

# GEORGIAN MEDICAL NEWS

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ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии  
საქართველოს სამედიცინო სიახლენი

## GEORGIAN MEDICAL NEWS

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**GMN: Georgian Medical News** is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

**GMN: Медицинские новости Грузии** - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

**GMN: Georgian Medical News** – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

### WEBSITE

[www.geomednews.com](http://www.geomednews.com)

## К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman (Кириллица)**, для текста на грузинском языке следует использовать **AcadNusx**. Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - <http://www.spinesurgery.ru/files/publish.pdf> и [http://www.nlm.nih.gov/bsd/uniform\\_requirements.html](http://www.nlm.nih.gov/bsd/uniform_requirements.html) В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректур авторам не высылаются, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

**При нарушении указанных правил статьи не рассматриваются.**

## REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or computer-printed on a single side of standard typing paper, with the left margin of 3 centimeters width, and 1.5 spacing between the lines, typeface - **Times New Roman (Cyrillic)**, print size - 12 (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: [http://www.nlm.nih.gov/bsd/uniform\\_requirements.html](http://www.nlm.nih.gov/bsd/uniform_requirements.html)  
[http://www.icmje.org/urm\\_full.pdf](http://www.icmje.org/urm_full.pdf)

In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

**Articles that Fail to Meet the Aforementioned Requirements are not Assigned to be Reviewed.**

ავტორთა საქმრადლებოლ!

რედაქციაში სტატის წარმოდგენისას საჭიროა დავიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოდგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე. დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურ ენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულ ენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx**. შრიფტის ზომა - 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოდგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოდგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შედეგების ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა - უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფხიხლებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

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## HEPATITIS B VIRUS (HBV) REACTIVATION IN PATIENTS CO-INFECTED WITH HUMAN IMMUNODEFICIENCY VIRUS: A CASE REPORT

M. Zhamutashvili<sup>1,2</sup>, M. Endeladze<sup>1,2</sup>, N. Jojua<sup>1</sup>, T. Gognadze<sup>1</sup>, M. Akhvlediani<sup>2</sup>, T. Rukhadze<sup>2</sup>, L. Sharvadze<sup>2</sup>, M. Moistrapishvili<sup>2</sup>, L. Dolidze<sup>1</sup>, V. Lagvilava<sup>2</sup>, G. Gogoladze<sup>2</sup>, K. Nafissi<sup>1</sup>, Z. Sadeghi<sup>1</sup>, N. Kipiani<sup>2</sup>, S. Capey<sup>1</sup>.

<sup>1</sup>European University, Tbilisi, Georgia.

<sup>2</sup>T. Tsertsvadze Infectious Diseases, AIDS and Clinical Immunology Research Center, Tbilisi, Georgia.

### Abstract.

**Background:** Hepatitis B virus (HBV) reactivation in patients co-infected with human immunodeficiency virus (HIV) represents a serious clinical concern due to shared transmission routes. HIV infection significantly alters the natural course of HBV, resulting in decreased clearance of acute infection, accelerated progression to cirrhosis, and increased liver-related mortality compared to HBV mono-infection.

**Aim:** To present a severe clinical case of HBV reactivation in a patient with HIV infection complicated by Kaposi sarcoma and to highlight the clinical challenges associated with irregular antiretroviral therapy.

**Results:** The patient had irregular adherence to antiretroviral therapy and did not receive specific antiviral treatment for hepatitis B. He developed icterus of the skin and sclera accompanied by intermittent low-grade fever. Laboratory investigations revealed elevated transaminases, hyperbilirubinemia, hepatosplenomegaly on ultrasound, periportal fibrosis, and portal hypertension. Despite therapeutic interventions, the patient's condition progressively worsened, characterized by increasing jaundice, profound asthenia, and right upper quadrant discomfort.

**Conclusion:** HBV reactivation in HIV-infected individuals may lead to severe liver complications, particularly in the setting of poor treatment adherence. Patients with chronic hepatitis B and HIV co-infection should receive appropriate counseling regarding liver damage risk and undergo regular surveillance for early detection of hepatocellular carcinoma. Noninvasive methods for liver fibrosis assessment play an important role in monitoring disease progression.

**Key words.** Chronic hepatitis B, Human immunodeficiency virus, management.

### Introduction.

Since the advent of highly active antiretroviral treatment (HAART), HIV-associated morbidity and mortality have substantially declined. Liver diseases, mainly due to hepatitis viruses, have emerged as a major cause of non-AIDS-related death [1,2]. As HIV and hepatitis B virus (HBV) share the same routes of transmission through sexual and percutaneous contact [3], co-infection is common. Care of hepatitis B among HIV-infected individuals is a major challenge in the management of HIV infection. Currently, national and international guidelines recommend screening patients diagnosed with HIV for chronic, acute, or occult HBV infection, including HBV-effective agents in the antiretroviral therapy (ART) plan in chronic or occult HBV, as well as vaccination of susceptible individuals. This review provides an update on epidemiology, natural history,

diagnosis, prevention, and treatment of hepatitis B infection in HIV-infected patients.

This case report describes the clinical course of a patient with confirmed HIV infection and chronic hepatitis B who was admitted to the Infectious Diseases, AIDS and Clinical Immunology Scientific-Research Center of European University in August 2025.

The study is presented in accordance with ethical principles for case reporting, with preservation of patient confidentiality.

### Case Presentation.

The patient was admitted to our clinic on August 26, 2025, at 11:50 AM. According to the medical history, he had been diagnosed with HIV infection and chronic hepatitis B in 2020. Antiretroviral therapy had been taken irregularly. Approximately three months before hospitalization, the regimen was switched to ZDV/3TC/LPN.

Two weeks before admission, the patient developed sub-icterus of the skin and sclera, brown macules on the skin, accompanied by intermittent low-grade fever. He presented to the Sokhumi Center for outpatient evaluation, where laboratory investigations revealed transaminitis, hyperbilirubinemia, hepatosplenomegaly on ultrasound, periportal fibrosis, and portal hypertension. Antiretroviral therapy was subsequently changed to TDF/FTC/DRV/r.

Despite treatment, the patient's condition progressively worsened, with increasing jaundice, profound asthenia, and right upper quadrant discomfort. He was admitted in critical condition for further diagnostic evaluation.

On admission, physical examination revealed marked icterus of the skin and sclera, brown macular skin lesions consistent with Kaposi sarcoma, a moderately distended abdomen, and preserved urine output. Neurological status initially manifested as somnolence and confusion.

Upper endoscopy showed no evidence of esophageal varices; therefore, carvedilol was discontinued. Findings included gastritis, bulbitis, and bile reflux esophagitis. Treatment was initiated, including correction of hyperammonemia and hypoalbuminemia, detoxification, and hemostatic therapy. HBV DNA was quantified at 276,932 IU/mL.

Laboratory investigations demonstrated severe hepatic dysfunction, including marked coagulopathy (prothrombin index 23%, INR 4.32) and significant hyperbilirubinemia (total bilirubin 422.6  $\mu\text{mol/L}$ , later increasing to 475.8  $\mu\text{mol/L}$  with direct bilirubin 336.5  $\mu\text{mol/L}$ ). Transaminase levels indicated hepatocellular injury (ALT 474 U/L; AST 85.6 U/L), while gamma-glutamyl transferase was mildly elevated. Serum ammonia level was increased, indicating developing hepatic

encephalopathy. C-reactive protein was elevated, while renal function remained preserved (GFR 130 mL/min).

Virological analysis confirmed active HBV replication. Serological markers were positive for HBsAg, HBeAg, and anti-HBc IgG, while anti-delta antibody was negative. Profound immunosuppression was confirmed by a CD4+ T-lymphocyte level of 5%. HHV-8 nuclear antigen was positive.

Abdominal ultrasonography revealed hepatosplenomegaly, periportal fibrosis, and signs of portal hypertension.

Kaposi sarcoma lesions showed progression during hospitalization, reflecting profound immunosuppression; however, specific oncologic treatment could not be initiated due to the patient's critical condition.

The patient's neurological status progressively deteriorated, necessitating transfer to the intensive care unit. Mechanical ventilation was required due to respiratory failure. Management included correction of coagulopathy with transfusions of ABO- and Rh-compatible fresh frozen plasma (FFP), symptomatic treatment, and continuous monitoring.

On September 11, 2025, neurological function declined further, with loss of responsiveness and non-reactive pupils. Invasive mechanical ventilation was initiated. Although temporary stabilization allowed extubation on September 13, respiratory and metabolic parameters continued to worsen.

Subsequently, the patient developed recurrent hypoxemia, bilateral pulmonary infiltrates, hemodynamic instability requiring vasopressor support, and severe metabolic acidosis. Despite intensive management, including plasma transfusion therapy and plasmapheresis, the neurological status deteriorated to a Glasgow Coma Scale score of 5.

Ultimately, the patient succumbed to acute hepatic failure and its complications.

## Discussion.

This case presents a challenging clinical scenario of hepatitis B virus (HBV) reactivation in a patient co-infected with human immunodeficiency virus (HIV), focusing on the intricate relationship between viral replication and suppression of the immune response. Deficient immune control, mainly CD4+ T cells for HBV has resulted in unrestrained replication of HBV and then caused gradual liver damage. In a patient with poor compliance of antiretroviral therapy (ART) and change of regimen, reactivation of HBV infection developed leading to severe jaundice, marked fatigue, and laboratory findings consistent with liver dysfunction [4,5].

Hepatitis B virus (HBV) reactivation can be associated with a wide range of manifestations, from asymptomatic elevations of liver enzymes to fulminant hepatic failure. In this patient, jaundice, profound fatigue, right upper quadrant pain, and high-serum HBV DNA level suggested that a severe episode of reactivation had developed with time. Such case reports support the potential for extremely fast HBV reactivation course in HIV co-infected patients and highlight the critical importance of early identification followed by timely therapeutic intervention [6].

In these situations, the differential diagnosis would include drug-induced liver injury, acute hepatitis (A, C

or E), opportunistic infections and immune reconstitution inflammatory syndrome (IRIS). A broad serologic profile, including determination of HBV DNA levels is essential to make the diagnosis and exclude other causes for liver damage. Accurate and prompt identification of the underlying etiology facilitates optimal management and may significantly improve patient outcomes [7].

Laboratory findings indicated acute hepatic failure due to HBV reactivation. Severe coagulopathy and marked hyperbilirubinemia reflected advanced hepatic dysfunction. The markedly elevated transaminases and hyperbilirubinemia observed on admission were highly indicative of advanced hepatocellular injury and severe hepatic dysfunction. Elevated ammonia levels suggested early hepatic encephalopathy, while preserved renal function excluded significant renal impairment. These results indicated a severe HBV flare in the context of HIV-related immunodeficiency [8-12].

This case highlights several critical points:

1. The essential role of early and continuous ART in preventing opportunistic infections and AIDS-related malignancies.
2. The importance of adherence to antiviral therapy in HIV/HBV coinfected patients to prevent viral reactivation and liver failure.
3. The aggressive course of Kaposi sarcoma in the setting of profound immunosuppression.
4. The necessity of multidisciplinary follow-up, patient education, and psychosocial support to improve adherence and clinical outcomes.

Ultimately, this case underscores that HIV infection has become a manageable chronic condition with appropriate therapy; however, lack of treatment remains associated with high morbidity and mortality.

## Conclusion.

This case underscores that HIV infection has become a manageable chronic condition when appropriate and timely antiretroviral therapy is administered. However, poor adherence to treatment and inadequate antiviral coverage for hepatitis B virus may lead to severe and life-threatening complications. HBV reactivation in the setting of advanced immunosuppression can result in acute hepatic failure with rapid clinical deterioration and high mortality risk.

The presented case highlights the critical importance of early diagnosis of HBV co-infection in HIV-positive individuals, strict adherence to HBV-active antiretroviral regimens, and continuous monitoring of viral load and liver function parameters. Comprehensive management should include regular assessment for liver fibrosis, surveillance for hepatocellular carcinoma, and multidisciplinary follow-up.

Effective patient education, psychosocial support, and individualized treatment strategies are essential to improve adherence and clinical outcomes. Strengthening screening protocols and ensuring integration of HBV management into HIV care programs remain fundamental components in reducing liver-related morbidity and mortality among co-infected patients.

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