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NEW HEPATITIS B INITIATIVES

In 1992 three major steps were taken in Connecticut to make the eventual elimination of hepatitis B virus (HBV) transmission a reality. A perinatal hepatitis B prevention program was implemented at the Connecticut Department of Health Services in January. Universal vaccination of all newborns with HBV vaccine was incorporated into pediatric standards of practice in February. Final OSHA regulations regarding training and vaccination of employees at-risk of infection took effect in May.

These programs result from the realization that in spite of the availability of a safe and effective HBV vaccine for almost ten years, incidence of hepatitis B has not been seriously affected. While each of these programs has an associated short-range cost, each is extremely important and necessary to the long-term prevention of hepatitis B. Physicians nationally need to be aware of their state's initiatives to be able to take full advantage of these opportunities to prevent the serious consequences of hepatitis B.

PERINATAL HEPATITIS B PREVENTION

The Connecticut Department of Health Services has implemented a federally funded perinatal hepatitis B prevention program. The goals of the program are to identify hepatitis B surface antigen (HBsAg) positive pregnant women, ensure their education about hepatitis B transmission, and ensure that offspring and other family members are appropriately immunized.

To accomplish this goal, the program will do the following:

- * Follow-up on all positive HBsAg reports from laboratories, physicians and other sources involving women of reproductive age to determine their pregnancy status.
- * Notify local health departments of all HBsAg-positive pregnant women identified in this way.
- * Provide hepatitis B vaccine free of charge for all newborns and family contacts of HBsAg-positive pregnant women.

Local health departments will do the following:

- * Educate HBsAg-positive pregnant women about transmission, preventive measures and the importance of immunizing their newborns and other family/sexual contacts.
- * Stay in contact with the woman after the birth of the infant to ensure that appointments are kept for completion of the vaccine series for both the infant and other family contacts.

THE FIRST 10 MONTHS

From December 1991 through September 1992, 103 HBV-infected pregnant women have been identified in Connecticut. Age ranged from 14 to 42 with a mean age of 23.6. Cases have been widely distributed throughout the state with 46 of 169 (27%) towns having at least one case. Tables 1 and 2 illustrate their distribution by race and risk factor for infection.

Table 1. Distribution and estimated rates of HBsAg-positive pregnant women by race/ethnicity, Connecticut (Dec 1991 - Sept 1992).

Race	Number of Persons (%)		Per 1000 births*
White	22	(21.4)	0.7
Black	24	(23.3)	3.9
Asian	36	(35.0)	33.7
Hispanic	9	(8.7)	2.0
Unknown	12	(11.6)	
Total	103	(100)	2.1

*Based on Connecticut, provisional, category-specific, 1991 birth data.

Table 2. Distribution of HBsAg-positive pregnant women by risk factor for infection, Connecticut (Dec 1991 - Sept 1992).

Risk Factor	Number of Persons (%)	
Sex contact	6	(5.8)
IVDU	1	(0.9)
Family contact	4	(3.9)
Med/dental employee	3	(2.9)
Foreign born	24	(23.3)
Other	3	(2.9)
Unknown/not asked	62	(60.2)
Total	103	(100)

While pregnant women of Asian heritage have the highest rates of HBsAg carriage, nearly two-thirds are of other racial groups. In addition, although being foreign born was a significant risk factor, the majority have either no identifiable risk factors or were not asked about potential risk factors.

UNIVERSAL VACCINATION OF NEWBORNS

The universal vaccination of all newborns against hepatitis B represents a novel approach to disease elimination. This is the first time vaccination in the newborn period has been recommended for a disease most likely encountered in

adolescence and adulthood. Furthermore, this is the first attempt to vaccinate against a disease whose most serious consequences are those of a chronic disease usually manifested later in life.

Newborns have been targeted for vaccination for several reasons:

- * Most importantly, a system for vaccine delivery in early childhood already exists.
- * Targeting high risk groups such as sexually active teenagers, IV drug users and gay men has proven difficult.
- * Infant doses of HBV vaccine cost less than adult doses. The cost effectiveness of universal newborn vaccination for elimination of hepatitis B has been clearly demonstrated. For every \$1.00 spent \$1.36 will be saved.
- * One-fourth of all chronic HBV carriers are infected during birth or in the first five years of life. The probability of becoming a carrier is highest with infection acquired at birth (>90%) or in the first five years of life (>70%) and gradually falls to 6-10% of persons infected as adults.

Within the next few months, most Connecticut hospitals with obstetrical services will begin administering dose 1 of the vaccine during the newborn period. Doses 2 and 3 should be given at existing well child visits. Information transfer between hospital and pediatrician has been identified as a problem for many public clinics and private providers. It is necessary for the well child care provider to know the HBsAg status of the mother and whether the first dose of vaccine was given in the hospital. It is incumbent on the hospital to develop effective means of communicating this information to vaccine providers.

Vaccine is available free of charge to all children born after May 1, 1992 who attend public sector clinics. For children going to private providers for well child care, medicaid will reimburse for vaccination of those who are enrolled. Health

insurance for persons working for many Connecticut employers is required to cover at least some of the cost of well-child care, including routine immunizations.

PRENATAL SCREENING FOR HEPATITIS B

Prenatal care should continue to include testing for hepatitis B surface antigen, because the immunization regime for newborns of HBsAg-positive women differs substantively from that of HBsAg-negative women. The regimen for children of uninfected mothers is only partially effective in preventing perinatal transmission. In addition, knowledge of infected women allows local health departments to focus on those individuals to ensure that immunization of the newborn is completed on schedule.

CDC recommendations also include a provision that women in high risk groups for infection with HBV should be screened a second time late in their pregnancy. The Department of Health Services has received two reports in 1992 of infants infected at birth even though their mothers had tested negative early in their pregnancies.

VACCINATION OF OLDER CHILDREN AND ADOLESCENTS

Vaccine recommendations encourage the wide use of the hepatitis B vaccine in adolescent populations where multiple sex partners (more than one in six months) and drug use are prevalent behaviors. Cost and the likelihood of successful delivery of three doses over a six month period should be taken into account when evaluating the feasibility of vaccinating older children or adolescents. Publicly supplied vaccine is not available to support vaccination of any individuals born before May 1, 1992.

OSHA REGULATIONS GO INTO EFFECT

As of May-June 1992, all employers are required to provide training about hepatitis B and offer vaccine to any employee who has contact with human blood as a part of their job description. Information about these regulations can be obtained from Connecticut OSHA Consultation Service (566-4550). Vaccine recommendations should be adhered to in vaccination of occupational groups. These include administration of vaccine intramuscularly in the deltoid and selective use of post-vaccine testing. The hepatitis B vaccine is only licensed for administration by the intramuscular route.

HEPATITIS B REPORTING

Hepatitis B reporting (both acute and carrier cases) is required by Connecticut law. Collection of accurate data is crucial to development of control measures and the follow-up of cases by public health agencies. Failure to report cases could result in the further transmission of disease. To report a case of hepatitis B physicians should use the PD-23 form and complete the section on pregnancy. In the absence of a physician report, the Epidemiology Program will generate a letter of inquiry and send a report form to the physician for all cases of HBsAg-positive women of reproductive age whose pregnancy status is unknown.

FOR FURTHER INFORMATION

The Epidemiology Program has fact sheets available in several languages that deal with hepatitis B, hepatitis B and pregnant women, information for infected persons, information for new parents about vaccination of newborns. Copies of hepatitis B vaccine recommendations by the Immunization Practices Advisory Committee are also available. Contact Aaron Roome, PhD, MPH in the Epidemiology Program (566-5058).

INFLUENZA TESTING

Isolation and identification of influenza virus is an important part of the State's influenza surveillance system. Identification of the dominant circulating influenza virus(es) each season is useful for predicting the number of cases and severity of illness. In addition, distinguishing outbreaks caused by influenza A from those caused by influenza B and other respiratory viruses is essential to help physicians decide whether to recommend amantadine prophylaxis and treatment for their high-risk patients.

The most effective way to identify the dominant virus(es) is by virus isolation from throat swabs collected from acutely ill patients early in the flu season. Therefore, the State of Connecticut Department of Health Services encourages physicians to submit throat swabs for virus isolation to the Department's Virology Laboratory from patients with a typical influenza syndrome (abrupt onset of fever, myalgia, and cough). Specimens should be collected no later than three days after

onset of symptoms and sent immediately to the Virology Laboratory, on wet ice if possible.

Throat swab kits (VRCs) may be obtained from the State Laboratory (566-2824).

To facilitate influenza surveillance in Connecticut, throat swabs submitted by a health care provider for influenza will be exempt from fees effective November 15, 1992 through January 31, 1993. In order to be eligible for the fee exemption, the physician must specify "FLU STUDY" in section #1 of the Virology request form. All requested information on the form should be provided as well.

In addition, health care providers are encouraged to report, as early as possible, clusters of influenza-like illness occurring in nursing homes and other health-care institutions. Assistance in the investigation of influenza outbreaks can be arranged through the State Epidemiology Program at 566-5058.

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