

Perspective on Hendra Virus

by Ron Glanville, BSc, BVSc, MVS

It's Friday afternoon and we're sweating on another Hendra virus rule-out. These things always seem to happen on Friday afternoon, and this one sounds like it could definitely be Hendra. The result comes in and, once again, like it is 99 times out of 100, it's negative. Thank goodness! Ninety-nine out of 100--yes, those are the odds. At Biosecurity Queensland we currently test samples from around 200 suspect Hendra cases per year, and over the past few years we've only had two positive new cases each year. This is out of a horse population in the at-risk areas that has been estimated at about 200,000.

If Hendra infection in horses is very rare, then why is there so much concern? In terms of diseases that kill horses, it is way down the list, and similarly for diseases that kill people.

I suppose the answer lies in the fact that statistics can only tell part of the story. Many people in Queensland have a very close relationship with their horse. There is no other disease I'm aware of that you can catch from your horse and it can kill you (aside from rabies, and Australia is currently rabies-free); Hendra's case fatality rate in people to date is higher than 50%.

It can also strike virtually anywhere you find fruit bats (including parts of New South Wales and Victoria), and it's pretty hard to pick a Hendra virus case from a range of other horse ailments.

Finally, the people most at risk are those you rely on to care for your horse when it is sick. Most cases in people have been veterinarians or people assisting veterinarians.

The most recent fatality, Alister Rodgers, BVSc, was a colleague I knew personally, having worked with him in the late 1980s on tuberculosis eradication in North West Queensland. Having two such colleagues tragically pass away over the course of 12 months has really been a wake-up call for the veterinary profession in Queensland. Reactions have varied from wanting to have nothing to do with horses, to a "call to action" in terms of enhanced education and research.

So what can we do about Hendra? An enormous amount of work has gone into Hendra research since the original 1994 outbreak, and there is more to do. Key areas being worked on include gaining a better understanding of how the virus operates in bat populations, how horses get the virus, and development of a horse vaccine.

Despite this, it might surprise people that we actually know enough now to prevent human infection. However, this requires a culture change on the part of the people at risk.

All people who have become infected to date have caught the disease from infected horses *before* the disease was diagnosed in those horses. So, the biggest risk period is when people are handling sick horses, whether or not they suspect Hendra virus infection. And remember, the symptoms of Hendra virus in horses are so varied that if you try to pick a Hendra case based on clinical signs, you are likely to get it wrong. That is why we need changes in our basic routines and practices around horses.

Remember when AIDS became a big issue? Doctors and dentists starting wearing masks routinely; footballers were ordered off the ground if they were bleeding. Well, a similar culture change is required to keep people from catching Hendra virus.

We know that Hendra virus is not easy to catch; that is, high levels of exposure to infectious material seem to be required. So if vets start using basic protective equipment routinely, and others who handle horses also carry basic equipment and wear it if a horse appears sick, then Hendra infection in people should largely disappear.

As for horses, a vaccine is being worked on as a high priority. However, it is still a long way off, and there are question marks about how many people will use it. So it may not remove the risks entirely, especially for vets. In the meantime, there are practical measures people can take to reduce the effective contact between horses and infectious material from fruit bats.

Learn more about this intriguing, deadly disease on the Biosecurity Queensland Web site, <http://www.biosecurity.qld.gov.au>.