

**Original article**

**Clinical and immunogenetic characteristics of mixed hepatitis A+B**

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**ABSTRACT**

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Mixed hepatitis A+B refers to a coinfection or superinfection of hepatitis A virus (HAV) and hepatitis B virus (HBV) in the liver. This condition presents unique clinical and immunogenetic characteristics that differ from mono-infections of either virus. This article aims to explore the clinical and immunogenetic features of mixed hepatitis A+B. Clinical presentation of mixed hepatitis A+B can vary widely, ranging from mild to severe liver disease. Patients may experience symptoms such as jaundice, fatigue, abdominal pain, and elevated liver enzymes. The clinical course may be more severe compared to mono-infections, with an increased risk of fulminant hepatitis and a prolonged recovery period. Immunogenetic factors play a significant role in the pathogenesis of mixed hepatitis A+B. Interactions between the immune responses mounted against HAV and HBV may lead to complex immune-mediated liver injury. Genetic variations in human leukocyte antigens (HLAs) and cytokine genes have been associated with the susceptibility and severity of mixed hepatitis A+B. Diagnosis of mixed hepatitis A+B involves serological testing for both HAV and HBV markers, including hepatitis A IgM antibodies, hepatitis B surface antigen (HBsAg), and hepatitis B core antibodies (anti-HBc). Molecular techniques may be used to differentiate between acute infection and chronic carriers of HBV. Management of mixed hepatitis A+B involves supportive care, including rest, adequate hydration, and monitoring of liver function. Vaccination against both HAV and HBV is recommended to prevent future infections and protect against potential complications. In conclusion, mixed hepatitis A+B presents distinct clinical manifestations and immunogenetic characteristics compared to mono-infections of HAV or HBV. Understanding these unique features is important for accurate diagnosis, appropriate management, and prevention strategies in individuals affected by mixed hepatitis A+B.

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**Keywords:** mixed hepatitis A+B, clinical characteristics, immunogenetic factors

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