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Popular Article

West Nile Virus disease

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West Nile virus is the most cause of mosquito-borne disease in world. It is most commonly spread to people by the bite of an infected mosquito. There are no vaccines to prevent or medications to treat WNV in people. Most people infected with WNV do not feel sick. About 1 in 5 people who are infected develop a fever and other symptoms. About 1 out of 150 infected people develop a serious, sometimes fatal, illness. West Nile Virus (WNV) can cause neurological disease and death in people. WNV is commonly found in Africa, Europe, the Middle East, North America and West Asia. WNV is involving transmission between birds and mosquitoes. Humans, horses and other mammals can be infected.

Etiology

West Nile Virus (WNV) from the *flavivirus* genus and belongs to the Japanese encephalitis antigenic complex of the family *Flaviviridae*.

Transmission

West Nile virus is most commonly spread to people by the bite of an infected mosquito. Mosquitoes become infected when they feed on infected birds. Infected mosquitoes then spread to people and other animals by biting them. The virus may also be transmitted through contact with other infected animals, their blood, or other tissues. A very few cases of human infections have occurred through organ transplant, blood transfusions and breast milk. There is one reported case of trans placental transmission.

Symptoms in human

- No any symptoms in most people.
- Illness in some people like fever, headache, body aches, joint pains, vomiting, diarrhea, or rash. Most people with this type of West Nile virus disease recover completely, but fatigue and weakness can last for weeks or months.
- Serious symptoms in some people, which includes high fever, headache, neck stiffness, stupor,

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disorientation, coma, tremors, convulsions, muscle weakness, vision loss, paralysis, encephalitis or meningitis.

- Recovery from severe illness might take several weeks or months. Some effects to the central nervous system might be permanent.

Symptoms in animals

Loss of appetite, depression, stumbling, muscle twitching, partial paralysis, impaired vision, head pressing, teeth grinding, aimless wandering, convulsions, circling, and an inability to swallow. Weakness, usually in the hind limbs, is sometimes followed by paralysis. Coma and death may occur.

Diagnosis:

- IgG antibody sero-conversion ELISA test
- Neutralization assays
- Viral detection by reverse transcription polymerase chain reaction (RT-PCR) assay
- Virus isolation by cell culture

Treatment:

Treatment is involving hospitalization, intravenous fluids, respiratory support, and prevention of secondary infections. No vaccine is available for humans.

Prevention and Control:

- For prevention of WNV infection control mosquito populations.
- Horses should be protected from exposure to mosquitoes.
- People should avoid exposure to mosquitoes, use insect screens and insect repellents, and limit places for mosquitoes to breed.
- There is a vaccine for horses. In areas where the disease is common, vaccination of horses is considered to be an effective control measure.
- Surveillance programme in wild or sentinel birds allow the competent authorities to take appropriate measures to protect animals and people.
- Professionals from government departments or mosquito control districts develop mosquito control plans, perform tasks to control larvae and adult mosquitoes, and evaluate the effectiveness of actions taken.

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