

Connecticut Epidemiologist



STATE OF CONNECTICUT DEPARTMENT OF HEALTH SERVICES January 1987
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HEPATITIS A IN CONNECTICUT

The number of hepatitis A cases reported to the Department of Health Services (DHS) has increased over the past three years (Table 1). Much of the increase can be attributed to recognized outbreaks. In 1985, two foodborne outbreaks of hepatitis A resulted in 56 cases in Connecticut residents, 37% of the yearly total. In 1986, another foodborne outbreak resulted in 13 Connecticut cases, 7% of the yearly total. In 1986, propagated outbreaks of hepatitis A in intravenous drug abusers in Bridgeport and Danbury led to an increase in the number of cases reported from those two cities. Overall, more than 50% of cases occurred in persons 20-39 years of age. No significant difference was observed in the number of reported cases by sex.

Because of both its outbreak potential and the potential for effective early intervention, hepatitis A is a category IB disease and must be reported immediately to the local health department. A Communicable Disease Report must be completed and mailed within 24 hours. Physicians should be particularly alert to cases occurring in persons who are at high risk of transmitting infection (e.g., food handlers, persons employed by or attending a day care center, persons working in a health care setting providing direct patient care, etc.).

Table 1. Reported cases of hepatitis A by town of residence, Connecticut, 1984-1986.

| TOWN | Number of Cases | | | TOTAL |
|---------------|-----------------|------|------|-------|
| | 1984 | 1985 | 1986 | |
| DANBURY | 0 | 34* | 33* | 67 |
| BRIDGEPORT | 4 | 2 | 46* | 52 |
| NORWALK | 15 | 5 | 6 | 26 |
| BETHEL | 1 | 6 | 6 | 13 |
| STAMFORD | 4 | 7 | 2 | 13 |
| NEW MILFORD | 0 | 1 | 10* | 11 |
| MIDDLETOWN | 5 | 3 | 1 | 9 |
| WEST HARTFORD | 3 | 4 | 2 | 9 |
| HARTFORD | 2 | 2 | 5 | 9 |
| SHARON | 0 | 0 | 8* | 8 |
| WALLINGFORD | 7 | 0 | 1 | 8 |
| Other | 47 | 88 | 75 | 210 |
| Total | 88 | 152 | 195 | 435 |

* Cases attributed all or in part to known outbreaks or clusters of hepatitis A.

In these cases, investigation of contacts is routinely conducted by the local health department or the Epidemiology Program, DHS.

The importance of rapid reporting of hepatitis A cases is illustrated in the following report of a restaurant-associated outbreak of hepatitis A.

HEPATITIS A IN PATRONS OF A RESTAURANT

Sharon, a rural community of 2,670 residents, is located in the northwest corner of Connecticut. On April 3, 1986, two confirmed and two suspected cases of hepatitis A were reported by a Sharon physician to the Epidemiology Program, DHS. All four persons had onsets of illness in mid-March and were from the Sharon area. Over the next few days, additional cases were reported in area residents. The person with the earliest date of symptom onset was a cook in Restaurant A in Sharon. Because of the possibility of a foodborne outbreak, an investigation was begun by the Epidemiology Program and the Food Protection Program.

METHODS

A case of hepatitis A was defined as any resident of Litchfield County and bordering towns in Massachusetts and New York with a positive test for IgM antibody to the hepatitis A virus (IgM anti-HAV) reported to the Epidemiology Section between February 1, 1986 and May 30, 1986.

A questionnaire was used to obtain information on onset and types of symptoms, food consumption in restaurants (in Sharon and surrounding towns and states), ingestion of potentially contaminated water, attendance at parties, travel, day care contact or knowledge of other known persons with similar illness. Employees in Restaurant A were questioned similarly.

To evaluate a possible association between illness and eating in Restaurant A, a case-control study of Sharon residents was done. Controls were randomly selected from the Sharon telephone directory. All control subjects were queried using the same questionnaire administered to cases.

RESULTS

A total of sixteen cases of hepatitis A were identified. Dates of illness onset ranged from March 14 to May 9. Fifteen cases were in patrons of Restaurant A. The additional case (index case) was in a cook at Restaurant A. Only seven of 28 control-persons had eaten at Restaurant A, confirming it as the likely source of infection ($p < .01$). Furthermore, case-persons (15/15) were more likely than control-persons (3/7) to have eaten lunch or dinner at the restaurant.

The ill cook, one of four cooks in Restaurant A, developed symptoms of fever and malaise on February 22, 1986. The cook continued working until March 3 when the cook developed jaundice and sought medical care. As a line cook, he was involved in all aspects of food preparation and worked 7 days a week, preparing lunch and dinner meals. All case-persons had eaten at least once at the restaurant between February 20 and March 3.

The cook's New York physician advised the cook to discontinue working, but did not report the case to DHS or to public health authorities in New York State. The Department learned of this case on April 7 on review of laboratory records at the local hospital.

Serum samples from all 11 asymptomatic restaurant employees, excluding the index case, were negative for anti-HAV IgM antibody.

During restaurant inspection, several deficiencies were observed in food handling procedures. The implicated cook did not wash his hands before handling food and handled food without proper use of implements or sanitary disposable gloves, and several soiled cloth towels were used for drying hands.

CONTROL MEASURES

Food handlers at Restaurant A were individually interviewed to identify other symptomatic food handlers and reinforce good hygienic practices (e.g. the necessity of strict handwashing after using the bathroom). They were also given information on hepatitis A.

Patrons of Restaurant A were notified of possible hepatitis A virus exposure through a press release and were asked to consult a physician should they experience any symptoms suggestive of hepatitis. Immune globulin was not recommended for patrons of Restaurant A since more than two weeks had elapsed since possible exposure to the index case.

DISCUSSION

The most likely source of hepatitis A in this outbreak was food served at Restaurant A from February 8 and March 3 and which had been prepared by the implicated cook.

Although a large number of hepatitis A infections are reported each year among food handlers, only a few foodborne outbreaks result from such infections. A number of factors determine whether a food handler with hepatitis A can infect others via food:

1. The stage of illness determines the amount of virus excreted. The hepatitis A virus is excreted in the stool during the 2 weeks before onset of illness and for 1-2 weeks after onset (1). The implicated cook worked every day prior to the onset of his illness and continued to work after he developed symptoms on February 22 until the onset of jaundice on March 3.
2. Foods most associated with transmission are those contaminated during preparation and not subjected to heating which would kill the virus. Therefore, salads,

sandwiches, and cold plates are most frequently involved in outbreaks. The implicated food handler handled food that required no further cooking.

3. Since hepatitis A is transmitted by the fecal-oral route, transmission is more likely from food handlers with poor hygienic practices. Deficiencies in food handling practices that could have facilitated the transmission of hepatitis A to restaurant patrons were identified at Restaurant A.

Since prevention of hepatitis A transmission depends on identifying persons at risk and administering immunoglobulin (IG) relatively early in the incubation period, health care providers who are aware of a food handler with possible viral hepatitis should report the case to the state or local health department as soon as possible. When hepatitis A occurs in a food handler, IG should be given to other food handlers in the establishment. IG is usually not offered to patrons, but may be considered if the food handler was involved in the preparation of foods which were not heated and deficiencies in personal hygiene are noted and if the IG can be given within 2 weeks after last exposure (1).

Prophylaxis would have been recommended for patrons of Restaurant A if the health department had been notified of the index case at the time of diagnosis. Failure to report occurred at two levels: the case was not reported by the attending physician and the significant laboratory finding was not reported by the local hospital laboratory.

REFERENCES

1. Benenson As, ed. Control of Communicable Diseases in Man. Washington, DC: The American Public Health Association, 1985.

NEW STAFF ASSIGNMENTS

Richard Melchreit, M.D., is the AIDS Program Coordinator. Dr. Melchreit is a graduate of Wesleyan University and the University of Connecticut School of Medicine and Dentistry. He completed his pediatric residency at the University of Connecticut in 1984. He worked at St. Francis Hospital in 1984-1986 prior to joining the Health Department.

Ms. Rosalind Loudon is now serving HSA II as Immunization Program Epidemiologist.

Mr. Vincent Sacco is now serving HSA III as Immunization Program Epidemiologist.

Mr. Peter Lamb is now serving HSA IV as Immunization Program Epidemiologist.

Ms. Elizabeth Veit is the special projects coordinator with the STD Control Program. Ms. Veit will initially be concentrating on professional and lay education and chlamydia control activities.

Ms. Cheryl Brown is a disease intervention specialist with the STD Control Program and is working in the New Haven - Bridgeport - Stamford areas.

Ms. Renee Coleman is a disease intervention specialist with the STD Control Program and is working in the Hartford - Waterbury areas.

| COMMUNICABLE DISEASES REPORTED | | | |
|--------------------------------|-------|-------|--------------------|
| CONNECTICUT | | | |
| 1985, 1986* | | | |
| Name | 1986 | 1985 | % Change From 1985 |
| AIDS | 144 | 101 | +42.6 |
| GONORRHEA | ** | 8,134 | ** |
| SYPHILIS P&S | 161 | 215 | -25.1 |
| MEASLES | 9 | 7 | +28.6 |
| RUBELLA | 1 | 4 | -75.0 |
| TUBERCULOSIS | 175 | 164 | + 6.7 |
| HEPATITIS A | 197 | 152 | +29.6 |
| HEPATITIS B | 411 | 358 | +14.8 |
| SALMONELLOSIS | 1,082 | 1,068 | + 1.3 |
| SHIGELLOSIS | 133 | 124 | + 7.3 |

*Subject to change when final report is submitted to the Centers for Disease Control
 **Not available

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