West Nile Encephalitis

West Nile encephalitis (WNE) is a mosquito-borne zoonotic viral disease that causes an inflammation of the brain tissue. WNE was first detected in the United States in 1999 and is now endemic in 48 of the 50 states. WNE is a zoonotic disease. It affects birds, horses, and humans.

Transmission

Migrating birds play a key role in spreading the disease because they act as a reservoir host. Mosquitoes acquire the WNE virus from birds and pass it on to other birds, animals, and people. Currently there is no documentation of the virus passing directly from infected horses to uninfected horses.

Clinical Symptoms

The incubation period ranges from 3 to 14 days. Symptoms seen in horses are:

- Ataxia
- Depression and apprehension
- Weakness of limbs
- Partial paralysis; muscle twitching
- Death

These symptoms are similar to those of rabies in horses. An infected horse does not have to be euthanized; two of every three horses infected will survive. Treatment is usually symptomatic and may lead to euthanasia if clinical signs are severe.

Prevention

There are several ways to protect animals and people from WNE:

- Decrease exposure to mosquitoes by removing stagnant water where they breed.
- Clean livestock watering troughs monthly.
- Use a mosquito repellent that contains DEET.
- Wear long-sleeved shirts and long pants.
- Do not harvest birds that exhibit erratic behavior.
- Wear rubber gloves while cleaning and handling birds and meat.
- Thoroughly cook meat.
- Vaccinate horses against WNE.
There are several preventive vaccines for use in horses. A veterinarian can determine which is best for each situation. There are no specific treatments for WNE at this time.

Control

State public health agencies are involved in the detection of WNE. The State Response Guide calls for minimizing human illness through public education, early diagnosis of the disease, vector control, tracking viral activity through seasonal variations, identifying locations where the disease poses the greatest threat, and identifying key mosquito species that transmit the disease.

Resources


Questions

1. Explain the measures taken to prevent West Nile encephalitis in horses.
2. Describe the similarity between rabies and West Nile encephalitis in horses.