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WEST NILE VIRUS-FACTS AND FIGURES

In 1974 in the Karoo, West Nile Virus (WNV) caused one of the largest outbreaks ever recorded in humans, affecting 10's of 1000's of people. It was first diagnosed in horses in America in 1999. It is an arbovirus within the flaviviridae genus. There is evidence that it is widely distributed in horses in South Africa. WNV can cause severe neurological disease and death in horses. It is a zoonosis, i.e. it can affect man too. This article discusses the disease and control methods available.

WHY SHOULD WE BE CONCERNED ABOUT WNV?

WNV can cause severe neurological disease and death in horses. Many infections last only a short time and only mild signs are seen. Horses usually make a full recovery, but in a small percentage it can be deadly. In immuno naïve horses, with neurological disease, 35-40% of horses can die from WNV. Survivors can have neurological incidents for up to 18 months after becoming infected. Rarely WNV can cause liver dysfunction, myocarditis and pancreatitis.



A horse with WNV with severe neurological signs of hind limb paralysis

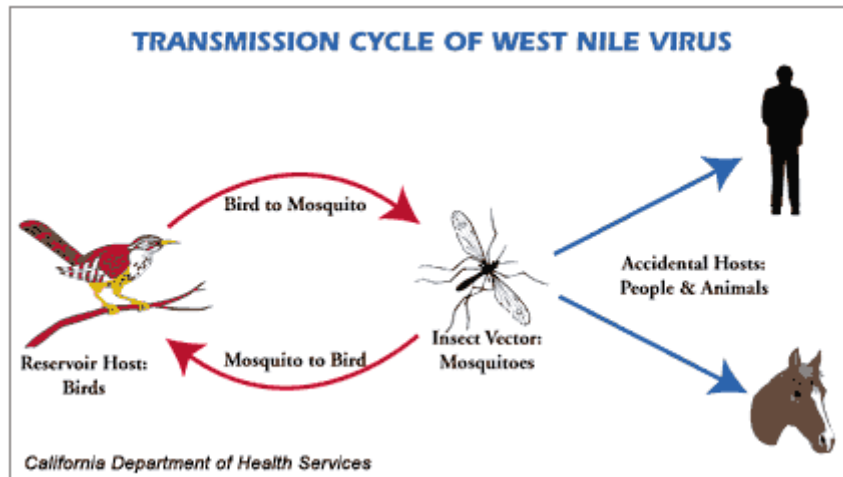
SOME SCIENCE

A recent study of thoroughbred horses in South Africa showed wide spread exposure of horses to WNV. 11% of yearlings and 75% of their dams showed serological evidence (the production of antibodies against the virus) of having met WNV of the non neurological type. There are two genotypes, but it has now also been shown that the neurological form can exist in both genotypes.

Between March 2007 and June 2008 blood or brain was collected from South African horses who had had a fever or neurological signs. 21.8% of horses were confirmed as having WNV, with 71% of these horses dying. All cases were identified in late summer/autumn.

HOW IS THE DISEASE SPREAD?

The virus is transmitted by mosquitoes with birds acting as the reservoir hosts.



The virus-host-mosquito interactions are variable and so result in variable virulence ('strength' or 'severity') of the virus, so no predictions can be made regarding future trends. Horses and humans are dead end hosts, i.e. it cannot spread any further. The virus cannot spread horse to horse. Indirect transmission via the horse (mosquito bites the infected horse and picks up the virus, to then go and bite another horse) is very unlikely as the horse has very low levels of circulating virus in their blood for a very short period of time after being infected. THE BIRD IS THE SOURCE OF INFECTION, THE RESERVOIR HOST.

HOW DOES WNV AFFECT THE HORSE?

WNV causes an encephalitis- inflammation of the brain, spinal cord and its surrounding fluid and protective membranes.

Signs may include:

Weakness of forelimbs, hindlimbs or both

Collapse and recumbency

Ataxia/ inco-ordination

Muscle tremors and twitching

Altered mental attitude/behaviour

Hypersensitivity

Narcolepsy

Seizures

Blindness

Cranial nerve deficits (facial, tongue weakness, cant swallow)

Fever

Anorexia

Death

Secondary complications, once recumbent, often can lead to humane euthanasia. These complications include pleuropneumonia, colitis and laminitis.

Other diseases to consider include:

Eastern encephalosis

African horse sickness

Rabies

Botulism

Tetanus

Herpes

Other causes of spinal ataxia

TREATMENT

There is no specific treatment, it is symptomatic only, including intravenous fluids, drenching, bodily support etc.



PREVENTION

1. VACCINATION

A licensed vaccine can now be obtained in South Africa, West Nile Proteq. 2 doses are given 4-6 weeks apart, followed by annual or bi annual boosters (frequency depending upon relevant risk). The boosters should be given before the 'Mozzie' season. If you are keen to vaccinate your horses or discuss further, then please do not hesitate to call one of our vets on 0215523450 to discuss.

2. DECREASE MOSQUITO EXPOSURE

Make sure your horses are stabled at dusk and dawn. Use fans in the stables, avoid lights on at night in the stables. Try to decrease the number of birds within the stable yard and monitor the amount of dead birds found on the property. Avoid shallow stagnant water, clean field water troughs regularly. Use plenty of mosquito repellent. Use Mosquito Dunks- these are tablets containing a bacterium that produces a protein that is larvicidal, thus reducing midge numbers. These are placed in water troughs and drinking buckets and are completely harmless to the horses but kill the midge larvae. They are available from the states through Ebay and Amazon.

If you have any queries, please do not hesitate to contact the practice on 0215523450.