

Spontaneous Viral Reactivation without Immunosuppressive Treatment in Three Cases in Senegal and Literature Review

Alioune Badara Fall*, Coumba Kouba Cisse, Marème Polele Fall, Salamata Diallo, Marie Louise Bassene, Tene Sidibe

Department of Gastroenterology, Hospital Aristide Le Dantec, Dakar, Sénégal

Email: *alioune1994a@gmail.com

How to cite this paper: Fall, A.B., Cisse, C.K., Polele Fall, M., Diallo, S., Bassene, M.L. and Sidibe, T. (2025) Spontaneous Viral Reactivation without Immunosuppressive Treatment in Three Cases in Senegal and Literature Review. *Open Journal of Gastroenterology*, 15, 716-721.
<https://doi.org/10.4236/ojgas.2025.1512066>

Received: October 15, 2025

Accepted: November 29, 2025

Published: December 2, 2025

Copyright © 2025 by author(s) and Scientific Research Publishing Inc.
This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).
<http://creativecommons.org/licenses/by/4.0/>



Open Access

Abstract

Introduction: Hepatitis B reactivation is a rare complication of hepatitis B (HBV), which is often triggered by immunosuppressive therapy, however its occurrence can be spontaneous. Its prognosis is often unfavorable due to complications as of acute hepatitis, in particular fulminant hepatitis. **Comments:** **Case 1:** A 49-year-old male followed for hepatitis B virus-induced cirrhosis under Tenofovir 300 mg/d and, was admitted with cholestatic jaundice in whom the diagnosis of severe acute hepatitis secondary to hepatitis B reactivation was retained. However, apart from treatment interruption, there were no other contributing factors. Evolution was unfavorable with the onset of hepatic encephalopathy of which the patient succumbed. **Case 2:** A 40-year-old male known diabetic patient, followed for chronic inactive hepatitis B virus (HBV) carriage, was hospitalized for exploration of jaundice associated to physical asthenia, in whom the diagnosis of acute hepatitis secondary to viral reactivation B was retained; the etiological factors found in this patient were unmonitored diabetes and HIV infection. Evolution was favorable after tenofovir intake. **Case 3.** A 44-year-old male followed for HBV cirrhosis under no treatment, was admitted with ascites and jaundice in whom diagnosis of severe acute hepatitis secondary to viral reactivation B was retained. No contributing factor was found in the patient. He benefited from treatment based on Tenofovir 300 mg/day, but the evolution was unfavorable due to the onset of hepatic encephalopathy of which the patient succumbed. **Conclusion:** Hepatitis B reactivation is a rare and dreaded complication of HBV infection. It is often triggered by immunosuppressive therapy or acquired immunosuppression. However, it is important to consider that its occurrence can be spontaneous even in the absence of a contributing factor.

Keywords

Viral Reactivation, HBV, Hepatic Encephalopathy, Viral Load

1. Introduction

Hepatitis B is an inflammatory disease of the liver caused by the HBV. HBV is an enveloped virus containing partially double-stranded circular DNA from the *Hepadnaviridae* family [1]. Hepatitis B reactivation is characterized by a sudden increase of HBV replication in a patient with a chronic inactive carriage or who has achieved seroconversion. Although HBV reactivation can occur spontaneously, it usually occurs after chemotherapy, immunosuppression, or impaired immune function [(human immunodeficiency virus infection) (HIV)] [2]. Clinical presentation can vary, ranging from an asymptomatic clinical presentation to severe acute hepatitis or even fulminant hepatitis leading to death. We report 3 cases of acute hepatitis B reactivation unrelated to immunosuppressants intake, the outcome of which was unfavorable in 02 cases.

2. Comments

CASE 1

Mr. M.D.D., was a patient of 49 years, with follow-up of 3 years in the hepatogastroenterology department of the Aristide le Dantec hospital for 03 years for hepatitis B virus-induced cirrhosis B with a Child-Pugh score of A5 under Tenofovir 300 mg/d. Initial viral load was of 2430 IU/ml before treatment, then undetectable at twelve months after starting Tenofovir 300 mg/d.

He was admitted for non-febrile cholestatic jaundice with acute evolution associated to physical asthenia.

Physical examination showed moderate ascites in which exploratory paracentesis brought back a citrine yellow liquid, poor in protein (20 g/l) and paucicellular (102 el/m³) after cytochemical analysis.

Biological tests found strong liver cytolysis with AST level of 1010 U/I (29 N) and ALT level of 1090 U/I (28 N), cholestasis with predominantly conjugated hyperbilirubinemia with level of 226 mg/l, elevation of PAL with level of 972 U/I (7.77 N) and gammaglutamyl transferase level of 228 U/I (6 N), liver failure with incoagulable PT and hypoalbuminemia at 28 g/l.

Abdominal ultrasound revealed a dysmorphic liver with irregular contours with no focal lesions suspicious of malignancy nor dilatation of the intra and extra hepatic bile ducts therefore eliminating an extra hepatic obstructive origin of cholestasis. The diagnosis of acute hepatitis was confirmed. Concerning etiology, toxic and drug causes were eliminated during assessment, a secondary infection with other hepatotropic viruses (HAV, HEV, HDV, HCV) was also eliminated (negative serologies). Hepatitis B reactivation was confirmed before positivity of IgM-type anti Hbc antibodies, and novo detection of HBV DNA which was of 28,800

UI/l. There were no contributing factors found in the patient (negative HIV serology, no diabetes, serum protein electrophoresis was normal).

Therapeutically, Tenofovir 300 mg/d was restored associated to vitamin K supplementation. The evolution on D3 of hospitalization was marked by the occurrence of fulminate hepatitis with onset of hepatic encephalopathy to which the patient succumbed on day 5 of hospitalization.

CASE 2

We report the case of Mr. S.D, 40 years old male, with high blood pressure for 03 years under Losartan100/Hydrochlorothiazide 25 (1 tab/d), known diabetic for more than 13 years under Metformin 850/ Vildagliptin 50 (1 tab/d) with chronic carriage of HBV for 01 years with no treatment whose last viral load carried out 5 months before hospitalization was of 1780 IU/ml with normal liver function panel. He was admitted for pruritus associated to jaundice.

On physical examination at admission, cholestatic-like jaundice, hyperglycemia of 2.3 g/l and intense physical asthenia were noted.

Biological findings showed strong liver cytolysis with ALT level of 1810 U/I (51 N) and AST level of 1350 U/I (33 N), biological cholestasis with total hyperbilirubinemia of 98 mg/l predominantly conjugated and an elevation of GGT of 608 U/I (12 N) and PAL of 299 (1.7 N).

There was no liver failure, PT was normal with 77% and the albuminemia was normal with level of 36 g/l.

Abdominal ultrasound was normal. Diagnosis of acute cytolytic and cholestatic hepatitis was upheld. Concerning etiology of acute hepatitis, toxic, alcoholic and drug origin was eliminated as there was no notion of alcohol consumption or hepatotoxic drug intake. Secondary infection caused by hepatotropic viruses (A, E, C, D) was also eliminated (the viral serologies were negative).

Hepatitis B reactivation was upheld before the positivity of IgM type anti Hbc antibodies associated to a high viral DNA load of 795,000/ml, Hbe antigen was negative and anti Hbe antibodies were positive.

Searching for triggering factors of hepatitis B reactivation, retroviral serology was performed and was positive for type 1 anti-HIV antibodies. The patient underwent Tenofovir 300 mg/d treatment, and all potentially hepatotoxic drugs were interrupted. Evolution under treatment was marked by a regression of jaundice and physical asthenia, biologically there was a regression of cytolysis and cholestasis on the fourteenth day of hospitalization.

CASE 3

We report the case of Mr. MD, a 44-year-old male, followed for hepatitis B induced cirrhosis for 3 months with undetectable viral load (<26 IU/ml) at the time of diagnosis under no treatment.

He was admitted with jaundice and abdominal swelling. On clinical examination at admission, the patient presented with moderate free ascites, cholestatic jaundice and hepatomegaly.

Biological tests found liver cytolysis with AST level of 1870 U/I (47 N) and ALT

level of 1020 U/I (25.5 N), biological cholestasis with predominantly conjugated hyperbilirubinemia of 212 mg/l, elevated GGT of 179 U/I (3 N) associated to liver failure with PT of 31% and hypoalbuminemia of 24 g/l. The cytochemical study of ascitic fluid showed, it was poor in protein (13 g/l) and paucicellular (56 el/m^3). Abdominal ultrasound was in favor of a dysmorphic liver with irregular contours and a heteromultinodular echostructure.

Abdominal CT did not show signs of degeneration into hepatocellular carcinoma.

Diagnosis of acute hepatitis on cirrhosis was upheld. Concerning the cause, medical assessment enabled to eliminate toxic, drug induced and alcoholic etiologies. Viral secondary infection linked to other hepatotropic viruses (HAV, HEV, HCV, HDV) was also eliminated (negative serology).

Hepatitis B reactivation etiology was most likely before the positivity of anti Hbc antibodies of IgM type and the high viral replication with a HBV DNA load of 628,000 IU/ml. There were no contributing factors found in the patient (negative HIV serology, no diabetes, serum protein electrophoresis was normal). The patient received Tenofovir 300 mg/d, an antipruritic treatment (Hydroxyzine 25 mg/d) and vitamin K supplementation. The evolution under treatment was marked by the onset of stage 4 hepatic encephalopathy on the sixth day of hospitalization, leading to death on the tenth day of hospitalization.

3. Discussion

HBV reactivation occurs in many situations in which a person with mild or inactive hepatitis B is exposed to immunosuppressive agents or during immune deficiency [2]. Apart from epidemiological variables such as young age and male gender, which could favor the occurrence of viral reactivation, the main factors associated with this risk are chemotherapy, corticosteroid therapy, immunosuppressants and pregnancy.

Patients with a hematologic malignancy and receiving a chemotherapy regimen including high doses of corticosteroids have a higher risk (67%) of viral reactivation than those with a malignant solid tumor, particularly digestive, treated by a chemotherapy protocol deemed less aggressive and not including corticosteroids (40%) [3].

In our patients, Treatment interruption was noted in case 1, HIV infection and unmonitored diabetes were noted in case 2. There were no contributing factors in case number 3.

None of our patients were exposed to immunosuppressive therapy, corticosteroids, or chemotherapy. The initial serological profile of infection and viral load also determine the risk of viral reactivation. Patients who are chronic carriers of HbsAg are at higher risk than patients with seroconversion with an anti-HBs Ab level $> 10 \text{ IU/L}$ (2% to 3%). Viral reactivation seems to be earlier in HBsAg carriers than in patients with seroconversion (mean 2 - 3 months vs. 19 months) [4] [5] as well. Concerning serological profiles, HbsAg and anti Hbc antibodies of IgM type

were positive, on the other hand, anti Hbs Abs were negative in all patients. Recent studies suggest a direct correlation between the pre-treatment serum concentration of HBV DNA and the risk of viral reactivation. Indeed, a viral load greater than 50,000 IU/ml would be associated with a high risk of reactivation [6]. In our patients, the pre-therapeutic viral DNA was less than 50,000 in all patients. The clinico-biological spectrum of reactivation is variable, ranging from an isolated increase in viremia and/or transaminases to fatal fulminant forms. These severe forms are most often encountered in the immuno-restoration phase following the discontinuation of immunosuppressive treatment. Viral reactivation can also lead to aggravation of fibrotic lesions which can thus decompensate underlying cirrhosis [7] [8]. In our observations, an array of acute hepatitis was noted in all patients, it was severe with the onset of hepatic encephalopathy determining fulminant hepatitis in cases 1 and 3. Reactivation also favored decompensation of cirrhosis with asitic manifestation in cases 1 and 3.

In case of symptoms linked to hepatitis, death occurs in 5% to 40% of subjects carrying HBsAg. Patients with underlying cirrhosis are at risk of acute complications of cirrhosis [8]. In our observation, death occurred in cases number 1 and 3 with the following factors associated with death: cirrhosis, hepatic encephalopathy, low PT and hyperbilirubinemia greater than 200 mg/l. Concerning therapy, the management of viral reactivation is mainly based on prophylaxis by the introduction of a pre-emptive treatment as soon as an immunosuppressive therapy is started [9]. Delayed antiviral therapy started after HBV reactivation may not be able to prevent worsening of hepatitis. This is because antiviral treatment takes a few weeks to reduce viral load levels, time during which there is progression of inflammation and hepatic necrosis [10]. Studies have shown that prophylactic antiviral treatment is more effective than delayed therapy [11]. Delayed therapy was carried out in all our patients, and the evolution was favorable in only one case.

4. Conclusion

Viral B reactivation is a rare complication of hepatitis B, which is often triggered by immunosuppressive therapy; however, its occurrence can be spontaneous even in the absence of predisposing factors. It can be revealed by an array of acute hepatitis that can progress to fulminant acute hepatitis leading to death. Its management is mainly based on prevention by the establishment of a pre-emptive treatment as soon as an immunosuppressive treatment or a deferred therapy is started as soon as the reactivation is diagnosed.

Provenance and Peer Review

All authors have read and approved the document.

Consent

The patients gave their consent to report the cases.

Conflicts of Interest

The authors declare no conflict of interest concerning the publication of this document.

References

- [1] Lee, H.W., Lee, J.S. and Ahn, S.H. (2020) Hepatitis B Virus Cure: Targets and Future Therapies. *International Journal of Molecular Sciences*, **22**, Article 213. <https://doi.org/10.3390/ijms22010213>
- [2] Smalls, D.J., Kiger, R.E., Norris, L.B., Bennett, C.L. and Love, B.L. (2019) Hepatitis B Virus Reactivation: Risk Factors and Current Management Strategies. *Pharmacotherapy: The Journal of Human Pharmacology and Drug Therapy*, **39**, 1190-1203. <https://doi.org/10.1002/phar.2340>
- [3] Shi, Y. and Zheng, M. (2020) Hepatitis B Virus Persistence and Reactivation. *BMJ*, **370**, m2200. <https://doi.org/10.1136/bmj.m2200>
- [4] Bertoletti, A. and Ferrari, C. (2012) Innate and Adaptive Immune Responses in Chronic Hepatitis B Virus Infections: Towards Restoration of Immune Control of Viral Infection. *Gut*, **61**, 1754-1764. <https://doi.org/10.1136/gutjnl-2011-301073>
- [5] Asabe, S., Wieland, S.F., Chattopadhyay, P.K., Roederer, M., Engle, R.E., Purcell, R.H., et al. (2009) The Size of the Viral Inoculum Contributes to the Outcome of Hepatitis B Virus Infection. *Journal of Virology*, **83**, 9652-9662. <https://doi.org/10.1128/jvi.00867-09>
- [6] Moraleda, G., Saputelli, J., Aldrich, C.E., Averett, D., Condreay, L. and Mason, W.S. (1997) Lack of Effect of Antiviral Therapy in Nondividing Hepatocyte Cultures on the Closed Circular DNA of Woodchuck Hepatitis Virus. *Journal of Virology*, **71**, 9392-9399. <https://doi.org/10.1128/jvi.71.12.9392-9399.1997>
- [7] Burton, A.R., Pallett, L.J., McCoy, L.E., Suveizdyte, K., Amin, O.E., Swadling, L., et al. (2018) Circulating and Intrahepatic Antiviral B Cells Are Defective in Hepatitis B. *Journal of Clinical Investigation*, **128**, 4588-4603. <https://doi.org/10.1172/jci121960>
- [8] Inoue, T., Matsui, T. and Tanaka, Y. (2021) Novel Strategies for the Early Diagnosis of Hepatitis B Virus Reactivation. *Hepatology Research*, **51**, 1033-1043. <https://doi.org/10.1111/hepr.13699>
- [9] Reddy, K.R., Beavers, K.L., Hammond, S.P., Lim, J.K. and Falck-Ytter, Y.T. (2015) American Gastroenterological Association Institute Guideline on the Prevention and Treatment of Hepatitis B Virus Reactivation during Immunosuppressive Drug Therapy. *Gastroenterology*, **148**, 215-219. <https://doi.org/10.1053/j.gastro.2014.10.039>
- [10] Lubel, J.S. and Angus, P.W. (2010) Hepatitis B Reactivation in Patients Receiving Cytotoxic Chemotherapy: Diagnosis and Management. *Journal of Gastroenterology and Hepatology*, **25**, 864-871. <https://doi.org/10.1111/j.1440-1746.2010.06243.x>
- [11] Von Wagner, M. and Zeuzem, S. (2009) Prophylaxe und Therapie der Reaktivierung einer Hepatitis B bei Immunsuppression. *DMW-Deutsche Medizinische Wochenschrift*, **134**, 255-258. <https://doi.org/10.1055/s-0028-1123989>