



## HEPATITIS D

### Data and geographical distribution

It is estimated that 15 million of the people carrying hepatitis B virus (HBV) worldwide are infected by hepatitis D virus (HDV). Hepatitis D is common in some areas of the world with high burden of hepatitis B infection. In particular, hepatitis D occurs and is documented in the Mediterranean region, parts of Eastern Europe, the Middle East, Africa and South America. Outbreaks of hepatitis D with high mortality have been reported in native Indians of the Amazonia Basin. Among the several existing HDV genotypes, genotype III is exclusive of the Amazonian Basin.

HDV increases the risk of severe hepatitis and mortality when compared to HBV alone. Rate of hepatitis D infection mortality among chronic HBV patients is high, oscillating between 2% and 20%.

### Transmission

HDV virus can be transmitted through contaminated blood or sexual contact of a carrier; however sexual transmission is less effective than parenteral exposure and HDV infection is not common in HBV positive homosexual men. Populations at risk correspond to those living in highly endemic areas of hepatitis B, receiving contaminated blood transfusion, hemophilic patients, injectable drug users and professionals exposed to blood contact. Family contact among HBV carriers is another risk factor for dissemination of HDV.

### Clinical presentation

Hepatitis D infection can only occur as co-infection or super-infection in individuals infected with HBV. Co-infection with HBV and HDV often leads to more severe forms of acute hepatitis. Super-infection with HDV occurs in individuals chronically infected by HBV, accelerating the course of the disease and causing overt disease in asymptomatic carriers. Jaundice and increase of liver enzymes may occur very soon after HDV super-infection. Prognosis and severity of HDV super-infection are worse than HBV infection alone. Mortality rates in super-infection oscillate between 2% and 20% of the cases.

Due to their severity, most of hepatitis D cases do not remain unnoticed. Among all cases infected with HDV, acute infection (co-infection) occurs in 1-3% while super-infection reaches 80% or more.

### Diagnosis

Diagnosis of acute HDV infection is based on serological tests for anti-HDV IgM, HDV RNA or HDAg. HDV acute infection is usually self-limited, thus markers often disappear within a few weeks and can be undetectable in some instances.

HDV super-infection in chronic hepatitis B may lead to suppression of HBV markers during acute phase, presenting serological tests with positive results for HDV, but negative for HBV. HDV antigen is usually cleared, however HDV antibodies can persist for years. HDV RNA is also found in serum of super-infected patients.

HDV antigens are detectable in the liver, however they are not always observed in blood.

### Treatment

Treatment with interferon for 6 months or more improves patient's condition; however relapse is common when treatment is stopped.

### Prevention

Prevention measures of HDV are similar to those used for HBV. Immunization against hepatitis B protects against HDV infection. The problem is HDV protection for those already infected by HBV. In HBV infected cases, the only effective measure is to avoid exposure to HDV sources. Specific immunization against HDV in HBV carriers is under development based on HDV antigens.

Counseling to avoid high-risk parenteral or sexual exposure among HBV carriers is an effective way to prevent spread of HBV-HDV infection.