

COURSE : PRIMARY HEALTH CARE

TOPIC: HEPATITIS D

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INTRODUCTION

Hepatitis D virus (HDV) was discovered in 1977 in patients with chronic Hepatitis B virus

(HBV) infection. Originally thought to be an unrecognized HBV antigen, the HDV nuclear antigen was later discovered to be a part of a new pathogen, initially known as the delta agent. HDV is considered a hybrid virus as it uses Hepatitis B surface antigen (HBsAg) as its envelope protein and therefore is only able to infect patients that concomitantly harbor the HBV. For unknown reasons, HBV replication is suppressed in HDV-infected individuals. This activity outlines the presentation, evaluation, and management of hepatitis D and highlights the role of the interprofessional team in the management of these patients.

Objectives:

Hepatitis D infection is caused by the Hepatitis D virus.

Hepatitis D is clinically similar to other forms of hepatic viral infections. Majority of the patients are asymptomatic. Signs and symptoms can include fever, abdominal pain, nausea, vomiting, jaundice, confusion, bruising, or bleeding depending on the severity of illness.

Treatment options for hepatitis D are limited and optimal treatment is not known. There are no known treatments for acute hepatitis D. Although; it is not FDA-approved for chronic hepatitis D, interferon alpha (IFN alpha) has been shown to be beneficial in most clinical trials. When the disease progresses to cirrhosis, liver transplantation is the only viable option.

Hepatitis D virus is not one of the common viruses inflicting the liver. When diagnosed, it is important to have a multi disciplinary approach including the Hepatologist as treatment options are very limited. For advanced liver disease, a liver transplantation may be needed.

What is hepatitis D?

Hepatitis D is a viral infection that causes liver inflammation and damage. Inflammation is swelling that occurs when tissues of the body become injured or infected. Inflammation can damage organs.

The hepatitis D virus is unusual because it can only infect you when you also have a hepatitis B virus infection. In this way, hepatitis D is a double infection. You can protect yourself from hepatitis D by protecting yourself from hepatitis B by getting the hepatitis B vaccine.

Hepatitis D spreads the same way that hepatitis B spreads, through contact with an infected person's blood or other body fluids.

Hepatitis D is not common in the United States. Hepatitis D is more common in other parts of the world, including Eastern and Southern Europe; the Mediterranean region and Middle East; parts of Asia, including Mongolia; Central Africa; and the Amazon River basin in South America

Causative Agent

Hepatitis D, also known as “delta hepatitis,” is a liver infection caused by the hepatitis D virus (HDV). Hepatitis D only occurs in people who are also infected with the hepatitis B virus.

Incubation period

The incubation period for Hepatitis D superinfection is approximately two to eight weeks. When HBV and HDV viruses infect simultaneously, the incubation period is similar to that of HBV, 45-160 days with an average of 90 days.

Mode of Transmission of hepatitis D

Infection with hepatitis D virus has worldwide distribution, although, there are some considerable geographic differences which cause uneven prevalence across the globe.

In Northern Europe and the United States, where hepatitis B infection is not endemic, infection is most common in people who regularly use illegal intravenous drugs. Much of the population in these areas have been vaccinated against HBV, lowering the rate of infection further.

In the areas where hepatitis D virus is endemic, such as the Mediterranean Basin, the parenteral route is the most common cause of hepatitis D virus transmission.

Hepatitis D virus is transmitted in several ways. It can pass via blood, or contact with other body fluids such as semen, vaginal fluid, or saliva of an infected person.

- Sexual contact (sexual transmission is less effective than the parenteral exposure, and also hepatitis D infection is not common in the hepatitis B positive homosexual men)
- Contaminated blood transfusion receivers, hemophilic patients, injectable drug users, and professionals who are exposed to blood contact (usually population living in the highly endemic areas of hepatitis B virus infection)
- Family contact among the hepatitis B virus carriers
- Tattoo or body piercing with infected tools
- Sharing the infected objects such as a toothbrush, razor, or manicure tools
- From infected mother to their baby during the birth (very rare)

Hepatitis D is not transmitted through:

- Being coughed or sneezed at by an infected person
- Drinking water or eating food
- Hugging an infected person
- Shaking or holding hands with an infected person
- Sharing spoons, forks, and other eating utensils
- Sitting next to an infected person

The hepatitis D virus can cause an acute or chronic infection, or both.

Acute hepatitis D

Acute hepatitis D is a short-term infection. The symptoms of acute hepatitis D are the

same as the symptoms of any type of hepatitis and are often more severe.¹⁹ Sometimes your body is able to fight off the infection and the virus goes away.

Chronic hepatitis D

Chronic hepatitis D is a long-lasting infection. Chronic hepatitis D occurs when your body is not able to fight off the virus and the virus does not go away. People who have chronic hepatitis B and D develop complications more often and more quickly than people who have chronic hepatitis B alone.

What are the complications of acute hepatitis D?

In rare cases, acute hepatitis D can lead to acute liver failure, a condition in which the liver fails suddenly. Although acute liver failure is uncommon, hepatitis D and B infections are more likely to lead to acute liver failure than hepatitis B infection alone.²⁴

What are the complications of chronic hepatitis D?

Chronic hepatitis D may lead to cirrhosis, liver failure, and liver cancer. People who have chronic hepatitis B and D are more likely to develop these complications than people who have chronic hepatitis B alone.²⁰ Early diagnosis and treatment of chronic hepatitis B and D can lower your chances of developing serious health problems.

Cirrhosis

Cirrhosis is a condition in which the liver slowly breaks down and is unable to work normally. Scar tissue replaces healthy liver tissue, partly blocking the flow of blood through the liver. In the early stages of cirrhosis, the liver continues to work. As cirrhosis gets worse, the liver begins to fail.

Liver failure

Also called end-stage liver disease, liver failure progresses over months or years. With end-stage liver disease, the liver can no longer perform important functions or replace damaged cells.

Liver cancer

Having chronic hepatitis B and chronic hepatitis D increases your chance of developing liver cancer [NIH external link](#). Your doctor may suggest blood tests and an ultrasound [NIH external link](#) or other type of imaging test to check for liver cancer. Finding cancer at an early stage improves the chance of curing the cancer.

What are the symptoms of hepatitis D?

Most people with acute hepatitis D have symptoms, which may include

Feeling tired

Nausea and vomiting

Poor appetite

Pain over the liver, in the upper part of the abdomen

Darkening of the color of urine

Lightening of the color of stool

Yellowish tint to the whites of the eyes and skin, called jaundice

In contrast, most people with chronic hepatitis D have few symptoms until complications develop, which could be several years after they were infected. Some symptoms of cirrhosis include

Weakness and feeling tired

Weight loss

Swelling of the abdomen

Swelling of the ankles, called edema

Itching skin

Jaundice

How can hepatitis D infections be prevented?

While there are no vaccines available for this virus, getting vaccinated against hepatitis B will protect you against hepatitis D.

If you have not been vaccinated against hepatitis B, you can reduce the risk of hepatitis D infection by taking the following precautions.

Avoid sharing drug equipment, such as:

Needles

Spoons

Filters

Cookers

Pipes

Straws

Practice safe sex. Use condoms and dental dams to reduce the risk of getting a sexually transmitted infection, including Hepatitis B.

Avoid dental, medical or cosmetic procedures that penetrate the skin with unsterilized equipment.

Procedures can include:

Blood transfusions (this is very rare in Canada)

Acupuncture

Piercings

Tattoos

Wear latex gloves if you are likely to be in contact with someone else's blood or bodily fluids.

Avoid sharing personal items with infected persons, such as:

Razors

Scissors

Nail clippers

Toothbrushes

Management

Treatment options for hepatitis D are limited and optimal treatment is not known. There are no known treatments for acute hepatitis D. Although; it is not FDA-approved for chronic hepatitis D, interferon alpha (IFN alpha) has been shown to be beneficial in most clinical trials. The pegylated form of IFN alpha is recommended to be the preferred agent as per expert guidelines. Treatment is administered once weekly for at least one year. The goal of treatment is to suppress HDV replication which is shown by the inability to detect HDV RNA in serum and HDVAg in the liver. Treatment end-points include normalization of alanine aminotransferase (ALT) and inflammation on liver biopsy. When the disease progresses to cirrhosis, liver transplantation is the only viable option.

Prognosis

A doctor will advise a person with hepatitis D to avoid alcohol and maintain a healthful lifestyle to help support the liver. A healthful lifestyle involves good nutrition and regular exercise.

Regular checkups and symptom monitoring will help a doctor identify complications early on and improve the chances of successful treatment.

References

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