

CONNECTICUT EPIDEMIOLOGIST

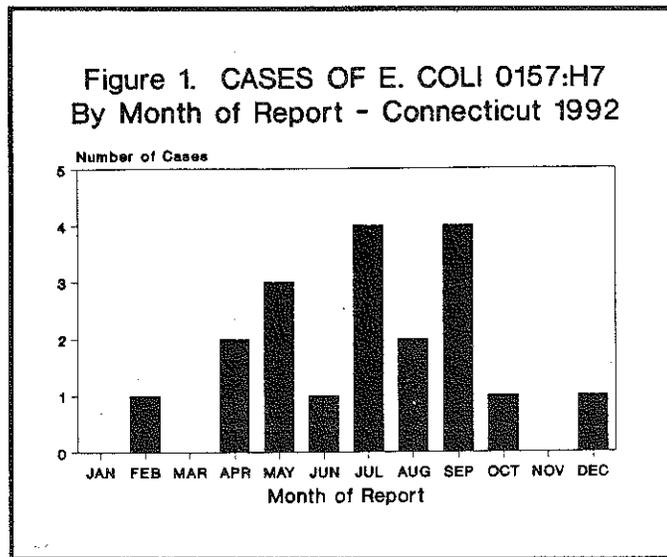
State of Connecticut Department of Health Services Epidemiology Section
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ESCHERICHIA COLI 0157:H7

In 1992, 19 cases of *Escherichia coli* 0157:H7 infections were reported to the Epidemiology Program, Connecticut Department of Health Services (DHS). Cases were reported from seven of the state's eight counties, with the exception of Tolland County. Case-patients ranged in age from 1-81 years, with a mean of 19.4 years. Nine (47%) of the cases occurred in persons ≤ 9 years of age. Eleven of the cases occurred in females (ratio 1.4:1). Ten of the 19 cases (53%) had onset of illness during July-September (Figure 1).



During the first quarter of 1993, three cases of *E. coli* 0157:H7 were reported. The case-patients ranged in age from 2 to 9 years and lived in Hartford County. All required hospitalization, and two required dialysis. All have recovered and have been released from the hospital. No common risk factors or source of infection could be determined among the three case-patients.

In 21 of the 22 cases reported in 1992-93, the *E. coli* 0157:H7 isolates were confirmed by five acute care hospital laboratories. The remaining case was confirmed by a private clinical laboratory.

Editorial Note: *Escherichia coli* 0157:H7 is a gram-negative bacillus that is not routinely detected using standard stool culture techniques. The disease was first recognized as a human pathogen during a 1982 investigation of two outbreaks of diarrheal illnesses in Oregon and Michigan. Since then, other outbreaks have occurred including the January 1993 outbreak of *E. coli* 0157:H7 gastroenteritis that was linked to the consumption of hamburgers from a fast-food chain in Washington State (3). However, the majority of reported cases of gastroenteritis caused by *E. coli* 0157:H7 occur sporadically. A recent Canadian study suggested that sporadic cases can be attributed to the consumption of undercooked ground beef that takes place in private homes or noncommercial places such as picnics or barbecues (5).

Symptoms caused by *E. coli* 0157:H7 range from mild diarrhea to hemorrhagic colitis, a bloody diarrhea accompanied by severe abdominal cramps and little or no fever. The illness usually resolves after six to eight days with no sequelae. However, some case-patients develop hemolytic-uremic syndrome (HUS) which is characterized by hemolytic anemia, thrombocytopenia, and renal failure. Deaths have also been attributed to this disease. Persons at the extremes of age are at highest risk of infection and complications (1).

The incubation period for E. coli 0157:H7 ranges from 12 to 60 hours with a median of 48 hours. Communicability lasts through the duration of the excretion of the pathogen, which is notably short (2).

Infections with E. coli 0157:H7 have been associated with the consumption of contaminated food, most often beef (especially ground beef) and raw milk. Methods of prevention of the disease include the thorough cooking of beef, pasteurization of milk, and careful handwashing with soap. Ground beef should be cooked until the center is gray or brown and juices run clear with no trace of pink. The Food and Drug Administration currently recommends that all ground beef products should be cooked to heat all parts of the item to at least 155° F (68.3° C)(6). Continued public health information emphasizing the proper cooking of ground beef will play a significant role in decreasing the incidence of E. coli 0157:H7 illnesses.

Secondary transmission has also been noted through person-to-person transmission through the fecal-oral route. Children enrolled in day-care programs may be at a greater risk since day-care attendance is a well-known risk factor for transmission of enteric pathogens. Recent studies conducted by the Minnesota Department of Health concluded that person-to-person transmission of E. coli 0157:H7 is common when infected preschool children attend day care while symptomatic. Many outbreaks in these settings may go undetected due to a lack of routine testing for this pathogen in stool cultures, the absence of public health surveillance, and the incomplete follow-up of infected children. Temporary exclusion of all symptomatic children was an effective control strategy in this population, but additional investigations are needed to determine the optimal intervention measures (4).

In Connecticut, E. coli 0157:H7 has been a laboratory reportable disease since 1990. The Director of any clinical laboratory is required to

report evidence suggestive of E. coli 0157:H7 to the Epidemiology Program, DHS. A standard form, The Laboratory Report of Significant Finding (OL-15C), is available from the Bureau of Laboratories, DHS, 10 Clinton Street, P O Box 1689, Hartford CT 06144; telephone 566-5103.

Physicians who have patients with severe bloody diarrhea of unknown etiology or HUS should consider E. coli 0157:H7 as a possible cause. Testing for E. coli 0157:H7 is available from the General Microbiology Laboratory, DHS. Stool cultures must be submitted in a FE kit, which contains a vial of Cary-Blair medium. The culture(s) are done only on request and only if warranted by clinical or epidemiological data. Physicians must call the laboratory at (566-5746 or 566-4340) before collecting or submitting specimens. Many private clinical laboratories with general microbiology capabilities can also test for E. coli 0157:H7. Physicians should check with these laboratories prior to submitting culture(s) to determine submission policies.

References

1. Ostroff SM, Kobabayshi JM. Infections with Escherichia coli 0157:H7 in Washington State. *JAMA*, 1989;3:629-37.
2. Benenson AS. Control of Communicable Diseases in Man. APHA, 1990; 15th Edition:136-37.
3. CDC. Preliminary Report: Foodborne Outbreak of Escherichia coli 0157:H7 Infections from Hamburgers - Western United States, 1993. *MMWR*, 1993;4:85-6.
4. Belongia EA, Osterholm MT, Soler, JT, Ammend DA, Braun JE, MacDonald KL. Transmission of Escherichia coli 0157:H7 Infection in Minnesota Child Day-care Facilities. *JAMA*, 1993;7:883-88.
5. LeSaux N, Spika JS, Friesen B, Johnson I, Melnychuck, D, Anderson C, Dion, R, Rahman M, Tostowaryk. Ground Beef Consumption in Noncommercial Settings Is a Risk Factor for Sporadic Escherichia coli 0157:H7. *JID*, 1993;167:500-2.
6. FDA. Cooking Ground Beef. Memorandum, 1/28/93:6.

AIDS CLINICAL EDUCATION EXPERIENCE

Clinicians who provide care for people with or at risk for HIV infection are invited to spend time with clinical providers at one of two sites in New Haven.

1. Central Medical Unit, primary care clinic serving injection drug users at the APT Foundation in New Haven.
2. Nathan Smith Clinic, an outpatient clinic for people with HIV at Yale New Haven Hospital

The major objective of this experience is to offer the participant an opportunity to observe the delivery of care and to interact with care providers in a clinical setting designed to serve substance abusers and those with or at high risk for HIV infection. Preceptors may include nurse practitioners, physicians or physician assistants.

These observational sessions will be flexible and tailored to the participant's objectives and schedule. In addition to routine history, physical examinations, and evaluations of acute and chronic problems, there will be an opportunity for interested clinicians to observe the process of ambulatory opiate detoxification.

There is no fee for this clinical experience. The clinical education opportunity is sponsored and funded by the New England AIDS Education and Training Center. An application along with a New England AIDS Education and Training Center Program Registration Form can be obtained from:

Ann Williams, RNC, Associate Professor
Yale School of Nursing
P.O. Box 9740, New Haven, CT 06536-0740
Telephone: (203) 737-2350
Fax: (203) 785-6455

After your application is received, you will be reached by telephone directly to arrange dates and times for your experience, and briefing materials will be forwarded.

HIV PARTNER NOTIFICATION: C.A.R.E. PROGRAM

An important component in the overall management of the HIV infected patient is partner notification. Yet many health providers caring for infected patients do not have the resources for addressing this critical need. The Department of Health Services helps fill the need by providing partner notification services through its Companion Awareness and Risk Education (C.A.R.E.) Program. The C.A.R.E. counselor provides post-test counseling and risk reduction education to all partners, and makes a special effort to link the HIV-infected partner with medical and psychosocial support services.

Notifying the sex and needle sharing partners of HIV infected patients is productive. Of the 159 partners notified by the C.A.R.E. Program in 1992, only 14% had been previously tested for HIV. Of the 128 partners who accepted testing for the first time, 13 (10%) were found to be HIV-antibody positive, a seroprevalence rate as high as found among drug treatment clients and prison inmates.

Partner notification is particularly useful in reaching women who are at risk. Nearly two-thirds of the partners notified through C.A.R.E. are women.

Participation in the C.A.R.E. Program is completely voluntary. All information is confidential. The client's name -- which may remain anonymous -- is never given to a partner. All names of clients and partners are destroyed 60 days after a case is closed. In spite of the value of partner notification services, the C.A.R.E. Program continues to be underutilized, particularly by the private medical sector. Only 14% of referrals last year came from hospitals or physicians. Physicians are encouraged to consider the C.A.R.E. Program as an important adjunct to the management of their HIV patient. For more information on the C.A.R.E. Program, or to make a referral, call 566-4492, Monday through Friday, 8:30 am - 4:30 pm.

CLINICAL CONSULTATION HOTLINE

The United States Public Health Service has established an exciting new national toll free phone line that will provide clinical consultation for health care professionals who treat people with AIDS/HIV. Professionals staffing the toll free consultation line will accept calls from health care workers anywhere in the continental United States. Hours of operation are 7:30 am to 5:00 pm (west coast time), Monday through Friday. At all other times, including weekends, callers can leave voice mail messages. The number is 1-800-933-3413 and there is no charge for the service.

The National HIV Telephone Consultation Service is staffed by faculty physicians from the University of California, San Francisco Department of Family and Community Medicine, as well as nurse practitioners and clinical pharmacists. Health care professionals can ask a question on any topic pertaining to HIV care. Callers will be asked to provide patient-specific information, including CD4 cell count, current medications, sex, age, and the patient's HIV history as well as information about where they are located and what type of practice they have.

Sixth Annual Yale Rheumatology Symposium

LYME DISEASE

Wednesday, June 6, 1993

Sponsored by the Section of Rheumatology at Yale School of Medicine. The symposium is directed toward primary care physicians, internists, pediatricians, rheumatologists, and other health care professionals interested in Lyme disease.

FOR FURTHER INFORMATION, CONTACT:

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