Minnesota Perinatal Hepatitis B Prevention Program

What is perinatal transmission of hepatitis B?

Perinatal transmission of the hepatitis B virus (HBV) from mother to child at birth is very efficient. The risk of infection can be as high as 70-90 percent. The hepatitis B virus is transmitted by blood exposures. Up to 90 percent of perinatally infected babies will develop a chronic hepatitis B infection. An estimated 15-25 percent of these individuals will ultimately die of liver failure secondary to chronic hepatitis, liver cirrhosis, or primary liver cancer. Treatment initiated within 12 hours after birth, followed by completion of the 3-dose vaccine series, is up to 95 percent effective at preventing this serious infection.

Approximately 20,000 new hepatitis B cases are diagnosed in the U.S. each year. Before routine hepatitis B vaccination programs, an estimated 30-40 percent of chronic infections were believed to have been acquired from perinatal or early childhood transmission. The disease is largely preventable through treatment of infants born to infected mothers, routine childhood immunization, as well as vaccination of individuals at risk for infection.

Since 1988, the Centers for Disease Control’s Immunization Practices Advisory Committee (ACIP) has recommended that all pregnant women be screened for hepatitis B infection. Testing should be performed with each pregnancy, regardless of patient history or previous testing results. The cost effectiveness of universal hepatitis B screening of pregnant women compares with other prenatal and neonatal screening programs (including hypothyroidism and phenylketonuria).

What is the Perinatal Hepatitis B Prevention program in Minnesota?

The Minnesota Department of Health (MDH) implemented a perinatal hepatitis B prevention program in 1990. Our goal is to identify and treat infants born to hepatitis B-positive women in an effort to prevent perinatally acquired infection. The benefits of this cost-effective strategy are:

- preventing potential long-term health consequences for the child, and
- eliminating a potential source of infection to others in the future.
To prevent perinatal transmission:

1. Obstetric patients are evaluated and screened for HBV infection early in each pregnancy regardless of past test results and/or immunization status. HBsAg (hepatitis B surface antigen) serology testing is used for screening. If the patient is uninfected but identified as high risk, screening tests are repeated later in the pregnancy.

2. Hepatitis B-positive women receive further medical evaluation and follow-up.

3. Hepatitis B serology results are documented in the patient’s prenatal record. A copy of the original HBsAg lab is forwarded to the hospital to be placed in the mother’s and infant’s charts.

4. Pregnancies in hepatitis B-positive women are reported to MDH within one working day of knowledge of the pregnancy.

5. Local public health nurses receive referrals from MDH and follow up with the expectant mother to educate her about her infection and the recommended preventive treatment for her baby.

6. Infants born to hepatitis B-positive women receive:
   - Hepatitis B immune globulin (HBIG) and HBV vaccine within 12 hours of birth,
   - Additional doses of HBV vaccine to complete the series in accordance with the recommended schedule, and
   - Post-vaccination serology at 9-12 months of age

7. All treatment is documented in the infant’s medical record and reported to local or state health departments.

8. Infants who are not infected and do not demonstrate an immune response in post-vaccination serologic testing receive a second vaccine series.

9. Hepatitis B-positive infants are referred for further medical evaluation and follow-up.

10. Household members and other close contacts of the mother and infant are screened; HBV-susceptible individuals are vaccinated; and infected individuals receive further medical evaluation and follow-up.

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