



Infectious Disease Epidemiology Report



Acute Hepatitis B in Maine, 2007

Background

Hepatitis B is caused by a virus that attacks the liver. Hepatitis B virus (HBV) can cause lifelong infection, cirrhosis (scarring) of the liver, liver cancer, liver failure, and death. HBV can be transmitted through exposure to blood from an infected person (needle sticks and other sharps exposures, sharing hypodermic syringes for drug injection) through sexual contact with an infected person or from an infected mother to her child during childbirth. Sexual transmission is especially common among men who have sex with men (MSM).

Methods

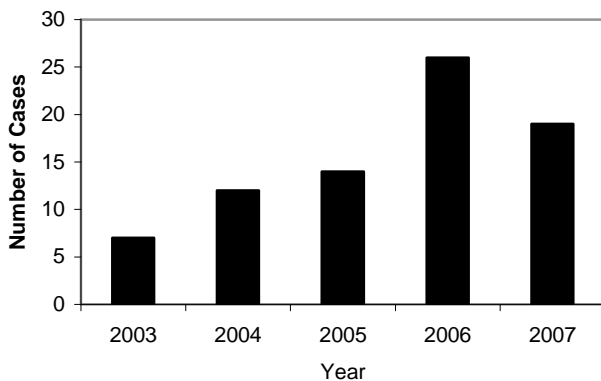
Acute Hepatitis B infections in Maine are reportable immediately upon recognition or strong suspicion of disease. Symptoms of acute Hepatitis B include: tiredness, loss of appetite, nausea, abdominal discomfort, dark urine, clay-colored bowel movements, yellowing of the skin and eyes (jaundice) or elevated serum aminotransferase levels. Serum IgM antibody to hepatitis B core antigen (anti-HBc) positive or hepatitis B surface antigen (HBsAg) positive provide laboratory confirmation.

prophylaxis and/or follow-up testing for vaccination and education. Confirmed cases are reported to the Federal Center for Disease Control and Prevention (CDC) via the National Electronic Disease Surveillance System (NEDSS).

Discussion

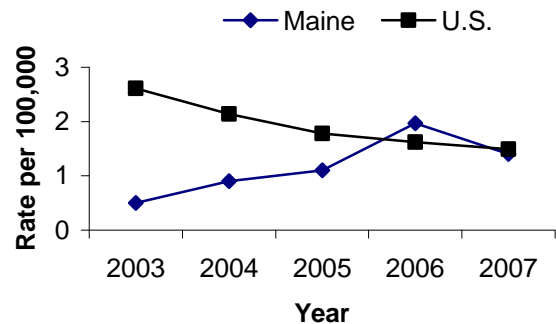
In 2007 the case rate in Maine was very close to the United States case rate. The case rate for Maine was 1.4 and the case rate for the United States was 1.5. This was the lowest U.S. case rate ever recorded. It represents a decline of 87% since 1985, when the U.S. case rate was 11.5. The majority of U.S. cases occurred among adults, and injection-drug use was the most common risk factor.

Fig. 1 Acute Hepatitis B Cases, Maine, 2003 - 2007



Reported cases are investigated by Field Epidemiologists to determine the exposure, case contacts and to make recommendations for

Fig. 2 Acute Hepatitis B by Year-- Maine and U.S., 2003-2007



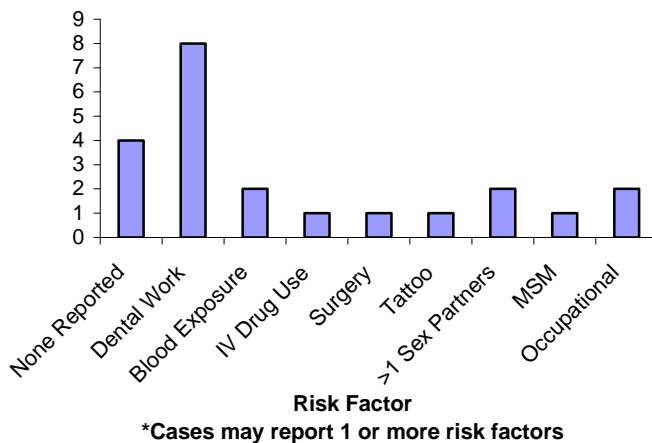
Following a noticeable increase in acute Hepatitis B cases in 2006 Maine CDC's HIV, STD and Viral Hepatitis Program increased efforts in 2007, to provide safe sex materials to populations at risk. In addition to delivering materials to locations where sex is solicited, Maine CDC also posted educational materials on internet sites known for solicitation. The Infectious Disease Epidemiology Program continued to provide education and vaccination information to individuals with acute and chronic Hepatitis B and their close contacts. This is consistent with the Federal strategy which in 1991 recommended a strategy for the elimination of HBV transmission in the United States. The four elements of this strategy are 1) universal vaccination of infants beginning at birth, 2) prevention of perinatal HBV infection through routine screening of all pregnant women for HBV

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infection and the provision of immunoprophylaxis to infants born to infected women or to women of unknown infection status, 3) routine vaccination of previously unvaccinated children and adolescents, and 4) vaccination of adults at increased risk for infection (including health care workers, dialysis patients, household contacts and sex partners of persons with chronic HBV infection, recipients of certain blood products, persons with a recent history of multiple sex partners, injection drug users, persons with a sexually transmitted disease (STD), or men who have sex with men (MSM).

There were nineteen cases of acute Hepatitis B in Maine in 2007. Fifteen of the nineteen were males and the average was fifty-four years old. Eight cases reported having had a dental procedure within 6 weeks, prior to symptom onset. Four cases reported no risk at all. Two reported occupational blood exposure. Two others reported multiple sex partners. However, the most frequently reported risk behaviors nationally, injection drug use, persons with multiple sex partners and MSM, were not reflected with the same incidence in the Maine cases. Only two cases in Maine reported multiple sex partners. Similarly, injection drug use, and MSM were reported by only one case each. A third case admitted to having received treatment for a STD in recent months.

Fig. 3 Reported Risk Factors*, Acute Hepatitis B, Maine 2007



Summary

Nationwide, the universal vaccination of children against hepatitis B has reduced disease incidence substantially among younger age groups. Higher rates of hepatitis B continue among adults, particularly males aged 25–44 years, reflecting the need to vaccinate adults at risk for HBV infection. In addition to following the federal strategy for the elimination of HBV transmission, the Maine CDC continues to focus on prevention, education, evaluation and surveillance. Outreach efforts to populations at risk seem to be having a positive impact. For women who are pregnant and infected with Hepatitis B, a statewide registry has been established to assist primary care providers, hospital infection control professionals and the managers of labor and delivery units. The surveillance and registry helps assure the provision of proper immunization to infants born to infected mothers. We have adopted the goal to provide universal childhood immunization for hepatitis B by vaccinating all newborn infants prior to discharge and completing the hepatitis B series by the time the child reaches 18 months of age. The routine screening of all pregnant women for HBV infection and the provision of immunoprophylaxis to infants born to infected women is routinely practiced within the State's hospitals and Obstetrical practices. The vaccination of previously unvaccinated children and adolescents, and adults at risk is widely recommended.

Where can I get more information?

For more information contact your healthcare provider or local health center, or contact the Maine CDC, Infectious Disease Epidemiology program by calling 1-800-821-5821 or the Maine Immunization Program 1-800-867-4775, or visit the Maine CDC website www.mainepublichealth.gov. The Federal CDC website - www.cdc.gov – is another excellent source of health information.

References

Centers for Disease Control and Prevention. Surveillance for Acute Viral Hepatitis-United States, 2006. MMWR 2008; 57(No. SS-2):1-28.

Centers for Disease Control and Prevention. Final 2007 Reports of Nationally Notifiable Infectious Diseases. MMWR 2008; 57(No. 33): 901-913.