

Hepatitis b: New cures, challenges, global eliminatio.

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Introduction

This article discusses the development of novel direct-acting antiviral agents and immunomodulators aiming for functional and sterilizing cures for chronic Hepatitis B. It highlights the limitations of current nucleos(t)ide analogs and explores promising candidates in clinical trials, including HBV entry inhibitors, capsid assembly modulators, and RNA interference therapies [1].

This review provides an updated overview of the global epidemiology of Hepatitis B virus (HBV) infection, including prevalence, incidence, and risk factors. It underscores the persistent challenges in global elimination efforts despite effective vaccines and treatments, emphasizing disparities in disease burden and access to care across different regions [2].

This comprehensive review covers the history, current recommendations, and future directions of Hepatitis B vaccination. It examines vaccine efficacy, safety, and strategies for improving coverage, including birth dose administration and vaccination of at-risk populations, highlighting the vaccine's critical role in global HBV prevention [3].

This article explores various diagnostic methods for Hepatitis B virus infection, from serological markers to molecular assays. It discusses their utility in different clinical settings, including acute infection, chronic infection, and monitoring treatment response, emphasizing the importance of accurate diagnosis for effective disease management [4].

This paper delves into the molecular mechanisms linking HBV infection to hepatocellular carcinoma (HCC) and outlines current strategies for HCC surveillance, diagnosis, and treatment in HBV-infected individuals. It highlights the importance of antiviral therapy in reducing HCC risk and discusses novel therapeutic approaches [5].

This article discusses the emergence and management of drug resistance in patients with chronic Hepatitis B receiving nucleos(t)ide analog therapy. It reviews the mechanisms of resistance, methods for detection, and strategies to prevent or overcome resistant mutations, emphasizing the need for appropriate initial drug selection

and monitoring [6].

This paper offers updated guidance on preventing and managing Hepatitis B virus reactivation in cancer patients undergoing various systemic anticancer therapies. It details risk stratification, antiviral prophylaxis, and monitoring strategies to mitigate the potentially severe complications of HBV reactivation in this vulnerable population [7].

This review provides a comprehensive overview of strategies aimed at achieving a functional cure for chronic Hepatitis B, defined as HBsAg loss with or without anti-HBs seroconversion. It covers various approaches targeting different stages of the HBV life cycle, including host-targeting agents, direct-acting antivirals, and immunomodulators [8].

This article assesses global progress toward the elimination of Hepatitis B virus infection, identifying key achievements and persistent challenges. It discusses the impact of vaccination programs, testing, and treatment initiatives, while also highlighting the need for improved access to care, funding, and political commitment, particularly in high-burden regions [9].

This paper focuses on the tailored management of chronic Hepatitis B in specific patient populations, including those with comorbidities like HIV co-infection, renal impairment, and during pregnancy. It emphasizes individualized treatment decisions, considering drug interactions, safety profiles, and specific disease progression risks in these groups [10].

Conclusion

Recent advancements in Hepatitis B (HBV) treatment focus on novel direct-acting antiviral agents and immunomodulators, aiming for functional and sterilizing cures beyond the limitations of current nucleos(t)ide analogs. Promising candidates in clinical trials include entry inhibitors, capsid assembly modulators, and RNA interference therapies. Understanding global HBV epidemiology, including prevalence, incidence, and risk factors, remains crucial as persistent challenges hinder elimination efforts, especially regarding disparities in disease burden and access to care. Hepati-

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tis B vaccination plays a critical role in prevention, with ongoing reviews covering its history, efficacy, safety, and strategies to improve coverage globally. Accurate diagnostic methods, from serological markers to molecular assays, are essential for effective disease management across different clinical settings. The molecular mechanisms linking HBV infection to hepatocellular carcinoma (HCC) are actively investigated, alongside strategies for HCC surveillance and treatment, emphasizing antiviral therapy's role in risk reduction. Managing drug resistance in chronic HBV patients receiving nucleos(t)ide analog therapy is another significant challenge, requiring careful drug selection and monitoring. Updated guidance addresses preventing and managing HBV reactivation in vulnerable populations like cancer patients undergoing systemic therapies. The pursuit of a functional cure, defined by HBsAg loss, involves various approaches targeting the HBV life cycle, including host-targeting agents and immunomodulators. Global progress towards HBV elimination highlights achievements and persistent needs for improved access, funding, and political commitment. Tailored management strategies for specific patient populations, such as those with HIV co-infection or during pregnancy, ensure individualized treatment decisions.

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