

Perinatal Hepatitis B

Hepatitis B is a viral infection of the liver caused by the hepatitis B virus. Hepatitis B can lead to lifelong (chronic) infection and can cause serious liver damage (cirrhosis or liver cancer) and death. The perinatal period is the time around the birth of an infant, usually five months before and one month after the birth. When hepatitis B is transmitted from a mother to the infant during birth, the infant has perinatal hepatitis B.

Transmission

Hepatitis B virus can be found in the blood of an infected person. Perinatal hepatitis B is passed from a mother with hepatitis B to the infant during birth. Early preventative measures (immunization) can prevent up to 95 percent of hepatitis B transmission from mother to infant. An infant born to a woman with hepatitis B has a 70 to 90 percent chance of contracting hepatitis B.

Symptoms

About 30 percent of people who are infected with hepatitis B have no signs or symptoms. Adults and teens are more likely to have symptoms than are young children. Symptoms may include tiredness, loss of appetite, nausea, abdominal discomfort, vomiting, joint pain, rash, dark urine, and jaundice (yellowing of skin or whites of eyes). Young children may show few or no signs or symptoms. Some people, mostly adults, recover fully, but some carry the virus in their blood for a lifetime. Age at the time of infection is a major factor in progression to chronic (lifelong) infection. More than 90 percent of infants infected perinatally will develop chronic infections.

Diagnosis

Hepatitis B is diagnosed using a blood test that checks for various markers of infection, antibodies, and liver health.

Treatment

There are no special medicines or antibiotics that can be used to cure a person of infection once hepatitis B symptoms appear. Some people, particularly children with chronic hepatitis B, may benefit from antiviral therapies that reduce the amount of virus in the body.

Prevention

All pregnant women should be tested for hepatitis B early in pregnancy. Hepatitis B testing should be done at the time of admission to the hospital for delivery for women who:

- Were not tested earlier in pregnancy
- Participated in injection drug use
- Had more than one sex partner in the previous six months
- Had a hepatitis B-positive sex partner
- Had an evaluation or treatment for a sexually transmitted disease
- Have clinical hepatitis (symptoms or blood results that indicate liver damage)

Every newborn infant, regardless of the mother's hepatitis B status, should receive a dose of hepatitis B vaccine before they leave the birthing hospital. The hepatitis B vaccine needs to be given within 12 hours of birth, along with hepatitis B immunoglobulin (HBIG) to infants born to women with hepatitis B. HBIG contains antibodies to hepatitis B, which help prevent the infant from getting the disease. Depending on the brand of vaccine given, and the birth weight of the infant, two to three more doses of the hepatitis B vaccine will be needed for full protection. Regardless of their number of doses,

all infants should be fully immunized against hepatitis B by six months of age. Infants born to hepatitis B positive mothers should also receive blood testing around nine to 12 months old to establish their immunity to hepatitis B.

Those with previous hepatitis B infection who have cleared the virus and developed antibodies are considered immune. This should be assessed by a health care provider. Immunity (whether by infection or immunization) to hepatitis B does not protect against hepatitis A or C.

Cost should not be a barrier to vaccination. The Vaccines for Children (VFC) Program provides all recommended vaccines to children who are American Indian, uninsured or underinsured, and Medicaid-eligible. Many recommended vaccines are also available for uninsured adults. Vaccines are available at your local health care provider, public health department or pharmacy.

Exclusion Guidance

A child with known hepatitis B may be excluded* on a case-by-case basis, in consultation with the child's physician, if they exhibit any of the following:

- Weeping sores that cannot be covered
- Biting or scratching behavior
- A bleeding problem
- Generalized dermatitis that may produce wounds or weepy tissue fluids
- Inability to participate in routine activities, needs more care than can be provided by staff, or meets other exclusion criteria, such as fever with behavioral change

The child can be readmitted to a group setting when skin sores are dry or covered, when the child is cleared to return by a health professional, or when the child is able to participate in activities.

**Exclusion of a person with chronic hepatitis B for a prolonged time may be impractical or unfair to the individual. Hepatitis B status is not readily available information, in most group settings. Most people with chronic hepatitis B contracted the infection as infants, through no fault of their own. Assurance of high hepatitis B vaccination at the facility is a better means to prevent the spread of hepatitis B. All children and adults up to age 59 are recommended to receive or have received hepatitis B vaccination.*

For additional information about perinatal hepatitis B, contact the North Dakota Department of Health and Human Services' Public Health Division at 800.472.2180.

This disease is a reportable condition. As mandated by North Dakota law, any incidence of this disease in humans shall be reported to the North Dakota Department of Health and Human Services.

Health care providers should report pregnant people who are positive for HbSAg, and newborns who are given HBIG at birth. Birthing hospitals must report all doses of HBV and HBIG into NDIIS.

Resources:

1. Centers for Disease Control and Prevention. (2021, March 8). *CDC Viral Hepatitis Perinatal Transmission*. Centers for Disease Control and Prevention. Retrieved September 7, 2023, <https://www.cdc.gov/hepatitis/hbv/perinatalxmtm.htm>
2. Kimberlin, D. W., Barnett, E. D., Lynfield, R., Sawyer, M. H. (2021) Red Book: 2021-2024 Report of the Committee on Infectious Diseases. 32nd ed. American Academy of Pediatrics. [Management and Prevention of Infectious Diseases; Hepatitis B] [pages 381-399].

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