Paralytic Herpesvirus

By James Wood of the Centre for Preventive Medecine at the Animal Health Trust in Cambridge.

Several different types of Equine Herpesvirus (EHV) exist. Whereas one type (EHV-4) only causes respiratory disease, another, EHV-1, also causes abortion and paralysis. Of these syndromes, paralysis is the most unusual manifestation of infection within this virus. However, when paralysis does occur, it is not uncommon for the infection to cause several cases of disease on the same premises; very careful diagnosis and control measures are thus indicated if a case is suspected.

Clinical signs

The most common sign that horses show is merely to lose hind limb co-ordination; this may be accompanied by other signs associated with damage to the spinal cord, such as urinary dribbling and a cocked tail. The signs in mildly affected horses will not be apparent at rest but can be demonstrated by making the animal turn in tight circles. More severely affected animals become completely paralysed and are unable to stand. These animals are at particular risk from developing pressure sores and nerve damage from the horse lying on one spot for long periods of time.

The signs usually have a fairly rapid onset over a period of not more than 24 hours, rather than a gradual progression. Affected horses do not usually show signs consistent with pain although, if severely affected, they may be distressed by their inability to control balance and co-ordination.

Diagnosis

Diagnosis of paralytic EHV-1 may be made by your veterinary surgeon after appearance of typical clinical signs, but can only be confirmed by blood tests in a specialised equine virologies laboratory. The clinical signs in individual animals can be similar to those seen in "wobblers" (horses with cervical spondylopathy). It is particularly important to make a definite diagnosis of EHV-1 when an outbreak of neurological disease occurs. Other causes of outbreaks of neurological disease include lead toxicity, rye grass staggers and botulism, although clinical signs of these syndromes are not identical.

Horse suffering from EHV Paralysis
Photo courtesy Animal Health Trust

The Animal Health Trust Equine Virology Unit, an OIE* reference laboratory for Equine Rhinopneumonitis (herpesvirus), is the only one in the UK that routinely runs the appropriate tests and can provide the necessary specialist interpretation. Samples are regularly received for testing from countries around the world and tests are run several times every week.

Prognosis

If horses cannot stand for more than 24 hours, they usually require humane destruction. Otherwise, they may, given sufficient time and careful nursing, make good recoveries. While horses are recumbent, it is important that they are turned at least every four hours in order to prevent secondary damage. If possible, the animals should be helped to stand and judicious use of slings can be invaluable. Long term athletic performance is likely to be impaired, particularly if the animals show severe signs.

Control

It appears that only certain strains of EHV-1 are capable of inducing paralysis and that some horses are more susceptible. Because outbreaks of paralytic disease occur, it is vital that immediate control procedures are implemented when a single case if identified. During outbreaks, some horses may remain healthy, despite being infected with the virus, but can still pass the virus onto other healthy animals or groups if they are not quarantined.

Most animals affected with paralytic EHV-1 are older (usually 10+ years) and most outbreaks of the disease occur in animals at stud. Considerable care must be taken with animals showing neurological signs on a stud because the causative virus is also a potent cause of abortion of pregnant mares. Also, experience of dealing with outbreaks on studs suggest that mares that have recently foaled may also be particularly susceptible to paralytic disease if they become infected.

However, cases and sometimes outbreaks of this unpleasant disease do sometimes occur in performance horses and equal care must be taken in these situations.

Control procedures are based upon quarantine, laboratory testing and isolation of horses, based on the results from the testing. If a case is suspected, movement on and off the premises should be halted until the diagnosis is confirmed or excluded. Affected animals should be isolated from others in-contact and, once diagnosis has been confirmed, all animals on the premises should be serologically tested to evaluate the degree of spread of the infection. Once this is known, it may be possible to segregate groups of uninfected animals from those in which the virus is circulating. In outbreaks that have occurred on studs, providing care is take to prevent the spread of infection via handlers and their clothes, it has been found that as much as a thin hedge can be effective in blocking spread of the infection between segregated groups.

Animals in contact to cases should be rested from strenuous exercise as it is thought that tress may trigger the disease in a silently infected animal. All affected and in-contact animals must be quarantined until tests demonstrate that infection is no longer being transmitted.

Stringent controls are justified by the horrific nature of this disease and the fact that, in countries where less care is taken with control procedures, outbreaks frequently spread to other horses which then may unnecessarily suffer or die. A good example of this was the outbreak at the racetrack at Cagnes-sur-Mer in Southern France, in January 1994, after which horses returning to many countries caused secondary outbreaks and deaths as no measures were taken to restrict their movement. However, the two British trainers running horses there placed them in isolation on their return until they had stopped shedding the virus and no longer represented a risk to their in-contacts.

Several Codes of Practice exist for the control of Paralytic Herpesvirus, for animals on studs as well as for performance animals and these, as well as further information and advice on the control of outbreaks, can be obtained from the address below:

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