV и HCV) у пациентов с онкологическими заболеваниями имеют глобальное медицинское значение. На фоне химиотерапии, радиотерапии и иммунотерапии риск перехода вируса из латентного состояния в активную репликацию, то есть реактивации, значительно возрастает.

Этот процесс может приводить к изменению клинических проявлений и лабораторных показателей, ухудшению функции печени, развитию фульминантного гепатита и необходимости корректировки терапевтического плана.

Наряду с международными исследованиями, узбекские ученые также предоставляют обширные научные данные о распространенности, клиническом течении и профилактике вирусных гепатитов. В данном обзорном материале проведен анализ современного мирового литературного материала и локальных исследований относительно распространенности вирусных гепатитов на фоне онкологических заболеваний, их патогенеза, клинических особенностей, диагностики и мониторинга, профилактических и лечебных мероприятий.

Статья содержит полезную информацию не только для клинических врачей, но и для эпидемиологов, вирусологов и медицинских исследователей. Также представлены сравнительные таблицы реактивации HBV и HCV, факторы риска и терапевтические подходы. В ближайшей перспективе это обеспечивает фундаментальные и практические знания для контроля вирусных гепатитов и совершенствования стратегий лечения онкологических заболеваний.

Ключевые слова: Вирусные гепатиты, онкологические заболевания, реактивация HBV, реактивация HCV, иммуномодуляция, профилактика.

VIRAL HEPATITIS IN THE CONTEXT OF ONCOLOGICAL DISEASES: CONTEMPORARY PERSPECTIVES

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Abstract. The clinical course and complications of viral hepatitis (especially HBV and HCV) in patients with oncological diseases have global medical significance. Against the background of chemotherapy, radiotherapy, and immunotherapy, the risk of the virus transitioning from a latent state to active replication, i.e., reactivation, increases significantly. This process can lead to changes in clinical symptoms and laboratory parameters, deterioration of liver function, development of fulminant hepatitis, and adjustments in therapeutic management.

Alongside international studies, Uzbek scientists have also provided extensive data on the prevalence, clinical features, and preventive measures for viral hepatitis. This review article analyzes contemporary global literature and local research regarding the prevalence of viral hepatitis in the context of oncological diseases, its pathogenesis, clinical characteristics, diagnostic and monitoring approaches, as well as preventive and therapeutic strategies.

The article contains valuable information not only for clinical physicians but also for epidemiologists, virologists, and medical researchers. Comparative tables of HBV and HCV reactivation, risk factors, and therapeutic approaches are also presented. In the near future, this knowledge provides both fundamental and practical insights for controlling viral hepatitis and improving oncological treatment strategies.

Keywords: Viral hepatitis, oncological diseases, HBV reactivation, HCV reactivation, immunomodulation, prevention.

Viral hepatitis represents a major global public health issue. According to the World Health Organization, over 250 million people worldwide are chronically infected with HBV, and more than 70 million people are chronically infected with HCV. These infections are among the leading causes of liver cirrhosis and hepatocellular carcinoma.

Viral hepatitis holds particular significance in patients with oncological diseases. Chemotherapy, radiotherapy, and biologic agents weaken the immune system, which can trigger activation of latent viruses. Additionally, viral hepatitis can lead to dose reduction, interruption of therapy, and overall worsening of prognosis.

Large-scale epidemiological studies conducted in Uzbekistan screened 1,048,575 individuals, revealing an HBsAg prevalence of 2.89% and anti-HCV prevalence of 3.52%, with anti-HCV prevalence reaching 6.07% in Tashkent city. These findings highlight the importance of national vaccination programs and preventive measures.

Various clinical studies report that HBV infection occurs in 5–30% of oncology patients, with the highest prevalence observed in patients with hematological malignancies. HCV infection is also widespread among cancer patients and is associated with poorer therapeutic outcomes and an increased risk of liver-related mortality.

HBV reactivation is one of the best-studied and clinically significant complications in oncology patients. During chemotherapy, viral replication intensifies, and after therapy cessation, immune system recovery can lead to massive hepatocyte injury. A meta-analysis by Paul and colleagues demonstrated that patients who did not receive prophylactic antiviral therapy had an 8–10 times higher risk of HBV reactivation.

Although HCV reactivation is less common, chronic inflammation accelerates liver fibrosis and reduces organ function. Studies in Uzbekistan have shown that in patients co-infected with HCV/HIV, IL28B gene polymorphisms influence the rate of liver fibrosis progression.

In patients with existing HDV infection, liver damage is more severe, with rapid progression to cirrhosis and liver failure. In oncology patients, viral hepatitis often presents atypically. Classic symptoms—jaundice, pruritus, and right upper quadrant pain—may appear late or be entirely absent, delaying diagnosis. HBV reactivation remains one of the most serious challenges associated with oncological therapy.

- **HBV:** Immunosuppression induced by chemotherapy and immunosuppressive agents can trigger HBV reactivation. Reactivation is most commonly observed in patients with high levels of HBsAg, HBeAg, and HBV DNA.
- **HCV:** Reactivation is less frequent, but chronic infection accelerates liver fibrosis and reduces the effectiveness of oncological therapy.
- **HDV:** In cases of co-infection, liver damage is more severe, with an increased risk of cirrhosis and liver failure.

According to WHO recommendations, all oncology patients should be screened for HBsAg, anti-HBc, and anti-HCV prior to initiating chemotherapy. Studies in Uzbekistan indicate that clinical laboratory and molecular techniques (PCR, serology) play a crucial role in the early diagnosis of viral hepatitis.

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Prophylactic antiviral therapy is considered the most effective strategy to reduce HBV reactivation. For HCV, direct-acting antivirals help decrease liver-related complications and improve clinical outcomes.

Comparative Analysis of HBV and HCV Reactivation

Parameter	**HBV (Hepatitis B Virus)**	**HCV (Hepatitis C Virus)**
Risk of Reactivation	High, especially in patients with high HBsAg, HBeAg, and HBV DNA levels	Lower, but risk exists in chronic infection
Clinical Consequences	Rapid deterioration of liver function, fulminant hepatitis, cirrhosis, organ failure	Chronic inflammation, accelerated liver fibrosis, reduced therapy efficacy
Immune-Related Influence	Immunosuppression due to chemotherapy or immunosuppressive drugs triggers reactivation	Reactivation is less common, but immune suppression accelerates inflammation
Therapeutic Measures	Prophylactic antiviral therapy is the most effective approach	Direct-acting antivirals (DAAs) improve therapy outcomes and reduce complications
Molecular Monitoring	HBsAg, HBeAg, HBV DNA	HCV RNA, serology (anti-HCV)
Factors Affecting Reactivation	Immune status, therapeutic regimen, viral load	Liver fibrosis, therapeutic regimen, immune status

Conclusion. Analysis of contemporary literature and studies conducted in Uzbekistan clearly demonstrates that viral hepatitis in patients with oncological diseases often has a severe course, with significant risks of reactivation and life-threatening complications. In oncology patients, HBV and HCV infections frequently remain latent, which can delay clinical diagnosis and reduce the effectiveness of therapy. Reactivation may lead to rapid deterioration of liver function, fulminant hepatitis, cirrhosis, and even organ failure, profoundly impacting treatment plans.Early screening and the implementation of prophylactic antiviral therapy in all patients are crucial for prolonging therapy duration and minimizing liver-related complications. When these measures are aligned with international guidelines, such as those of the EASL and WHO, as well as local protocols, the safety of oncological treatment is substantially enhanced. A multidisciplinary approach—including collaboration among hematologists, oncologists, virologists, and clinical pharmacologists—remains essential for preserving patient health and improving therapeutic outcomes. Epidemiological studies in Uzbekistan indicate that the prevalence of HBV and HCV among hematological and oncological patients is comparable to or higher than international levels, particularly in those receiving blood products or immunosuppressive therapy. This underscores the necessity of standard screening,

accurate viral hepatitis diagnostics, and prophylactic antiviral therapy for all oncology patients as part of national protocols. The risk of viral reactivation directly affects treatment regimens, increasing the likelihood of toxic effects, interrupting therapy, and worsening overall prognosis. Therefore, a comprehensive strategy—including screening, prophylaxis, early diagnosis, molecular monitoring, and individualized therapy—represents the most effective approach for maintaining health and vital functions in oncology patients with viral hepatitis. Local studies also highlight that the risk of HBV and HCV reactivation depends on liver fibrosis, immune status, and the therapeutic regimen, emphasizing the importance of individualized patient assessment. This approach enables future clinical research to explore genetic, immunological, and therapeutic factors more deeply, allowing clinicians to develop personalized treatment strategies and refine overall medical protocols.

In summary, for oncology patients with viral hepatitis, prophylactic measures, early screening, and modern diagnostic methods are of critical importance. Integrating national and international protocols, multidisciplinary collaboration across medical specialties, and individualized therapeutic strategies play a central role in preserving patient functionality and significantly improving quality of life and survival outcomes.

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