

Hepatitis D Quicksheet

March 2024



Epidemiology and significance

Hepatitis D virus (HDV) is a single-stranded RNA virus that requires the presence of hepatitis B virus (HBV) to replicate. Thus, HDV infection occurs only in individuals who are also infected with HBV. An estimated 42% of individuals with chronic HBV infection in the United States may be coinfecting with HDV.¹

HDV infection can either occur at the same time as acute HBV infection (known as coinfection), or after an individual has already been infected with chronic HBV (known as superinfection). Most individuals with HBV/HDV coinfection will fully recover, clearing both viruses. In contrast, most individuals with HDV superinfection can experience severe complications, including cirrhosis, hepatocellular carcinoma, end-stage liver disease, and death. HDV superinfection can also accelerate the progression of chronic HBV.

Symptoms and presentation

The symptoms of HDV infection are indistinguishable from those of HBV infection and can appear 3-7 weeks after initial HDV infection. The risk of severe, acute disease and fulminant hepatitis are higher with HBV/HDV coinfection compared to HBV infection alone.

Mode of transmission

HDV is transmitted through contact with blood or other bodily fluids of a person with HDV infection, including through sexual contact. Transmission of HDV to an infant during childbirth is possible but appears to be rare.²

Laboratory testing

The most commonly available tests for HDV in the United States are total anti-HDV and HDV RNA. Total anti-HDV becomes detected approximately 2 and 12

weeks after HDV infection in HDV superinfection and HBV/HDV coinfection, respectively, and persists for life. HDV RNA remains present for a patient's duration of infection. Anti-HDV IgM and HDV antigen tests may also be available in some settings but are not considered as reliable as anti-HDV total and HDV RNA tests. These tests may be used in research or academic settings, and these results may also be reported to LHDs.

Case Definition

HDV infection is not nationally notifiable, and there is no CSTE case definition. For the purpose of reporting to CDPH, the following case definition for a confirmed case should be used:

- Laboratory evidence of acute or chronic HBV infection, as defined by a positive HBsAg, anti-HBc IgM, HBeAg, or HBV DNA test result.

AND

- Laboratory evidence of HDV, as defined by a positive total anti-HDV, anti-HDV IgM, HDV RNA, or HDV antigen test result.

Note that clinical criteria are not included in the case definition.

Prevention

For individuals not infected with HBV, the primary ways to prevent HDV infection are immunization against HBV and avoiding exposure to both viruses by avoiding exposure to blood and bodily fluids, including not sharing needles and using barrier methods with sexual activity. Individuals with HBV infection can limit potential exposure to HDV by avoiding exposure to blood and bodily fluids, including not sharing needles and using barrier methods with sexual activity.

¹ Patel, E. U., Thio, C. L., et al. (2019) Prevalence of hepatitis B and hepatitis D virus infections in the United States, 2011-2016. *Clinical Infectious Diseases*.

² Sellier, P. O., Maylin, S. et al. (2018) Hepatitis B virus-hepatitis D virus mother-to-child co-transmission: a retrospective study in a developed country. *Liver International*, 38(4).