disease prevention news

DPN

Vol. 56, No.3 February 5, 1996

Fourth Texas Hantavirus Case Confirmed

The Texas Department of Health has confirmed the fourth case of hantavirus pulmonary syndrome (HPS) in this state. The patient, a 23-year-old man from Jefferson County, survived. He presented to a local hospital on November 5, 1995 with a 7-day history of worsening back pain, fever, shortness of breath, myalgias, nausea, vomiting, and diarrhea. On admission he had a partial pressure of oxygen (pO_2) measuring 60 millimeters of hemoglobin on room air and a chest x-ray showing bilateral interstitial infiltrates. Initial clinical laboratory results showed a white blood cell count of 22,500 per cubic mm with 57% band forms and a platelet count of 40,000/cu mm. Other laboratory values included: sodium 129 milliequivalents per liter, blood urea nitrogen (BUN) 34 milligrams per deciliter, creatinine 1.9 mg/dL, albumin 3.1 grams per dL, alkaline phosphatase 116 Units/L, aspartate aminotransferase (AST) 124 U/L, and lactate dehydrogenase (LDH) 1,668 U/L. Despite aggressive supportive care, the patient developed renal failure and hypoxemia.

On November 8, the patient was transferred to the intensive care unit of a tertiary care hospital. On arrival he was in moderate respiratory distress and had a temperature of 97.2°F,pulse of 110 beats per minute, respiratory rate of 32 breaths per minute, and a blood pressure of 210/100 mm mercury. Significant laboratory findings included sodium 134 mEq/L, bicarbonate 24 mEq/L, BUN 46 mg/dL, creatinine 2.1 mg/dL, cholesterol 91 mg/dL, triglycerides 515 mg/dL, calcium 5.4 mg/dL, phosphate 2 mg/dL, total protein 4.6 mg/dL, albumin 2.4 g/dL, alkaline phosphatase 87 U/L, alanine aminotransferase (ALT) 665 U/L, AST 665 U/L, and LDH 3,292 U/L. His creatinine phosphokinase (CPK) was 1171 U/L, white blood cell count 27,330/cu mm, hemoglobin 12.2 g/dL, hematocrit level 35.7%, and platelet count 77,000/cu mm. Prothrombin time was 17 seconds, and partial thromboplastin time was 37 seconds. His chest x-ray continued to show bilateral interstitial infiltrates.

On November 10, the patient was intubated for severe hypoxemia. His renal function deteriorated, and his BUN and creatinine levels rose to 47 mg/dL and 3.3 mg/dL, respectively. The following day, he developed disseminated intravascular coagulopathy in addition to his thrombocytopenia. His condition began to improve over the next 6 days, as his hypoxia, renal failure, and coagulopathy resolved. He was discharged on November 17.

TDH was notified on December 5 that the patient's serum contained antibody to hantavirus. Further testing indicated that this patient was infected with Bayou virus - not Sin Nombre virus (SNV), the agent of the first recognized outbreak of HPS in May 1993. Investigation by TDH's Infectious Disease Epidemiology and Surveillance Division and Public Health Region 6 Zoonosis Control Division revealed that the man probably became infected at a local land-fill. There was no evidence of rodent activity in or around his home.

Hantaviruses are widely distributed, negative-stranded RNA viruses that infect wild rodents. These rodents shed the virus in their urine, feces, and saliva. Transmission to humans usually occurs when aerosolized urine from an infected animal is inhaled. In Eurasia hantaviruses are associated with hemorrhagic

Continued ☞

Also in this issue:

fever and renal failure. The vast majority of hantavirus cases in the US have been caused by SNV and are characterized by adult respiratory distress syndrome. At least 5 cases in the US have been due to hantaviruses other than SNV: 2 caused by New York virus (NYV), 2 (including the current case) by Bayou virus, and 1 by Black Creek Canal virus (BCCV). NYV-associated HPS is similar to SNV-associated HPS. In contrast, the 3 patients with infections due to either Bayou virus or BCCV had both the typical pulmonary syndrome and acute renal insufficiency.

After 4 or 5 days of a flu-like illness, patients with HPS usually present with fever, tachypnea, tachycardia, hypotension, and rales or crackles. Symptoms include fever, myalgias, chills, cough, nausea, vomiting, headache, diarrhea, malaise, shortness of breath, dizziness, arthralgia, back or chest pain, abdominal pain/tenderness, and sweats. Abnormal laboratory findings typically include thrombocytopenia, elevated hematocrit, and elevated LDH, AST, and ALT. BUN and creatinine levels usually remain normal. A recent report from Belgium suggests that decreased cholesterol and increased triglyceride levels together with a decreased platelet count may be an indicator of clinically severe disease. This most recent Texas case was notable for the presence of hypocholesterolemia, hypertriglyceridemia, and thrombocytopenia.

Since the first recognized outbreak of HPS in May 1993, 124 cases have been confirmed from 24 states. Fifty-seven percent of the patients have been male, and ages have ranged from 11 to 69 years. The case fatality rate is about 50%.

Three other cases of HPS have been reported in Texas. The first, in June 1993, was a fatal case in a previously healthy 58-year-old woman from Angelina County. In March 1994, a 29-year-old Hispanic woman from Kleberg County survived HPS infection. The third case, which occurred in early 1995, was the state's second HPS fatality. This patient was a 15-year-old Hispanic male from Deaf Smith County.

Hantavirus infections are reportable in Texas. Physicians should call the Texas Department of Health (TDH) at (512) 458-7676 to report possible cases and to obtain case report forms. A case report form should be included with any specimen. For serologic confirmation of a possible case, send at least 1 milliliter of serum at ambient temperature to:

Texas Department of Health Laboratory
1100 W. 49th Street
Austin, TX 78756

Prepared by Julie Rawlings, MPH, TDH Infectious Disease Epidemiology and Surveillance Division

Reminders

- Original material published in *DPN* may be reproduced in any manner without prior permission. However, we appreciate careful citation as to source, especially when *DPN* material is combined with information or policy statements from other sources.
- See **http://www.tdh.state.tx.us/phpep/dpnhome.htm** for the Internet version of *DPN*. *Contact Mark Gregg at (512) 476-7677 for further information about DPN on the Web.*

STD Facts and Fallacies
A Course for Health Care Providers

STD Facts and Fallacies is a 1- or 2-day course provided by the Training and Public Education Branch of the Texas Department of Health (TDH) Bureau of HIV and STD Prevention. Designed for health care professionals who interact with patients at risk for sexually transmitted disease (STD), this training session is especially suited for staff in family planning, HIV, maternal and child health, substance abuse, and correctional programs.

The training session includes the history, transmission, course of infection, symptomatology, complications, trends in treatment, morbidity, and relationship to HIV for each of the following diseases: syphilis, gonorrhea, chlamydia, herpes, and human papilloma virus (HPV). Participants will develop a heightened awareness of the STD problem, improve communication skills relating to STD, and discuss relationships between STD and HIV. Course curricula can be introductory or advanced.

The TDH HIV/STD Training and Public Education Program assists TDH Regional offices and other local health department representatives with hosting, coordinating, and scheduling these training sessions. *For further information about this course, please call David Clark, STD Training Manager, or Larry Dennis at (512) 490-2535.*

◆ ◆ ◆

Perspectives in Public Health
Texas Department of Health (TDH) Quarterly CME Conference

On March 15, 1996, from 8:30 AM to 4:00 PM, the Texas Department of Health will present its Quarterly CME Conference for physicians. The conference will be held at the TDH Headquarters in Austin, Texas. One of the main objectives of this conference is for participants to establish relationships with other physicians concerned with public health and preventive medicine issues through dialogue with presenters and other participants.

In addition to a variety of public health and preventive medicine topics, each Quarterly CME Conference contains two regular features:

- The Commissioner's Hour: a segment of the program selected and/or conducted by David Smith, MD, Commissioner of Health at TDH
- The News Bulletin Board: a segment discussing late-breaking events in the field of public health and general medicine

Topics covered at the upcoming conference include

- Commissioner's Hour: Controlling Foodborne Pathogens with Irradiation
- Correctional Medicine: The Hidden Public Health Opportunity
- Human Papillomavirus and Herpes Simplex Virus
- Putting Prevention into Practice: Genetics in Modern Primary Health Care
- Malaria: Prevention, Diagnosis, and Treatment

Continued ☞

Disease Prevention News (ISSN 1068-7920) is a free, biweekly publication of the Texas Department of Health, Public Health Professional Education, 1100 West 49th Street, Austin, TX 78756-3199, (512) 458-7677. Second-class postage paid at Austin, TX.

POSTMASTER: Send address changes to Disease Prevention News, 1100 West 49th Street, Austin, TX 78756-3199.

Disease Prevention News
Texas Department of Health
1100 West 49th Street
Austin, TX 78756-3199

Return Postage Guaranteed

Second Class Postage Paid at Austin, TX

To register for Perspectives in Public Health, Texas Department of Health Quarterly CME Conference, complete and return the registration form below to **Texas Health Foundation-Professional Education, P.O. Box 650257, Austin, Texas 78765-0257**, or contact the Texas Department of Health's Public Health Professional Education Program at (512) 458-7677 or (800) 252-8239, press 4.

✂ . . . . . .

Registration Form DPN

Perspectives in Public Health
Texas Department of Health Quarterly CME Conference
Friday, March 15, 1996 8:30 AM - 4:00 PM

Lunch is included with all registration fees

☐ *Enclosed is my $40 registration fee*

☐ *Enclosed is my $20 registration fee and verification letter from Training Program (for Residents/Fellows)*

☐ *Please call me regarding special needs*

Name _____ SS # ___ - ___ - _____ TDH Employee ☐ Y ☐ N

Address _____ Office Phone ( ) -

City _____ State _____ Zip _____ - _____ County _____

Speciality _____ Discipline: ☐ MD ☐ DO ☐ PA ☐ Resident ☐ RN ☐ Other _____

For information call: **Public Health Professional Education - (800) 252-8239, press 4, or (512) 458-7677**
Space Is Limited - Reservations Must Be Received By March 8, 1996

Please make check payable to "Texas Health Foundation-Professional Education" and mail to:
Texas Health Foundation-Professional Education
P.O. Box 650257
Austin, Texas 78765-0257

PHPE Use Only
Check # _____
Amount _____
Rec'd _____