EPIDEMIOLOGY SECTION

CONNECTICUT EPIDEMIOLOGIST

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FREDERICK G. ADAMS, D.D.S., M.P.H., Commissioner

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LYME DISEASE SURVEILLANCE

Lyme disease became officially reportable in July, 1987. In the 6 months that followed 215 cases were reported to the Epidemiology Program. One-hundred-forty-three reports (67%) were received from physicians. Other reporting sources in order of frequency were hospitals, other states, laboratories, "other sources" and local health departments. Some cases were reported by more than one source.

A similar pattern exists in 1988. Of the 161 cases reported as of July 1, 1988, 94 (58%) were received from physicians. An additional 26 reports were received from hospitals. The remaining, 25 percent of the reports were submitted by sources other than physicians.

Of the approximately 4,000 primary care physicians in Connecticut, only 31, or less than 1 percent, have reported cases of Lyme disease in the past 6 months. In 1988, six physicians have accounted for 43 (25%) of the PD-23 forms submitted to the Epidemiology Program.

Because relatively few physicians have reported Lyme disease cases, the cases that are reported are skewed geographically in favor of the towns in which those physicians practice. The majority of case reports in the past year (38.6%) have come from New London county, particularly from the towns of Colchester, Montville and Groton. Middlesex and Fairfield counties have also shown high prevalence of Lyme disease. Litchfield, Tolland and Windham counties each carry less than 5 percent of the state's total reported cases. (Table 1).

TABLE 1. Lyme Disease - reported cases, by county July 1, 1987 - June 30, 1988.

COUNTY	CASES	PERCENT
New London	145	39%
Middlesex	61	16%
Fairfield	60	16%
Hartford	42	11%
New Haven	32	9%
Tolland	17	5%
Windham	10	3%
Litchfield	6	2%
Unknown	3	1%
Total	376	

Surveillance of diseases such as Lyme is necessary to obtain a broad perspective of trends and patterns of disease occurrence. Such information is necessary to guide control measures and public health education efforts. Based on past surveillance studies, we estimate that at least 1,000 people in Connecticut become infected with Lyme disease each year. The physician has the key role in effective surveillance of Lyme disease. Physicians and other health care professionals who diagnose

and suspect a case of Lyme disease are required to submit a report to the local and state health departments immediately. The form should clearly show the patient's name, town of residence, age, symptoms and date of onset. A standard form, known as the Communicable Disease Report (PD-23), is available for reporting Lyme disease. This form may be obtained from the State of Connecticut Department of Health Services, Epidemiology Program, 150 Washington Street, Hartford, CT 06106: telephone: 566-5058.

HEPATITIS B TESTING AND PREGNANCY

The U.S. Public Health Service Immunization Practices Advisory Committee (ACIP) has recently revised its recommendations on hepatitis B screening of pregnant women for the prevention of mother-to-infant transmission of hepatitis B virus (HBV) (MMWR1988:37:341-6, 351). The American Academy of Pediatrics and the American College of Gynecology and Obstetrics are issuing similar recommendations. The State of Connecticut Department of Health Services strongly endorses these guidelines. Previously, the ACIP had recommended verbally screening pregnant women for traits putting them in one or more of ten specified high-risk groups for HBV infection and then seroscreening those with such traits for hepatitis B surface antigen (HBsAg) (MMWR 1985:34:313-35). Because this approach was found to identify only 35 to 65 percent of the HBsAg-positive mothers, the recommendations have been revised and are summarized as follows:

All pregnant women should be routinely tested for HBsAg during an early prenatal visit in each pregnancy. This testing should be done at the same time that other routine prenatal screening tests are ordered. In special situations, such as when acute hepatitis is suspected, when there has been a history of exposure to hepatitis, or when the mother has a particularly high risk behavior such as intravenous drug abuse, an additional HBsAg test can be ordered later in the pregnancy.

If a woman has not been screened prenatally or if test results are not available at the time of admission for delivery, HBsAg testing should be done at the time of admission, or as soon as possible thereafter. If the mother is identified as HBsAg positive more than 1 month after giving birth, the infant should first be tested for HBsAg: if negative, the infant should be treated with HBIG and HB vaccine. Hospitals where infants are delivered should have HBsAg testing capabilities or should be able to obtain HBsAg results within 24 hours from a local laboratory.

If a serum specimen is positive for HBsAg, the same specimen should be tested again, and then the test results should be confirmed by neutralization. It is unnecessary to test for other HBV markers during maternal screening, although HBsAg positive mothers identified during screening may have HBV-related acute or chronic liver disease and should be evaluated by their physician.

Infants born to HBsAg-positive mothers should receive HBIG (0.5mL) intramuscularly (IM) once they are physiologically stable, preferably within 12 hours after birth. HB vaccine, either plasma-derived (10 mg per dose) or recombinant (5 mg per dose), should be administered IM in three doses of 0.5 mL each. The first dose should be given concurrently with HBIG but at a different site. If vaccine is not immediately available, the first dose can be given within 7 days after birth. The second and third doses should be given 1 month and 6 months after the first. Testing the infant for HBsAg and its antibody (anti-HBs) is recommended at 12-15 months of age to monitor the effectiveness of therapy. If HBsAg is not detectable and anti-HBs is present, the child can be considered protected. Testing for antibody to hepatitis B core antigen (anti-HBc) is not useful, since maternal anti-HBc can persist for more than a year. HBIG and HB vaccination do not interfere with the routine childhood immunizations.

Household members and sexual partners of HBV carriers identified through prenatal screening should be

tested to determine susceptibility to HBV infection and, if susceptible, should receive HB vaccine. Screening and vaccination of susceptible contacts should be done by the family's pediatrician, primary health-care provider, or the physician evaluating the clinical status of the HBsAg-positive pregnant women.

Obstetric and pediatric staff should be notified directly about HBsAg positive mothers so that the neonate can receive therapy without delay after birth and follow-up doses of vaccine can be given. Hospitals, as well as state, county and city health departments, should establish programs to educate appropriate health-care providers about perinatal transmission of HBV and its control through maternal screening, treatment of infants, and vaccination of susceptible household and sexual contacts of HBV carrier women.

Programs to coordinate the activities of those providing prenatal care, hospital-based obstetrical services, and pediatric well-baby care must be established to assure proper follow-up and treatment of infants born to HBsAg-positive mothers and other susceptible household and sexual contacts.

Editorial Note: It is very important to interrupt perinatal transmission of hepatitis B. In Connecticut about 80 infants are born each year to HBsAg-positive women. An estimated 34 infants will become chronically infected with HBV, posing a later threat to their own spouses, infant children (in the case of women carriers) and other intimate contacts. Perhaps 25 percent of the chronically infected infants, or 9 annually, will ultimately die from cirrhosis or hepatocellular carcinoma resulting from the HBV infection. These deaths typically occur during mid-adulthood, at a time of familial and financial responsibilities, and follow an expensive, prolonged illness with multiple hospitalizations. Thus seroscreening of all pregnant women and treating their infants with HBIG and hepatitis B vaccine is highly cost-effective (Arevalo JA, Washington E. JAMA 1988: 259:365-9).

Three problems, or challenges, exist. First, the substantial costs for screening and immunization: $10 to $20 for the HBsAg screening test and $85 to $150 (depending on how the preparations are purchased) for treatment of an infant with HBIG and 3 doses of hepatitis B vaccine. Except for welfare eligibles and refugees in certain programs, economically disadvantaged persons do not have public funding programs available to them to pay for these preparations. Second, successful prophylaxis of infants requires effective communication and coordination between those providing prenatal, obstetric, and pediatric care, which often occurs in different facilities (Klontz KC. West J Med 1987:146:195-9). Third, the HBsAg-positive mothers do not always understand how extremely important it is for their infants to complete the full hepatitis B immunization series.

In the meanwhile, it is critical that those providing prenatal and pediatric care thoroughly understand the perinatal hepatitis B prevention program and apply HBsAg screening to all pregnant women, as well as make all efforts to complete the full three-dose hepatitis B vaccine series for the infants born to HBsAg-positive mothers. Every HBsAg-positive mother must be made to understand that the financial and time investment she puts into completing hepatitis B immunization of her infant will be one of the most important investments she will ever make for her child. A cooperative effort involving both the private and public medical communities will be needed to conquer the challenge of perinatal hepatitis B transmission, but experience with other prevention programs involving comparable activities, such as screening for phenylketonuria and alpha-fetoprotein, indicates that the job can be done.

[Adapted from California Morbity, #20, California Dept. of Health Services, May 27, 1988]

ACUTE RHEUMATIC FEVER IN CONNECTICUT

Reported cases of acute rheumatic fever (ARF) have recently increased in

several areas of the U.S.. Utah had 74 cases reported from January 1985 through 1986 among children 5-17 years (annual incidence of 18.1 cases/100,000) for an 8-fold increase over previous years. Other areas reporting higher incidences are Ohio, Denver, Boston and Dallas.

ARF is a rare complication with Group A Streptococcus pyogenes. Streptococcal infections resulting in pharyngitis and tonsillitis, as well as asymptomatic infections can progress to ARF, usually 1-3 weeks after the initial infection. Antibiotic treatment of symptomatic infections can prevent a significant proportion of cases.

During 1987 only one case of ARF was reported in Connecticut. Over the previous 10 years, the average number of reported cases was one per year, with a maximum of three in 1978. Underreporting of ARF is probably significant because many health care providers no longer view ARF as a public health problem. The information from Utah and other states suggests that this view may not yet be warranted. Cases of ARF should be reported to the local health department and to the Epidemiology Program using the PD-23 form, which is available by calling 566-5058.

COMMUNICABLE DISEASES REPORTED

CONNECTICUT

WEEKS 1-36
THROUGH SEPTEMBER 9, 1988

Name	1988 TO DATE	1987 TO DATE	% CHANGE FROM 1987
AIDS	283	121	+133.9%
GONORRHEA	7430	6866	+ 8.2%
SYPHILIS P&S	428	230	+ 86.1%
MEASLES	11	22	- 50.0%
RUBELLA	0	0	-
TUBERCULOSIS	93	113	- 17.7%
HEPATITIS A	197	119	+ 65.5%
HEPATITIS B	158	198	- 20.2%
SALMONELLOSIS	808	1082	- 25.3%
SHIGELLOSIS	82	155	- 47.1%

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