Myxomatosis in Rabbits: Transmission, Signs, Diagnosis, Treatment, Prevention

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What is myxomatosis?

Myxomatosis is a viral infection of rabbits, caused by a member of the Poxvirus family. It is usually transmitted by insects and is usually fatal.

In the United States, myxomatosis is most commonly seen along the Pacific coast. There are several strains of the virus. The virus that is present in the Western USA is referred to as the California strain of myxoma virus and possesses characteristics that differ slightly from other strains. California strains have been known to cause over 99% mortality.

The myxoma virus was introduced into Australia in 1950 and Belgium in 1953 in an attempt to reduce the population of wild rabbits. With time, the virus became less pathogenic (less able to cause disease) and in Australia, the mortality rate dropped to approximately 25% compared to over 90% when the virus was first introduced.

How is myxomatosis spread?

Blood-sucking insects, including mosquitoes, fleas, lice, ticks, and mites, are the main method of spread. Direct transmission is possible, usually by the aerosol route. Those rabbits infected via this route usually develop nasal & eye discharges as part of the disease process. Transmission is also possible via infected hutches or enclosures. An owner may spread the virus from one rabbit to another. Similarly, animals that are congregated at rabbit shows or fairs may become infected if one of the rabbits has the disease and is shedding the virus.

What are the signs of myxomatosis?

The clinical signs of myxomatosis vary with the strain of virus involved and the species of rabbit infected. In pet rabbits, there are several forms of the disease.

Peracute form: The peracute form progresses most rapidly and may cause death within 7 days of infection, and within 48 hours of showing signs of disease. The only signs may be lethargy, swelling of the eyelids, loss of appetite, and fever.

Acute form: In the acute form, fluid accumulates under the skin, causing swellings around the head and face, including the lips, nose, and around the eyes. The swelling around the eyes gives the rabbit a sleepy appearance. Swellings of the ears may cause them to droop. The area around the anus and genitalia also appears swollen. The lesions progress rapidly, and within 24-48 hours may become severe, causing blindness. The rabbit continues to have a fever and be depressed. Most rabbits die of hemorrhage and seizures within 10 days. In a susceptible population, over 90% of rabbits may die in this stage of disease.

Chronic form: The chronic form of the disease is less common, and occurs in animals that survive the acute form of the disease. Rabbits with this form develop thick ocular (eye) discharge and swelling around the base of the ears. Nodules called “myxomas” may develop, although with infection by the California strain of virus in domestic rabbits, myxomas are seldom present in infected animals. Affected rabbits may also show respiratory signs including difficulty breathing. Most animals die of the disease within two weeks. Rabbits that survive may shed the virus up to 30 days. Most rabbits who recover from myxomatosis are immune to re-infection for the rest of their lives.

How is myxomatosis diagnosed?

The diagnosis of myxomatosis is made through observing the clinical signs, biopsies of the lesions, and virus isolation. In many cases, because the rabbit dies suddenly, the diagnosis is made post-mortem (after death).

How is myxomatosis treated?

There is no effective treatment for myxomatosis. Affected rabbits may be kept more comfortable through the use of supportive fluids.

How is myxomatosis prevented?

The best way to prevent myxomatosis is to control external parasites such as mosquitoes, fleas, and mites. Screening should be used to protect outside animals. Rabbits should be kept indoors, if possible, especially during the peak insect seasons of the year, and at dawn and dusk, when many insects, such as mosquitoes, are more active.

If a rabbit is suspected of having myxomatosis, the animal should be isolated and mosquito netting placed over the cage. Extreme care should be taken to prevent mechanical transmission to other rabbits through dishes, contamination of clothing, or other means.

The myxoma virus is resistant to inactivation under most environmental conditions and is not easily destroyed by disinfectants.
If a rabbit is exposed to an infected animal, she should be quarantined for a period of 14 days. During the quarantine, she should be handled as though she were infected and cared for as indicated above. After 14 days, if the rabbit does not become sick or develop a fever greater than 102.5°F, it can be assumed she is not infected with the myxoma virus.

If myxomatosis occurs in an area, rabbits should not be taken to fairs, rabbit shows or anywhere these animals are congregated.

A vaccine has been developed (an attenuated modified-live virus) against myxomatosis, but is not available in the United States.