Triple Threat: HDV, HBV, HIV Coinfection

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KEYWORDS

• HIV • Hepatitis delta • HDV • Viral hepatitis • Coinfection • Liver disease

KEY POINTS

- Understanding the HDV life cycle and mechanisms of replication provides insights into novel treatment targets. For example, bulevirtide blocks entry of HBV and HDV into hepatocytes by targeting NTCP.
- About 350,000 to 700,000 people worldwide have HIV/HBV/HDV coinfection. In PLWH, HDV is associated with higher rates of cirrhosis, liver decompensation, HCC, and death.
- All HBsAg-positive patients with HIV should be screened for HDV with HDV Ab, and serum HDV RNA should be checked to confirm active infection if HDV ab is positive.
- New HDV therapeutic options undergoing clinical trials include bulevirtide, lonafarnib, and REP-2139, although liver transplantation remains an option for PLWH with end-stage liver disease or HCC.

INTRODUCTION

First discovered in the late 1970s, hepatitis delta virus (HDV) has emerged as an important driver of decompensated liver disease and hepatocellular carcinoma (HCC) worldwide. HDV requires hepatitis B virus (HBV) for transmission and occurs as either a coinfection with HBV or a superinfection in the setting of chronic HBV. The global prevalence is difficult to estimate, but HDV likely affects around 15 to 25 million people worldwide. Due to shared transmission routes, namely sexual and parenteral, people living with HIV (PLWH) often are coinfected by HBV, HDV, and hepatitis C virus (HCV). Despite the severe disease course and rapid progression of liver disease with HDV, it remains underdiagnosed, including in the HIV population. Fortunately, novel therapies are forthcoming although studies of these

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