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AFRICAN HORSE SICKNESS

By M. R. GARDINER, B.S., V.M.D., Chief Veterinary Surgeon

THE viral disease, African horse sickness has become the most menacing contagious disease of equine animals since bacterial and protozoan diseases of the horse, such as glanders and dourine, have declined throughout the world.

Although it is an exotic disease as far as Australia is concerned, like foot and mouth disease and bluetongue, it is a potential threat to Australian agriculture.

Until recently African horse sickness was known only in Africa but in 1959 it was seen in Iran, West Pakistan and Afghanistan. Over the next three or four years it appeared to spread from the southern Asian centres of infection into Iraq, Syria, Turkey and the island of Cyprus, and also further eastward into India. The disease also appears in Lebanon, Jordan, Israel and the Arabian Peninsula.

As well as being close to South East Asia, northern Australia has the type of environment needed for the rapid spread of African horse sickness in other countries.

The disease is caused by a virus, which has 42 distinct strains. The nocturnal midge is the main vector for the transmission of the disease from horse to horse, but mosquitoes such as *Aedes aegypti* may also be involved. All the known insect vectors of African horse sickness are present in most parts of Australia during warm, humid months of the year.

In Africa, even where frosts kill off the insect vectors, reservoir hosts are believed to carry the infection over the winter.

Although horses are the most susceptible to the disease all equine animals can be infected, including the donkey and the mule. Dogs are the only other species which can be infected, probably by eating the flesh of horses which have died from African horse sickness.

The horse has an important role in the cattle industry of the Kimberley districts of Western Australia, which have all the factors needed to spread and maintain African horse sickness. They have a highly susceptible equine population, insect vectors, dingoes which may help spread the disease, and innumerable donkeys (more resistant than horses) to maintain a virus reservoir.

In susceptible horses the disease is rapid. An apparently normal horse may suddenly become seriously affected with a high fever and have all the signs of an acute lung infection.

The animal stands with head down between spreading forelegs, ears drooping, nostrils dilated and breathing with great...
Oedema (fluid collections) of the eyelid

Grey and white streaks of degeneration and small haemorrhages on the inner surface of the heart

difficulty. A frothy fluid flows from the nose. In most cases death follows soon after these signs develop.

The characteristic signs result from the tremendous fluid collection or oedema, in the lung. The animal literally drowns in its own serum. When the thoracic cavity is opened a thick gelatinous or clotted fluid may be found covering the surface of the lungs. There may also be thick fluid collections in the wall of the stomach. The heart is usually the organ most affected in less rapidly developing cases of African horse sickness. Such animals develop heavy fluid collections under the skin of the head and neck, especially in the shallow depressions above the eyes. The heart is covered with small haemorrhages and is streaked with grey to white areas of degeneration. The lining of the heart may be especially affected, and the heart sac filled with fluid.

Effective vaccines have been used in many countries to protect horses against African horse sickness.

ACKNOWLEDGMENT

The author wishes to thank the Onderstepoort Veterinary Research Institute, South Africa, for supplying the illustrations.
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