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EPI-LOG

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First Hantavirus Case

A King County resident became ill on July 3, 1997, with symptoms of myalgias and headache. Over the next two days these symptoms became more severe and were accompanied by anorexia, nausea and diarrhea. On the afternoon of July 5, he went to see a friend who is a nurse. She recognized that he looked ill and had a fever (102.8°F). She also noted that he appeared to have some respiratory difficulty, with a cough, but his lungs were clear to auscultation. He could not remember the last time he had urinated. She drove him to a local hospital emergency department where he was found to have a stiff neck; while in the ED, his respiratory status quickly deteriorated. A lumbar puncture was done and was negative. Blood cultures were obtained, and he was treated with vancomycin and ceftriaxone. He was intubated that evening because of signs of pulmonary congestion and deteriorating oxygen saturation. He was transferred to another hospital the morning of July 7. As his congestion increased, his xray progressed to a " white-out", his hematocrit increased, his platelets fell, and the white cells showed a left shift. Despite extensive efforts, his respiratory status continued to deteriorate, and he died early in the morning on July 8.

An autopsy performed at the Medical Examiner's Office found diffuse pulmonary edema and pleural effusions. Microscopic examination later showed extensive edema with inflammatory effusions but with normal architecture compatible with hantavirus infection. Hantavirus pulmonary syndrome (HPS) was suspected early and the course was typical of HPS. The diagnosis was later serologically confirmed in both the University of New Mexico and Oregon State Health Department laboratories by immunoblot and enzyme immunoabsorbent assays, respectively. There was also another specimen submitted to a commercial laboratory by the hospital that was later reported to be positive.

Rodent trappings were carried out at two of the deceased's Seattle residences but no rodents were obtained. A visual inspection was made of two motels he stayed at in Montana and no evidence of rodents was noted. He also camped in Eastern Washington but that site has not yet been inspected. An investigation of an outbuilding adjacent to a relative's home in a semi-rural area in Eastern Washington where fields abut the property yielded no deer mice, the vector of the Sin Nombre strain of hantavirus. The deceased had worked on his car in this building and then cleaned up the area afterward.

Although this case resided in King County, it is highly unlikely that he was exposed here. As noted in the May 1997 Epi-Log issue, risk factors associated with acquiring hantavirus infections usually occur in rural settings or in dwellings with large indoor rodent populations. There have been 14 cases of HPS in residents of Washington state to date, the most recent occurring in July in Klickitat County but which was non-fatal.

A Raw Deal

Eleven cases of vibriosis have been reported to date in Seattle-King County this year, over twice the number reported in 1996; all but one case occurred in July and August. Other counties in Washington state have also reported increased numbers, although British Columbia, Canada, has had a significantly greater problem with over 100 cases reported. The organism in most cases has been identified specifically as *Vibrio parahaemolyticus*, a bacteria which causes watery diarrhea and abdominal cramps; sometimes nausea, vomiting, fever, and headache occur. The duration of illness is 1 to 7 days. Diagnosis is made by stool culture, although the stool should be collected early in the illness since the organism is rapidly cleared. Testing for *Vibrio* must be specifically requested. Vibriosis is usually a self-limited illness and supportive treatment alone is recommended. However, when illness is severe or prolonged, antimicrobials may be useful; tetracycline is the drug of choice (the organism is usually resistant to the penicillins).

Vibriosis is associated with eating raw or undercooked shellfish. The incubation period is usually 12 to 24 hours (range: 4 to 96 hours). Please note that vibriosis is a reportable disease; reporting cases to your local Health Department aids in tracking the disease as well as the source of the shellfish. The Washington State Department of Health is monitoring the situation and is investigating the cases to determine if additional actions are needed.

Tularemia

In July of this year, a 68 year old female was admitted to a King County hospital for a fever of unknown origin, nausea and vomiting. She also had blood in her stool, but had a history of peptic ulcer disease and multiple GI surgeries and was receiving parenteral nutrition as a result of her previous medical problems. Her blood workup (except for low albumin), urinalysis, chest xray, bone, abdominal and pulmonary scans, abdominal angiography, and endoscopies were all normal. The patient was treated with ceftriaxone IV pending blood culture results. After seven days, the blood culture

grew *Francisella tularensis*. The patient was then started on gentamicin.

The patient recalled no exposure to non-domestic animals, but has a pet dog and cats. She is retired and spends a lot of time gardening around her house which is located at the edge of an extensive virgin woodland area. The dog had killed some of the wild rabbits that frequent the yard; recent construction near the house had reportedly displaced wildlife.

The incubation period for tularemia is estimated to be 3 to 5 days (range: 2 to 10 days). The onset is sudden with headache, fever, chills, generalized body pains; most often an indolent ulcer is present at the site of introduction of the organism. However, a variety of clinical manifestations may present depending on the route of introduction and virulence of the organism, such as occular, pharyngeal, respiratory, non-specific lympho-glandular node enlargement, or septicemia. Streptomycin or gentamicin is the drug of choice, although fully virulent streptomycin-resistant organisms have been described.

Tularemia is a zoonosis caused by a gram negative coccobacillus, *Francisella tularensis*. Transmission occurs through tick bites, direct contact or ingestion of contaminated water or infected animal tissue, or inhalation of contaminated dust. Diagnosis is most commonly made clinically and confirmed by a rise in specific serum antibodies that usually appear in the second week of the disease. Examination of clinical specimens by FA test may provide rapid diagnosis. Cultures can also be done (on special media) but extreme care must be taken as the material is highly infectious when the bacteria is aerosolized.

Tularemia is reportable in Washington state, although only a few cases are reported annually. Males account for an estimated 70% of reported cases, most of which occur in the spring, summer and fall, coinciding with hunting and other outdoor activities. This is the third case in King County since 1992.

VRE Videoconference

The Centers for Disease Control and Prevention (CDC) is sponsoring a videoconference on *Vancomycin-resistant Enterococci* (VRE) on September 25th, to be held locally at the Shoreline Community College from 10:00 am to 12:30 pm. This live, interactive satellite broadcast will provide an overview of the threat VRE infections pose to patients in health care facilities. Participants will learn methods of detection, isolation, treatment, and prevention. The broadcast will feature a question and answer session in which viewers nationwide will be invited to call or fax in questions during the program. Featured speakers include William Jarvis, MD, and Fred Tenover, PhD, of the National Center for Infectious Diseases (NCID), Robert Weinstein, MD, of Cook County Hospital in Chicago, and Ava Lancaster, RN, BSN, CIC, of the St. Thomas Hospital in Nashville. Continuing education credits will be offered, based on 2.5 hours of instruction. To register and to obtain further information, contact Chuck Talburt at (206) 361-2810; please leave your name, employer, telephone and fax number.

Vaccine News

The Vac Scene is a bi-monthly newsletter published by the Seattle-King County Health Department that covers such topics as the current recommended childhood immunization schedule, school vaccination requirements, new vaccines, the public-funded vaccine program, and general recommendations on immunization. For a free subscription please call Amy Patton at (206) 205-5803.

To Report:

AIDS 296-4645
Tuberculosis 296-4747
STDs..... 731-3954
Communicable Disease 296-4774
24-hr Report Line..... 296-4782
Disease Alert:
CD Hotline 296-4949

REPORTED CASES OF SELECTED DISEASES
SEATTLE-KING COUNTY 1997

	CASES REPORTED IN JULY		CASES REPORTED THROUGH JULY	
	1997	1996	1997	1996
VACCINE-PREVENTABLE DISEASES				
Mumps	0	0	3	2
Measles	1	0	1	4
Pertussis	10	11	128	129
Rubella	0	0	1	2
SEXUALLY TRANSMITTED DISEASES				
Syphilis	0	0	4	0
Gonorrhea	94	94	480	617
Chlamydial infections	284	302	1803	2078
Herpes, genital	61	57	381	433
Pelvic Inflammatory Disease	30	57	176	231
Syphilis, late	7	3	30	42
ENTERIC DISEASES				
Giardiasis	24	15	131	120
Salmonellosis	16	17	126	133
Shigellosis	8	5	62	35
Campylobacteriosis	38	36	184	185
E.coli O157:H7	5	5	17	11
HEPATITIS				
Hepatitis A	40	30	263	163
Hepatitis B	3	8	25	59
Hepatitis C/non-A, non-B	0	3	9	10
AIDS	27	34	196	293
TUBERCULOSIS	19	18	88	70
MENINGITIS/INVASIVE DISEASE				
Haemophilus influenzae	0	1	1	3
Meningococcal disease	3	6	14	20