

HAGYARD CARE

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POTOMAC HORSE FEVER

SYMPTOMS

Potomac Horse Fever is caused by a bacteria called *Neorickettsia risticii*. It usually occurs in Kentucky between June and September. Clinical signs may include fevers of unknown origin, low white blood cell count, low platelet count, and laminitis. Infected horses do not always develop diarrhea, but may have colic, depression, anorexia, dehydration, and/or decreased manure output. Horses usually demonstrate significant elevations on immunofluorescent antibody (IFA) screen for Potomac Horse Fever (1:520—1:>5000).

TRANSMISSION OF THE ORGANISM

The life cycle of *Neorickettsia risticii* is not completely understood, but it has been speculated that bats are the primary hosts.

Cercariae (a parasite) infected with *Neorickettsia risticii* use the snail as an intermediate host. Warm weather causes the cercariae to leave the snail. Larvae of aquatic insects (May Fly, Caddis Fly, Dragon Fly etc.) ingest the cercariae. The cercariae develop into metacercariae in the insect larvae (THESE ARE INFECTIOUS TO HORSES—because they have *Neorickettsia risticii*). Horses ingest these insects accidentally and then develop clinical signs. The metacercariae are acid resistant parasites (can get into the intestine with no problems) while the cercariae will die in the horse's stomach because they cannot live in an acid environment.

An aquatic environment is not always necessary for transmission of the disease. The organism has been seen in insect larvae from places that might have moisture/water run off (i.e.: under wash stall mats).

While Potomac Horse Fever can be spread from horse to horse, it can only be done so with difficulty, as a horse would have to eat large quantities of feces from affected horses.

ONSET AND SCREENING OF DISEASE

The incubation period for Potomac Horse Fever experimentally is 10-18 days. During the incubation period, the animal's antibody (IgG— this is tested by IFA) will rise enough to see an elevated titer. However, Polymerase Chain Reaction (PCR— a form of DNA testing) testing is preferred as this method allows a faster turnaround time (usually 24 hours) and is definitive for diagnosis. PCR testing uses whole blood (collected in EDTA or heparin) and/or feces to extract, identify, and confirm the presence *Neorickettsia risticii* DNA.

TREATMENT

Neorickettsia risticii causes damage when it gets into the blood stream and migrates toward the bowel where it enters the enterocytes and colonocytes lining the mucosa of the bowel. The integrity of the bowel becomes compromised and the horse may become toxic as white blood cell counts plummet.

Early detection is key to successfully treating Potomac Horse Fever cases. If caught early the horse can be treated with intravenous tetracycline. Many horses respond to treatment within 24 hours and have a dramatic turnaround if the symptoms are caught early. Pay special attention to fevers, and make note if the horse is off their feed, dull, and depressed.

FURTHER INSIGHT

Keep barn lights off to decrease insects' attraction to these areas.

