CONDITION

Delta agent

Delta agent, also called hepatitis D, is a liver infection that occurs only alongside hepatitis B.

WHAT IT IS
Liver inflammation caused by hepatitis D infection

BODY SYSTEM
Liver and digestive system

MAIN SYMPTOMS
Fatigue, nausea, jaundice, upper-right abdominal pain

WHAT CAUSES IT
Hepatitis D infection alongside hepatitis B

HOW IT IS DIAGNOSED
HDV antibody screening confirmed by an HDV RNA test

MAIN TREATMENT
Antiviral treatment, liver monitoring, and sometimes transplantation

CAN IT BE CURED?
Sometimes - lasting viral clearance is possible

IS IT AN EMERGENCY?
Sometimes - confusion, vomiting blood, or severe jaundice

LONG-TERM OUTLOOK
Treatable, but chronic infection can cause cirrhosis or liver cancer

Overview

Delta agent is another name for hepatitis D, a liver condition caused by the hepatitis D virus, or HDV. It is sometimes called hepatitis delta.

HDV cannot infect you by itself. It needs hepatitis B virus, or HBV, to reproduce. This means hepatitis D occurs only in people who have hepatitis B at the same time.

The two infections can happen in different ways. Coinfection means you acquire hepatitis B and hepatitis D together. Superinfection means hepatitis D develops after you already have long-term hepatitis B.

Coinfection may cause a short-term illness that clears when the body clears hepatitis B. Superinfection is more likely to become chronic, meaning it lasts longer than six months.

Hepatitis D matters because it can cause liver inflammation and scarring more quickly than hepatitis B alone. Over time, chronic inflammation may lead to cirrhosis, which is severe liver scarring, or liver cancer. Testing and regular follow-up can identify these problems earlier and help guide treatment.

Symptoms

Many people do not notice symptoms at first. Symptoms also overlap with those of hepatitis B and other liver conditions, so they cannot confirm hepatitis D by themselves.

When symptoms occur, they may include:

A new hepatitis D infection may cause a sudden episode of liver inflammation. Chronic hepatitis D may remain quiet for years, even while liver scarring develops.

People with advanced liver damage may develop a swollen abdomen, swollen legs, easy bleeding, confusion, or bleeding from the digestive tract. These symptoms need prompt medical assessment.

- Tiredness or weakness
- Loss of appetite, nausea, or vomiting
- Pain or discomfort under the ribs on the upper-right side
- Dark urine or pale stools
- Fever or aching joints
- Yellow skin or eyes, called jaundice

Causes and risk factors

Hepatitis D is caused by exposure to blood or certain body fluids containing HDV. Because the virus requires hepatitis B, you must also have an active HBV infection for hepatitis D to take hold.

HDV may spread through:

Your chance of infection is higher if you already have chronic hepatitis B and are exposed to HDV. Risk is also higher where infection-control measures, safe injection equipment, or hepatitis B vaccination are less available.

Hepatitis D is not spread by coughing, sneezing, hugging, sharing food, or ordinary social contact. It is not spread through contaminated food or water.

- Sharing needles, syringes, or other drug-injection equipment
- Tattooing, piercing, or medical procedures with equipment that was not properly sterilised
- Sexual contact involving exposure to infected blood or body fluids
- Sharing razors, toothbrushes, or other items contaminated with blood
- Exposure to infected blood in healthcare or household settings
- Transmission during pregnancy or birth, although this is less common than with hepatitis B

Diagnosis

Symptoms and routine liver blood tests cannot distinguish hepatitis D from other causes of liver inflammation. Specific blood tests are needed.

Testing usually begins with an HDV antibody test . Antibodies are proteins made by your immune system after exposure to a germ. A positive antibody test shows that you have been exposed to HDV, but it does not prove that the virus is still active.

An HDV RNA test is then used to confirm active infection. RNA is the virus's genetic material. If HDV RNA is detected in the blood, the virus is currently reproducing.

Other tests help assess the infection and its effect on your liver. These may include:

One negative HDV RNA result may not always settle the diagnosis because viral levels can change. Repeat testing may be considered if recent exposure, symptoms, or other results still suggest active infection.

- Hepatitis B surface antigen and HBV DNA tests
- Blood tests measuring liver inflammation and liver function
- An ultrasound or elastography scan to look for liver scarring
- Tests for hepatitis C, HIV, or other infections when relevant
- A liver biopsy in selected cases when other tests do not provide enough information

Treatment and management

Treatment aims to reduce HDV activity, control liver inflammation, prevent further scarring, and lower the chance of liver failure or liver cancer. Care is usually coordinated by a clinician experienced in viral hepatitis or liver conditions.

Pegylated interferon alfa has long been used for some people with chronic hepatitis D. It works by strengthening the body's antiviral response. Treatment can clear or suppress HDV in some people, but the virus may return after treatment ends. Interferon can also cause significant side effects and is not suitable for everyone.

Bulevirtide is an antiviral medicine approved for chronic hepatitis D in some regions. It blocks the virus from entering liver cells. Access and approved uses differ between countries, and treatment may need to continue for an extended period.

Medicines used to suppress hepatitis B, such as nucleoside or nucleotide analogues, do not directly control hepatitis D. They may still be needed when the hepatitis B infection itself requires treatment.

Monitoring is an important part of management. Follow-up may include blood tests for HDV and HBV, checks of liver function, assessment of liver scarring, and screening for liver cancer when appropriate.

A liver transplant may be considered for severe liver failure, decompensated cirrhosis, or certain liver cancers. Decompensated cirrhosis means a scarred liver can no longer carry out its usual functions. Transplantation replaces the damaged liver, but it requires lifelong specialist follow-up.

Avoiding alcohol is generally advised because alcohol can add to liver injury. Before taking herbal remedies, supplements, or non-prescription medicines, check whether they could affect your liver or interact with treatment.

Complications

Not everyone with hepatitis D develops serious liver damage. The risk is greater when infection becomes chronic or liver scarring is already present.

Possible complications include:

Acute liver failure can occasionally occur during a new infection. Chronic hepatitis D may also worsen an existing hepatitis B condition more quickly. Regular assessment is intended to detect liver damage before symptoms become severe.

- Fibrosis: a build-up of scar tissue in the liver
- Cirrhosis: extensive scarring that changes the liver's structure and function
- Portal hypertension: increased pressure in veins carrying blood through the liver
- Ascites: fluid collecting in the abdomen

- Hepatic encephalopathy: confusion or drowsiness caused by reduced liver function
- Liver cancer: particularly hepatocellular carcinoma, the most common primary liver cancer
- Liver failure: loss of enough liver function to affect the whole body

Prevention

There is no vaccine specifically for hepatitis D. However, hepatitis B vaccination prevents HDV infection in people who do not already have hepatitis B, because HDV cannot reproduce without HBV.

If you already have chronic hepatitis B, vaccination cannot remove that infection or fully protect you from hepatitis D. Preventing exposure to infected blood and body fluids is then important.

Practical measures include not sharing needles or injection equipment, razors, toothbrushes, or items that may carry blood. Choose tattooing and piercing services that use sterile, single-use equipment. Use barrier protection during sex when there may be a risk of blood or body-fluid exposure.

Cover open cuts and clean blood spills safely. Do not donate blood, organs, semen, or tissue if you have active viral hepatitis unless a transplant or donation service specifically determines that it is safe.

Sexual and household contacts may need hepatitis B testing and vaccination. If you are pregnant and have hepatitis B or D, specialist pregnancy care can plan testing and measures to protect the baby from hepatitis B.

Living with it and what to expect

The course of hepatitis D differs between acute and chronic infection.

When hepatitis B and D are acquired together, both infections may clear over several months. If hepatitis D is acquired after chronic hepatitis B, long-term infection is more likely. Chronic hepatitis D can remain active, become quieter, or return after a period when HDV RNA is undetectable.

Over years, ongoing inflammation may increase liver scarring. You may feel well during this process, so symptoms alone are not a reliable guide to liver health. Keeping routine appointments allows changes in viral activity or liver function to be found earlier.

Some people need antiviral treatment, while others are monitored until treatment is

appropriate. If you have cirrhosis or another liver cancer risk, imaging and blood tests may be recommended at regular intervals.

Most day-to-day activities are safe. Hepatitis D is not spread through ordinary contact, so you do not need to avoid hugging, eating with others, or sharing a home. Taking steps to prevent blood exposure protects the people around you without unnecessary isolation.

Fatigue can affect work, exercise, and concentration. Pacing activities, maintaining regular sleep, and eating enough balanced food may help. If fatigue changes suddenly or limits your daily life, mention it during follow-up because other causes may need to be checked.

When to get medical help

Arrange a routine appointment if you have hepatitis B but have never been tested for hepatitis D, especially if you may have had a blood or sexual exposure. Testing is also appropriate after a known exposure or if liver tests worsen without a clear explanation.

Seek prompt medical advice if you develop new jaundice, persistent vomiting, increasing abdominal swelling, worsening leg swelling, or unusual bruising or bleeding.

Get emergency help for:

These symptoms can signal serious liver complications or internal bleeding. They need urgent assessment rather than waiting for a routine follow-up visit.

- New confusion, extreme drowsiness, or difficulty waking
- Vomiting blood or passing black, tar-like stools
- Fainting, severe weakness, or trouble breathing
- Rapidly worsening jaundice with repeated vomiting
- Severe abdominal pain with a swollen or rigid abdomen

Common questions

Is delta agent the same as hepatitis D?

Yes. "Delta agent" is an older term linked to the discovery of hepatitis D. The condition is now usually called hepatitis D, and the virus is called hepatitis D virus or HDV.

Can I get hepatitis D without hepatitis B?

No. HDV needs hepatitis B surface proteins to reproduce and spread between liver cells. You can acquire both viruses together, or acquire hepatitis D after already having hepatitis B.

Is hepatitis D curable?

Sometimes. A short-term coinfection may clear along with hepatitis B. In chronic hepatitis D, treatment may produce lasting loss of detectable HDV, but this is not guaranteed and the virus may return. Follow-up remains important after treatment.

Can I pass hepatitis D through food or casual contact?

No. It is not spread by food, water, coughing, hugging, or sharing plates. It spreads mainly through infected blood and, less often, through sexual or birth-related exposure.

Does the hepatitis B vaccine prevent hepatitis D?

Yes, if you do not already have hepatitis B. Preventing hepatitis B also prevents HDV from establishing an infection. The vaccine does not remove an existing hepatitis B infection.

Can I live a normal life with hepatitis D?

Many people continue working, exercising, travelling, and maintaining relationships. Your long-term health is influenced by viral activity, existing liver scarring, treatment response, and other causes of liver injury. Regular monitoring and avoiding blood exposure remain important.

Sources

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