

New Mossie Menace

Mystery virus has horse industry on high alert

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The tragic and destructive weather events over the past year have brought more than their fair share of heartache to so many across the country.

Continual rain has meant that flood waters are taking a little longer to recede in some areas – and with that has come an explosion in mosquito numbers and a dangerous increase in insect-borne viral diseases (arboviruses).

Of particular concern is a suspected new Equine arbovirus, which initially presents with similar symptoms to Queensland's killer Hendra virus.

First reported in early February, the virus has so far been implicated in horses from NSW, South Australia and Victoria.

Queensland is yet to confirm any cases, but Biosecurity Queensland says the state was also finding similar issues and more information was being compiled at the start of June.

Vets are testing for a group of viruses known called 'flaviviruses' that include Kunjin Virus (a subtype of the West Nile virus) and Murray Valley Encephalitis virus (MVEV). Laboratory results also indicate that recent exposure to Ross River virus had also occurred in some horses. In South Australia, horses with neurological symptoms have been found along the River Murray with similar cases being reported in New South Wales and Victoria.

The main symptoms are neurological and present as ataxia (wobbly with unusual gait), muscle tremors and being extra sensitive/reactive to the touch.

An update from Biosecurity South Australia (one of the worst affected areas at the end of May), reports that a total of 144 suspected cases have had blood samples submitted for testing since the middle of February.

Of these, 82 have tested positive and 56 negative to flavivirus on serological tests. The majority of positive flavivirus serology is due to Kunjin Virus with a few cases of MVEV. Laboratory results also indicate that recent exposure to Ross River virus has also occurred in some

horses. Victoria's Acting Chief Veterinary Officer, Dr Andrew Cameron said DPI investigated a number of cases of unexplained neurological disease in horses in that state, but urged horse-owners to remain calm. "The horse is usually a 'dead-end' host for mosquito-borne arbovirus infections," Dr Cameron said. "There is no risk to humans from direct contact with horses and it is highly likely that the great majority of horses infected with arbovirus will develop no clinical symptoms." Although presenting with similar clinical signs at the onset of disease, the deadly Hendra virus has quickly been ruled out in all cases.

"This is clearly not Hendra virus we are dealing with," Dr Cameron explained. "There is no association with bat populations and the symptoms and, course of illness, in affected horses are unlike Hendra virus infection which has also been ruled out by precautionary testing." Although hundreds of cases have been reported across NSW, Victoria and South Australia, the majority of afflicted horses had gradually recovered during a one to three-week period.

Sadly though, the virus had proved fatal for around 10% to 15% of cases – some of which were euthanased for welfare reasons.

SIGNS & SYMPTOMS

There appears to be two distinct syndromes to the virus – muscle and joint pain and neurological signs.

Common clinical signs may include (but are certainly not limited to):

- Depression
- Mild colic
- Increased sensitivity to touch and sound
- Facial paralysis (droop) and trouble eating
- Stiff or exaggerated gait – particularly in the forelimbs
- Weakness in hindquarters
- Loss of coordination, ataxia and/or recumbency
- Tremors
- Weakness
- Lethargy



This horse is suffering from the mystery virus. He was down for two weeks & had to be helped to stand upright with the help of the sling seen here. He underwent treatment at the Adelaide Plains Equine Clinic where he underwent a slow but full recovery.

MINIMISING THE RISK

Mosquitos are a known menace to our equine friends and horse owners should already be well-versed in minimising bites during the warmer weather.

But, with the issue of protection now becoming a much higher priority, perhaps it is worth revisiting some of the suggested measures to minimise the risk of mosquito bites.

- Stable your horse between dusk and dawn if possible
- Use rugs and fly veils to cover up at all times
- Invest in a stock of good quality, long lasting insect repellent – there are some excellent products on the market for horses
- Get rid of stagnant water or any area that could become a mosquito breeding ground
- In the warmer weather, a fan can be directed onto the horse to repel flying insects
- Treat yards and stables with a suitable and safe outdoor insecticide to help keep mosquito numbers down

Fortunately, as we move towards the colder part of the year, the risk of mosquito bites is decreasing, with the incidence of mosquito-borne arbovirus following suit.

HENDRA VIRUS

It is around this time of year that the deadly outbreaks of Hendra virus

(HeV) have occurred in Queensland, so it is timely for horse owners to revisit their knowledge of the disease, as well as compare it to this latest threat.

Hendra virus is thought to be spread by flying foxes – either through direct contact with bodily fluids (placental fluids, respiratory excretions urine or faeces).

Common clinical signs:

- acute onset of illness
- increased body temperature
- increased heart rate
- discomfort and/or weight shifting between legs
- depression
- rapid deterioration.

Respiratory signs:

- pulmonary oedema and congestion,
- respiratory distress,
- terminal nasal discharge (can be initially clear progressing to white froth and/or blood stained froth)

Neurological signs:

- 'wobbly gait' progressing to ataxia
- altered consciousness - apparent loss of vision in one or both eyes, aimless walking in a dazed state
- head tilting, circling
- muscle twitching - myoclonic spasms have been seen in acutely ill and recovered horses
- urinary incontinence

- recumbency with inability to rise.
- terminal weakness, ataxia and collapse.

Other observations include:

- previous unexplained horse deaths
- facial oedema
- facial paralysis and/or a locked jaw
- spasms of the jaw, involuntary chomping
- muscle trembling
- altered gait, high stepping
- anorexia
- congestion of oral mucous membranes
- acute onset and a high case fatality rate within 48 hours
- colic-like symptoms in some cases (generally quiet abdominal sounds on auscultation of the abdomen in pre-terminal cases)
- straining with difficulty passing faeces or urine

NB: A proximity to flying foxes would support suspect cases of Hendra virus – but be aware that a lack of bat sightings does not rule out a confirmed case.

From the above, it can clearly be seen that many signs are similar to the confirmed cases of 'flavovirus' infections seen in recent months.

A simple blood test will rule out Hendra virus in the first instance, but the rapid onset and increasing seriousness of Hendra virus is soon detected and differentiated from other viral infections.

There are reports that a new vaccine against the deadly zoonotic disease (transferable between species) could be available as early as 2012.

The CSIRO has made successful progress in developing an experimental vaccine to combat the virus, with trials on horses so far showing that it prevents the infection of Hendra virus.

The virus has claimed a total of four lives in 14 known outbreaks in Queensland (one in NSW) and the welcome release of a vaccine now depends on how further development and trials go.

In the meantime, horse owners are reminded to familiarise themselves with essential quarantine techniques and preventative guidelines.

BIOSECURITY GUIDELINES

If we've learnt nothing else from the past few years of devastation in the equine industry – we've learnt that vigilance and awareness are paramount.

With the threat of a new viral disease comes the memory of past lessons and to its credit, Australia is largely well-versed in effective Biosecurity measures.

First and foremost – if you suspect something is wrong, call your vet immediately. Don't wait and see what develops.

While you are waiting for the vet to arrive, start thinking about biosecurity measures.



Here is the "mystery virus" gelding after nearly two months of treatment. Note his 'bed sores' from constantly lying down or trying to lie down.

- isolate the patient.
- reduce number of personnel and movements in the area.
- take note of what utensils have been touched or used by the animal and remove or disinfect them.
- take note of your own clothes, footwear and bodily contact with the patient and remember to disinfect or shower and change before making contact with other animals or people.
- Reduce the risk of contamination to other areas of your property through soil on tyres/footwear etc. Strict property and stock identification guidelines were introduced in Queensland following the devastating EI outbreak in 2007. It is recommended that anyone who owns a horse registers the property. In Queensland, it is the law.

"There is a legal requirement for Queensland horse owners to have their property registered with Biosecurity Queensland. A \$4000

fine could legally be imposed if horse owners fail to do so," stated a Biosecurity Qld spokesperson.

"Should a positive result of any notifiable disease break out, we can map that block and within minutes have a list of owners, phone numbers and numbers of susceptible livestock.

"In May last year, Hendra virus was confirmed on the Sunshine Coast and within five minutes of positive result, we had mapped the property and found any susceptible animals in the neighbouring properties. We can't notify owners if we don't know they are there."

The Queensland Stock Act (1915) requires that anyone with one horse be registered - it's free and it assists in tracking the movements of disease.

Queensland owners can register their animals by visiting www.dpi.qld.gov.au and clicking on property/place registration in the services box.

If you are agisting on someone else's land, you will require either a letter from the owner stating they have permission to run horses on their property or Biosecurity Queensland can provide an agistment letter for them to sign.

FURTHER INFORMATION

More information on the new viral threat is likely to come to hand as research continues. Situation updates and more local information is available on each state's Primary Industries or Biosecurity department website.

REFERENCES

Australian Veterinary Association
Biosecurity Queensland
DPI Victoria, SA & NSW
Animal Health Australia
Australian Horse Welfare & Rescue