

## DISEASE UPDATE

### **WEST NILE VIRUS CLINICAL FEATURES**

With warmer weather in California signaling the seasonal increase in mosquito abundance, the State of California Department of Health Services, State Health Director, Diana M. Bonta, R.N., Dr. P.H., warns of the anticipated arrival of West Nile virus (WNV) in a News Release and encourages Californians to take precautions against the disease.

It is also important to understand that most WNV infections are mild and often clinically inapparent. In most cases, WNV infection is recognized as a febrile illness of sudden onset, often accompanied in mild infections by:

- Malaise
- Headache
- Anorexia
- Vomiting
- Eye pain
- Myalgia
- Rash

And in severe infections by;

- Fever
- Weakness
- Gastrointestinal symptoms
- Change in mental status
- Severe muscle weakness
- Cranial nerve abnormalities
- Seizures
- Polyradiculitis
- Myocarditis
- Pancreatitis
- Ataxia and extrapyramidal signs
- Fulminant hepatitis

Specimens of serum or CSF (spinal fluid) from hospitalized and ER patients with any of listed symptoms; viral encephalitis, aseptic meningitis and atypical Guillain-Barre Syndrome will be tested by the California Department of Health Services (DHS).

In a very small number of cases, WNV also has spread through blood transfusions, organ transplants, breastfeeding and even during pregnancy from mother to baby.

## **Transmission through organ transplant and blood transfusion**

During the past year of the 2,942 cases of West Nile meningitis and encephalitis that occurred in 2002, only 27 (less than 1%) resulted from transplantation of infected organs (4 people) and transfusions of infected blood products (23 people). The four patients who received organs from a single donor developed West Nile virus illnesses. Three of these people develop encephalitis; one died and two recovered. The fourth person developed West Nile fever and recovered. The organ donor became infected from receiving an infectious unit of blood. For 23 people who had transfusions taken from 16 donors, transfused blood products were identified as the source of infection.

## **Intrauterine WNV Infection**

In 2002, newly recognized mechanisms of person-to-person WNV transmission were described, including possible transmission from mother to infant through breast milk. WNV was also associated with intrauterine infection - transplacental WNV transmission. The first case was confirmed by presence of WNV specific IgM antibodies in the mother and infant. Intrauterine infections with Japanese encephalitis and dengue, two mosquito-borne flaviviruses closely related to WNV, have been associated with spontaneous abortion and severe dengue fever in the infant, respectively. The single case reported in 2002 that demonstrated intrauterine WNV infection in an infant who had evidence of congenital abnormalities, does not prove a causal relation between such an infection and these abnormalities.

Pregnant women should take precautions to reduce their risk for WNV and other arboviral infections by avoiding mosquito bites and by using protective clothing and repellents.

## **Human Surveillance –2002 (data from MMWR – Vol 51.No.50)**

In 2002, human cases were reported from 619 counties in 37 states and DC. Illness onset dates ranged from June 10 to November 4. The epidemic peak of WNME cases occurred during the week ending August 24. The epidemic peak of WNME cases occurred 1 week earlier in southern states than in northern states. For all reported human cases, the median age of infected persons was 55 years (range 1 month – 99 years).

## **Polio-Like Symptoms with West Nile**

For some years, it has been known that West Nile virus can cause polio-like symptoms in monkeys, horses, and birds. These important symptoms in humans received little scientific attention in the past. New findings provide further indication that patients with West Nile virus can experience polio-like symptoms or severe muscle weakness, acute paralysis and impaired breathing. To investigate a possible West Nile infection the doctors are urged to re-examine the cases of any patients who have had any of four

symptoms believed to be caused by WNV. The 4 symptoms are; asymmetrical muscle weakness, absence or decrease in deep tendon reflexes, absence or decrease in bowel or bladder function and respiratory muscle weakness. The findings indicate that the physicians dealing with patients suffering from sever muscle weakness or paralysis should rule out the mosquito-borne illness as a possible cause before beginning treatment for conditions that cause paralysis, including stroke and Guillain-Barre. However, it should be noted that there is some controversy regarding the relationship between West Nile disease and the aforementioned symptoms.