

Summary

- Hepatitis D is a liver disease caused by the hepatitis D virus, a defective virus that needs the hepatitis B virus to exist;
- it is found in blood;
- Hepatitis D is not a common cause of liver disease in Australia; and
- infection with hepatitis D can be prevented by the hepatitis B vaccine.

About the virus

Hepatitis D, also called delta virus, is a defective virus that requires the helper function of the hepatitis B virus to multiply and is therefore only found in people who are infected with hepatitis B. Hepatitis D is the least common but most severe form of viral hepatitis.¹

Worldwide the pattern of hepatitis D infection is similar to the occurrence of hepatitis B infection and it has been estimated that 15 million people with hepatitis B (HBsAg+) are infected with hepatitis D.² Hepatitis D is not a common infection in Australia. Over the past 6 years there have been between 20 and 30 cases of hepatitis D diagnosed and reported each year.³

Hepatitis D infection can occur as a co-infection, which means it occurs at the same time as hepatitis B infection; or it can occur as a superinfection, in people who already have chronic hepatitis B.

People who are co-infected with hepatitis B and hepatitis D may experience a more serious acute illness and have a higher risk (2%–20%) of developing acute liver failure compared to people infected with hepatitis B alone.⁴ However, most people who are co-infected will clear hepatitis D and never develop chronic hepatitis D infection.

People with chronic hepatitis B who are infected with hepatitis D (superinfection) usually develop chronic (long term) hepatitis D infection. Long-term studies of people with hepatitis D superinfection show that between 70% and 80% develop cirrhosis (liver scarring) compared to 15% to 30% of people with chronic hepatitis B alone.⁵

Symptoms

The symptoms of hepatitis D are similar to hepatitis B, such as:

- loss of appetite;
- nausea and vomiting;
- tiredness;
- pain in the liver (upper, right side of abdomen);
- muscle and joint pain; and
- jaundice (yellowish eyes and skin, dark urine and pale-coloured faeces/poo/shit).⁶

People who are infected with hepatitis D and hepatitis B have a higher risk of developing chronic liver disease and cirrhosis (scarring of the liver).

¹Rizzetto, M., Verme, G., Recchida, S. et al. [1983]. Chronic hepatitis in carriers of hepatitis B surface antigen, with intrahepatic expression of the delta antigen. An active and progressive disease unresponsive to immunosuppressive treatment. *Annals of Internal Medicine*; 98:437–441.

²Farci, P.F. (2006). Treatment of chronic hepatitis D: new advances, old challenges. *Hepatology*; 44(3): 536–39.

³National Notifiable Diseases Surveillance System (NNDS). Available from: URL: <http://www9.health.gov.au/cda/Source/CDAindex.cfm>. Retrieved November 3, 2006.

⁴Centre for Disease Control (CDC) [2006] Viral hepatitis D fact sheet (last updated 15 September 2006).

⁵Centre for Disease Control (CDC) [2006] Viral hepatitis D fact sheet (last updated 15 September 2006).

⁶Centre for Disease Control (CDC) [2006] Viral hepatitis D fact sheet (last updated 15 September 2006).

Transmission

Hepatitis D is spread in similar ways to hepatitis B because the virus is found in blood. Therefore, whenever blood from an infected person enters the bloodstream of a person who is not immune there is the risk of transmission. For example, hepatitis D infection can occur through sharing injecting equipment or through needlestick or sharps injuries. It is less common for hepatitis D to be spread through sexual contact or mother to baby transmission compared to hepatitis B.⁷

Testing

Co-infection and superinfection with hepatitis D can be diagnosed by a blood test which, if positive, will show antibodies against the hepatitis D virus.

Treatment

There is no specific treatment for hepatitis D. Research indicates that the medication used to treat hepatitis B has a limited effect on the activity of hepatitis D virus. For example, Lamivudine has no effect on the hepatitis D virus or liver disease activity.^{8,9} Clinical trials using Pegylated interferon demonstrate some benefit in people with hepatitis D.^{10,11}

Vaccination

Co-infection with hepatitis D can be prevented through hepatitis B vaccination. The hepatitis B vaccine involves multiple doses over a 6–12 month time frame depending on a person's age. For example, adults require 3 doses of vaccine over 6 months, whereas adolescents need 2 doses over 4 to 6 months and infants need 4 doses over 12 months.

There is no medication or vaccine to prevent hepatitis D superinfection in people with chronic hepatitis B. Prevention of hepatitis D superinfection can only be achieved through education to reduce exposure to infectious blood.

⁷ Centre for Disease Control (CDC) (2006) Viral hepatitis D fact sheet (last updated 15 September 2006).

⁸ Lau, D.T., Doo, E., Park, Y. et al. (1999). Lamivudine for chronic hepatitis delta. *Hepatology*;30:546–49.

⁹ Niro, G.A., Ciancio, A., Tillman, H.L. et al. (2005). Treatment of hepatitis D. *Journal of Viral Hepatitis*; 12:2–9.

¹⁰ Niro, G.A., Ciancio, A., Gaeta, G.B. et al. (2006). Pegylated interferon alpha-2b as monotherapy or in combination with ribavirin in chronic hepatitis delta. *Hepatology*;44(3): pp.713–20.

¹¹ Erhardt, A., Gerlich, W., Starke, C. et al. (2006). Treatment of chronic hepatitis delta with pegylated interferon-alpha2b. *Liver Int*;26(7):805–10.