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A Booster Dose is required for People with HIV-1 Who have Undetectable Anti-HBs Antibodies

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Introduction

HIV-1 infection remains a global health challenge, affecting millions of people worldwide. While much progress has been made in managing and treating HIV-1, co-infections and comorbidities continue to pose significant concerns. One such issue is the immune response to Hepatitis B Virus (HBV) vaccination in HIV-1-infected individuals. This article explores the phenomenon of undetectable anti-HBs antibodies in HIV-1-infected individuals and discusses the potential need for booster doses of HBV vaccine to ensure long-term protection. The quest for an effective HIV vaccine has been one of the greatest challenges in modern medicine. Heterologous prime-boost strategies, involving the use of different vaccine vectors, offer a promising avenue for vaccine development. The use of Lumpy Skin Disease Virus (LSDV) as a vector for HIV immunizations represents an innovative approach with the potential to stimulate strong and broad immune responses against HIV [1-3].

Description

Hepatitis B is a viral infection that affects the liver and can lead to chronic liver disease, cirrhosis, and hepatocellular carcinoma. HIV-1-infected individuals are at increased risk of HBV infection due to shared routes of transmission, including sexual contact and injection drug use. As a result, HBV vaccination is a crucial preventive measure for this population. The standard HBV vaccination regimen consists of three doses of the vaccine, with the third dose serving as a booster to ensure long-term immunity [4]. In immunocompetent individuals, this regimen typically results in the production of anti-hepatitis B surface (anti-HBs) antibodies, which confer protection against HBV infection. The quest for an effective HIV vaccine has been ongoing for decades, and despite significant progress in understanding the virus and developing prevention and treatment strategies, a prophylactic vaccine remains elusive. Heterologous prime-boost vaccination strategies, involving the use of different vaccine vectors for initial priming and subsequent boosting, have shown promise in inducing robust and durable immune responses. This article explores the evaluation of a novel approach: using Lumpy Skin Disease Virus (LSDV) as a vector for heterologous prime-boost HIV immunizations [5,6].

Conclusion

The development and maintenance of protective immunity against HBV in HIV-1-infected individuals present unique challenges due to the immunosuppressive effects of HIV-1 infection. Undetectable anti-HBs antibodies following the standard HBV vaccination regimen underscore the need for a tailored approach to vaccination in this population. Booster doses of the HBV vaccine may be a viable strategy to enhance and prolong immunity against HBV, particularly in individuals at higher risk of exposure. However, the decision to administer booster doses should be based on careful consideration of individual immune status, risk factors, and overall health. Efforts to improve HBV vaccination strategies in HIV-1-infected individuals should be part of a comprehensive approach to managing co-infections and comorbidities, ultimately aiming to optimize the health and well-being of this population. Continued research and clinical evaluation are essential to refining vaccination recommendations and strategies for individuals living with HIV-1.

Acknowledgement

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Conflict of Interest

None.

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