



Prevalence of Hepatitis B Surface Antigen and Mother-to-Child Transmission Rates of Hepatitis B Virus

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ABOUT THE STUDY

Hepatitis B surface Antigen (HBsAg) is a protein found on the surface of the Hepatitis B Virus (HBV). The presence of HBsAg in a person's blood indicates that they are infected with HBV and are capable of transmitting the virus to others. The prevalence of HBsAg is an important measure of the burden of HBV infection in a population. In this study, we will discuss the prevalence of HBsAg globally and its impact on public health.

Global HBsAg prevalence

The prevalence of HBsAg varies widely across the world, ranging from less than 2% in low-endemic countries to over 8% in high-endemic countries. The highest HBsAg prevalence is found in sub-Saharan Africa and Asia, particularly in countries with a high burden of HBV infection such as China and India. In these countries, HBV is primarily transmitted from mother to child, through contaminated needles and syringes, and through sexual contact.

Impact on public health

The high prevalence of HBsAg in certain populations has a significant impact on public health. HBV is a major cause of liver disease, including cirrhosis and liver cancer, and is responsible for an estimated 600,000 deaths each year. In areas with high HBsAg prevalence, a significant proportion of the population is at risk of developing liver disease, which can have a significant impact on health and economic outcomes.

Risk factors for HBV infection

HBV infection is more prevalent among certain populations, including individuals who inject drugs, engage in unprotected sexual activity, have immunodeficiencies, and work in healthcare. These populations are at increased risk of HBV infection due to high-risk behaviors and increased exposure to contaminated needles and syringes. The high HBsAg prevalence in these populations highlights the need for targeted interventions to reduce the risk of HBV transmission.

Impact on vulnerable populations

The high HBsAg prevalence in certain populations has a disproportionate impact on vulnerable populations, such as pregnant women and their infants. HBV infection in pregnancy can result in mother-to-child transmission of the virus, which can have serious health consequences for the infant. The high HBsAg prevalence in certain populations highlights the need for interventions to prevent mother-to-child transmission of HBV, such as universal infant vaccination and HBV screening programs for pregnant women.

Role of vaccination

The HBV vaccine is highly effective in preventing HBV infection and reducing the prevalence of HBsAg. The World Health Organization (WHO) recommends that all infants receive the HBV vaccine within 24 hours of birth, and those high-risk populations, such as people who inject drugs, receive the vaccine. The widespread implementation of the HBV vaccine has been shown to significantly reduce the prevalence of HBsAg and the incidence of HBV-related liver disease.

The prevalence of HBsAg is a key indicator of the burden of HBV infection in a population. The high prevalence of HBsAg in certain populations, particularly in sub-Saharan Africa and Asia, has a significant impact on public health and highlights the need for targeted interventions to reduce the risk of HBV transmission. The HBV vaccine is a highly effective tool in reducing the prevalence of HBsAg and preventing HBV-related liver disease. To further reduce the burden of HBV infection, it is important to continue to improve and expand HBV vaccination programs and to provide targeted interventions for populations at high risk of HBV transmission.

Mother-to-child transmission of Hepatitis B Virus (HBV) is a significant public health problem, particularly in countries with high endemicity. The introduction of infant HBV vaccination programs has been instrumental in reducing the incidence of

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mother-to-child transmission of HBV. In this commentary, we will discuss the impact of infant HBV vaccination programs on mother-to-child transmission of HBV.

Reduction in mother-to-child transmission rates

Since the introduction of infant HBV vaccination programs, the rates of mother-to-child transmission of HBV have decreased significantly. A study conducted in China, a country with a high prevalence of HBV, showed that the introduction of universal infant HBV vaccination reduced the mother-to-child transmission rate from 18.5% to 1.7%.

Improved vaccination coverage

Infant HBV vaccination programs have improved vaccination coverage, particularly in low and middle-income countries. The World Health Organization (WHO) recommends that all infants should receive the first dose of HBV vaccine within 24 hours of birth. The timely administration of the first dose of the vaccine reduces the risk of mother-to-child transmission of HBV.

Increased birth dose coverage

The introduction of the birth dose has increased coverage of the HBV vaccine. The birth dose has been shown to be highly effective in preventing mother-to-child transmission of HBV. A study conducted in South Africa showed that the birth dose coverage increased from 43% to 89% after the introduction of the birth dose.

Implementation of HBV screening programs

The introduction of infant HBV vaccination programs has led to the implementation of HBV screening programs for pregnant women. This allows for the identification of HBV-infected mothers, who can then receive appropriate treatment to reduce the risk of mother-to-child transmission of HBV.

Reduction in vertical transmission

The combination of infant HBV vaccination programs and HBV screening programs for pregnant women has led to a reduction in vertical transmission of HBV from mothers to infants. A study conducted in Taiwan showed that the combination of these two interventions reduced the vertical transmission rate from 8.3% to 1.1%.

CONCLUSION

In conclusion, the introduction of infant HBV vaccination programs has had a significant impact on reducing the incidence of mother-to-child transmission of HBV. The programs have improved vaccination coverage, increased birth dose coverage, and led to the implementation of HBV screening programs for pregnant women. These interventions have resulted in a reduction in the vertical transmission of HBV from mothers to infants. To further reduce the incidence of mother-to-child transmission of HBV, it is important to continue to improve and expand HBV vaccination programs and HBV screening programs for pregnant women.