CONNECTICUT EPIDEMIOLOGIST

State of Connecticut Department of Public Health and Addiction Services
Epidemiology Section, Susan S. Addiss, MPH, MUrS, Commissioner

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HANTAVIRUS PULMONARY SYNDROME

In January 1994, a New York resident who attended college in Rhode Island died of acute respiratory distress syndrome (ARDS) caused by a hantavirus. This is the first case of Hantavirus Pulmonary Syndrome (HPS) reported in the Northeast.

HPS is a serious, life threatening illness characterized by early onset of flu-like symptoms (fever, muscle aches and pains, headache and cough), followed by rapid development of respiratory failure. This syndrome was identified as a result of the investigation of an outbreak that occurred in 1993 in the Four Corners area of Colorado, Arizona, New Mexico and Utah. Since then, two other hantavirus strains have been identified by the Centers for Disease Control and Prevention (CDC), one from Louisiana and the other from Florida. The finding that there are different strains suggests that sporadic cases of illness caused by hantaviruses have been occurring in the United States for some time.

The deer mouse, Peromyscus maniculatus, is the most widespread and most common known carrier of the virus and was the primary reservoir in the Four Corners region. Virus antibodies have also been found in the white-footed mouse, Peromyscus leucopus, a mouse species found throughout Connecticut.

Since last fall, the CDC has been accepting specimens submitted through state laboratories for hantavirus testing. In Connecticut, approximately a dozen specimens have been sent to the CDC for hantavirus testing. To date, all have been negative. However, we expect that Connecticut will eventually have a laboratory confirmed case of HPS.

SUBMISSION OF LABORATORY SPECIMENS

CDC has requested that specimens (serum and/or tissue) be submitted only from patients who meet the following criteria:

1. an acute, febrile illness (temperature $\geq$ 101° F or $\geq$ 38.3° C) in a previously healthy person characterized by unexplained ARDS or bilateral interstitial pulmonary infiltrates developing within 1 week of hospitalization with respiratory compromise requiring supplemental oxygen; OR

2. an unexplained respiratory illness resulting in death, in conjunction with an autopsy finding of noncardiogenic pulmonary edema without an identifiable specific cause of death.

Specimens from patients meeting the above criteria should be accompanied by a completed Hantavirus Pulmonary Syndrome Case Report form. Forms and additional information on the submission of specimens can be obtained by calling the Virology Laboratory, Department of Public Health and Addiction Services (DPHAS) (566-4776). Specimens should be sent to:

Dept. of Public Health & Addiction Services
Bureau of Laboratories
10 Clinton Street
Hartford, Connecticut 06106

AVAILABILITY OF RIBAVIRIN

There is limited evidence that the antiviral medication ribavirin may be helpful in treating hantavirus infections. A small amount of ribavirin for intravenous use is available on a compassionate use basis from the CDC for patients with severe presumptive hantavirus disease. Eligibility criteria include otherwise unexplained 1) ARDS, 2) near ARDS, or 3) acute illness of less than 7 days in duration associated with bilateral pulmonary infiltrates. Patients must be 12 years or older with a documented negative pregnancy test. For further information on obtaining ribavirin, physicians should contact the CDC at (404) 639-3311 (days), or (404) 639-2888 (nights and weekends).

VIDEOTAPE FOR HEALTH CARE PROFESSIONALS

The CDC has produced a 57-minute videotape called "A New Hantavirus". The production of the video and its companion booklet in December 1993 was prompted by the need to disseminate information quickly to the health care community about the clinical description, laboratory diagnosis, treatment, and public health implications of HPS. The video and companion booklet are available on loan from the Epidemiology Program, DPHAS (566-5058).

ADDITIONAL INFORMATION

Additional information for the general public on hantavirus disease, rodent control, and on the cleaning and disposal of rodent excreta is available from your local health department or the Epidemiology Program, DPHAS (566-5058).

LABORATORY SCREENING FOR ESCHERICHIA COLI O157:H7 CONNECTICUT, 1993

Escherichia coli O157:H7, first recognized as a pathogen in humans in 1982 (1), is a common cause of bloody diarrhea and a leading cause of acute renal failure in children. In June 1993, the Council of State and Territorial Epidemiologists (CSTE) recommended that clinical laboratories screen at least all bloody stools for E. coli O157:H7 using sorbitol-MacConkey medium (2). Following the CSTE issuance, in late June the Connecticut Department of Public Health and Addiction Services (DPHAS) mailed the same recommendation to all clincial laboratories in the state and encouraged laboratories to send suspected E. coli O157:H7 strains to the DPHAS laboratory for confirmation. To assess the impact of the DPHAS recommendations and to characterize the screeing practices for E. coli O157:H7, in November 1993 DPHAS surveyed laboratories in Connecticut. This report presents the findings of the survey.

DPHAS mailed questionnaires to all 139 licensed clinical laboratories in Connecticut; laboratories that did not respond to the mailed questionnaire were contacted by telephone. The response rate for the survey was 100%. Of the 139 laboratories, 44 (32%) performed on-site testing of stool specimens received directly from health-care providers or referred from other laboratories. Of these 44 laboratories, 19 (43%) screened all stool specimens for E. coli O157:H7, 21 (48%) screened only bloody stools, and four (9%) screened only at physician request.

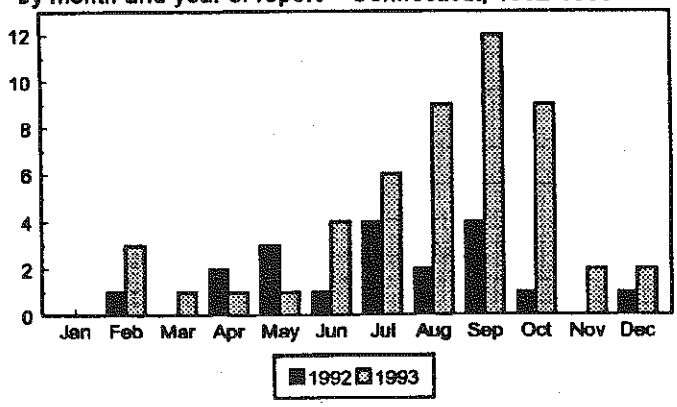
Of the 44 laboratories that performed on-site testing of stool specimens, the number that cultured all stools or all bloody stools for E. coli O157:H7 increased from 11 (25%) in June 1993 to 40 (91%) in November 1993. Of the 29 laboratories that changed their policy to culture all stools or all bloody stools for E. coli O157:H7, 21 (72%) reported beginning in response to the DPHAS notification, four (14%) as a result of publicity associated with the E. coli outbreaks in the western United States in early 1993, two (7%) following the general meeting of the American Society of Microbiology in May 1993 where information on E. coli O157:H7 screening was presented, and two (7%) for a combination of these and other reasons.

Editorial Note: E. coli O157:H7 is not usually detected by the methods used to isolate and identify other bacterial enteric pathogens (1). Sorbitol-MacConkey medium and O157 antiserum, which are both readily available, should be used to identify the organism (1). Most outbreaks of illness caused by E. coli O157:H7 have been detected because of clusters of hemolytic uremic syndrome, thrombotic thrombocyctopenic purpura, or severe diarrheal illness (1,3,4). In the absence of routine screening of diarrheal stool specimens for E. coli O157:H7, neither small outbreaks nor isolated cases in persons without severe illness are likely to be detected. Routine screening of stool specimens for E. coli O157:H7 may reduce the likelihood of unnecessary diagnostic procedures and treatments while permitting detection of outbreaks, timely initiation of public health intervention, and refined characterization of the epidemiology of this problem.

In Connecticut, routine screening for E. coli O157:H7 contributed to an increase in the number of reported cases and to the recognition of the first outbreak of E. coli O157:H7 infections in the state. Reporting of E. coli O157:H7 isolates by laboratories to DPHAS has been required since 1990. No cases were reported in 1990, one in 1991, 19 in 1992, and 50 in 1993, with a marked increase in reporting beginning in June 1993 (Figure 1). In September 1993, an outbreak of O157 infections was detected following the isolation of the organism from four persons on the same day; the hospital laboratory involved had initiated a policy in June 1993 to screen all bloody stools for E. coli O157:H7.

The proportion of clincial laboratories in the United States that routinely screen at least bloody stools for E. coli O157:H7 is not well described. A recent survey in the San Francisco Bay area found that only eight (20%) of 41 laboratories performed such screening (CDC, unpublished data, 1994). Nationally, as of October 1993, 17 (34%) states required that E. coli O157:H7 isolates be reported to state health departments; 20 additional states are establishing such requirements (G. Birkhead, New York State Health Department, personal communication, March 14, 1994). The findings in this report suggest that a substantial proportion of laboratories would perform these screenings if encouraged by state health departments.

Figure 1. No. of confirmed cases of *E. coli* O157:H7 infection, by month and year of report - Connecticut, 1992-1993



A CDC-developed video, "E. coli O157:H7 - What the Clinical Microbiologist Should Know," provides a guide to the isolation and identification of E. coli O157:H7. This video is available from the Association of State and Territorial Public Health Laboratory Directors, 1211 Connecticut Avenue, NW Suite 608, Washington, DC 20036; fax (202)887-5098. [Adapted from MMWR 1994;43:192-4]

References

1. Griffin PM, Tauxe RV. The epidemiology of infections caused by Escherichia coli O157:H7, other enterohemorrhagic E. coli, and the associated hemolytic uremic syndrome. Epidemiol Rev 1991;13:60-98.

2. Council of State and Territorial Epidemiologists. CSTE position statement #4: national surveillance of Escherichia coli O157:H7 Atlanta: Council of State and Territorial Epidemiologists, June 1993.

3. Swerdlow DL, Woodruff BA, Brady RC, et al. A waterborne outbreak in Missouri of Escherichia coli O157:H7 associated with bloody diarrhea and death. Ann Intern Med 1992;117:812-9.

4. Besser RE, Lett SM, Weber JT, et al. An outbreak of diarrhea and hemolytic uremic syndrome from Escherichia coli O157:H7 in fresh-pressed apple cider. JAMA 1993;269:2217-20.

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FOR FURTHER INFORMATION, CONTACT: Office of Postgraduate and Continuing Medical Education, 333 Cedar Street, Post Office Box 3333, New Haven, CT 06510; Telephone: (203) 785-4578; Fax: (203) 785-3083.

Reports of Selected Communicable Diseases Connecticut, Final Summary, 1992 - 1993

DISEASE	1993	1992	% Change from 1992
AIDS	1,731	690	+151% *
Gonorrhea	4,658	5,669	- 18%
Hepatitis A	117	81	+ 44%
Hepatitis B	75	158	- 53%
Lyme Disease	1350	1760	- 23%
Measles	9	6	+ 50%
Rubella	0	1	- 100%
Salmonellosis	811	726	+ 12%
Shigellosis	245	146	+ 68%
Syphilis P&S	158	257	- 39%
Tuberculosis	155	156	< 1%

* Increase due primarily to change in C.D.C. Case Definition.

James L. Hadler, M.D., M.P.H., Chief
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EPIDEMIOLOGY SECTION
State of Connecticut
Department of Public Health and Addiction Services
150 Washington Street
Hartford, CT 06106

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