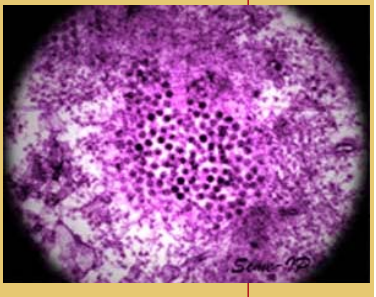
West Nile Virus

By RICHA VARMA

It was the summer of 1999 in New York. Hot, busy, touristy. Yet, it was anything but normal when people started showing up at doctors' offices and emergency rooms with fever and swelling of the brain. Physicians and political leaders were alarmed. Could this be a bioterrorist attack? Tissue samples were flown to the Centers for Disease Control and Prevention in Fort Collins, Colorado, which soon identified the cause as West Nile Virus, not an obvious diagnosis since it had never appeared in North America before. In the minds of Americans, this was an exotic disease that infected people oceans away. Yet, it only took one infected mosquito to hop a ride on an airplane for it to spread to the United States.



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While the virus' appearance was a surprise, it is now a predictable part of American life.

"The rapid spread of the West Nile Virus is a perfect example of the threat of emerging infections and globalizing disease. Improving our capacity to respond to this virus has improved our preparedness for the next threat, which may be even more dangerous," says Emily Zielinski-Gutierrez, a behavioral scientist at the Centers for Disease Control and Prevention (www.cdc.gov).

The West Nile Virus was discovered in Uganda in 1937, and is today commonly found in Africa, Europe, West Asia and the Middle East. As of now, there are no prevalent cases of the West Nile Virus in India.

In its first year in the United States, the disease caused seven deaths among more than 60 confirmed cases, a figure that has gone up to 900 deaths and 237,000 cases since then. From January to October this year, the United States reported a total of 2,511 new cases of the human West Nile Virus and 64 of those people have died.

Since 1999, the West Nile Virus has been reported from all U.S. states, except Hawaii and Alaska.

The virus is transmitted when a female mosquito bites an infected bird, which carries the virus in its salivary gland, and then infects other birds and mammals, including humans. People who contract the disease usually experience only mild complaints like fever, headache and swollen lymph glands. But the most dangerous manifestations of the infection are West Nile encephalitis and West Nile meningitis—diseases that affect the nervous system. While encephalitis is inflammation of the brain, meningitis is an inflammation of the membrane around the brain and the spinal cord.

The easiest way to prevent the disease is to prevent mosquito bites through simple measures like using repellents and wearing long-sleeved clothing.

The West Nile Virus is now recognized as a seasonal epidemic in North America that shoots up in summer and continues in the fall. In several southern regions of the United States, where temperatures are milder, the virus can be transmitted throughout the year. "We do anticipate that the virus will settle in over the long term….We've had the West Nile virus in the U.S. for less than 10 years; in terms of ecology, this is a very short period and we have a great deal to learn, still," Zielinski-Gutierrez says.