

## **Infectious Diseases in Rabbits**

This article concentrates on four of the main infectious diseases of rabbits; Myxomatosis, Viral Haemorrhagic Disease, Encephalitozoon cuniculi and Snuffles. Myxomatosis and Viral Haemorrhagic Disease are both caused by viruses and are invariably fatal. It is therefore vital to prevent these diseases as once signs develop it is already too late. Encephalitozoon (E.Cuniculi) is caused by a microsporidian parasite. It is potentially less severe than the first two diseases however can still be serious if left untreated and a wide variety of signs can result from this disease. Snuffles is a disease of the upper respiratory tract of rabbits caused by bacteria. It is not usually severe, however it can become a chronic (long term) infection and therefore early treatment is required.

### **Viral Haemorrhagic Disease (VHD)**

#### **What is VHD?**

Viral Haemorrhagic Disease affects both wild and pet rabbits and is caused by a Calicivirus. Your rabbit may become infected via direct contact with the oral or nasal secretions of another rabbit. The virus can also be carried on people's clothes and can reside within contaminated hutches. VHD may also be spread by insects such as fleas and blowflies.

#### **Clinical signs**

The clinical signs can vary depending on the severity of the disease. Your rabbit may be suffering from a fever causing him/her to appear quieter than usual, depressed or collapsed. They may also have a reduced interest in food. Their breathing may be heavier than usual and some rabbits may bleed from their nose, mouth or behind. Rabbits usually die within twelve hours of having become infected or in the more severe cases can be found dead only within a few hours of behaving normally and seeming to be healthy.

#### **Treatment**

Unfortunately there is no treatment for this condition and rabbits usually die within twelve to thirty six hours but the good news is the disease is entirely preventable by vaccination.

#### **Prevention**

Once yearly vaccination can begin from 8-10 weeks of age and can prevent your rabbit from contracting VHD. A number of products now exist. The old VHD vaccination normally needs to be given two weeks before or after your rabbit has had their Myxomatosis vaccination however a new

combined vaccination has recently been developed called, Nobivac Myxo-RHD which is more convenient for you as only one trip to the vet is required.

## **Myxomatosis**

### **What is Myxomatosis?**

Myxomatosis is a virus which is common within the wild rabbit population. It is transmitted to our pet rabbits via direct contact with wild rabbits or by transmission in insects, such as the flea and Cheyletiella, the rabbit mite. The rabbit flea is the most common form of transmission and takes advantage of the doe's reproductive cycle. It infects the doe and her offspring as soon as they are born. This is the reason young rabbits are most frequently affected.

### **Clinical signs**

We often see rabbits in a life threatening condition so it is important to be aware of the clinical signs that may alert you to the disease. The first sign may be a thickening of the skin surrounding the eyelids with a yellow, smelly ocular discharge. Within a few days your rabbit may find it difficult to open their eyes because of the swelling that results. Lesions of the skin, nose, lips, ears and external genitalia may also develop and your rabbit may have difficulty eating and drinking. Pneumonia can occur as a result of secondary bacterial infection which may cause your rabbit to have difficulty breathing. Young rabbits are particularly susceptible to Myxomatosis and die more rapidly.

### **Treatment**

There is no specific treatment for Myxomatosis and unfortunately the disease is usually fatal. Supportive therapy including; pain relief, nutrition support, antibiotics, anti-inflammatories and fluid therapy may be administered, giving the rabbit a chance to try and fight the infection. Unfortunately the prognosis still remains poor and rabbits rarely respond.

### **Prevention**

Vaccination can begin from 6 weeks of age and Nobivac Myxo is typically used although, as mentioned above, the new combined vaccination for VHD and Myxomatosis may now be available in some practices, allowing both diseases to be vaccinated against at the same time. If this is not possible the single vaccination can be given two weeks after or before the vaccination for VHD.

## **Encephalitozoon (E. Cuniculi)**

### **What is E. Cuniculi?**

E.Cuniculi is a very small microsporidian parasite which is common within our domestic rabbit population. Rabbits usually become infected from their mother at a young age by ingesting spores shed in their mother's urine.

### **Clinical signs**

The symptoms associated with this condition depend on the overall health of the rabbit and ability to fight the infection. A large number of rabbits will be infected and not show any signs of disease. The most frequently observed clinical signs are those associated with the nervous system. A head tilt, difficulty walking, circling, nodding, rolling or swaying are caused by your rabbit feeling dizzy. Less

commonly the disease can result in abnormalities within the eye, such as cataracts, which can impair your rabbit's vision.

The parasite can also affect the kidneys. Kidney failure can cause your rabbit to be less active than normal, lose weight and have a reduced interest in their food. They may urinate more frequently as their kidneys can no longer regulate their water intake. It is important to be aware of the signs described above as early detection of the disease can increase the likelihood of your rabbit responding to treatment.

### **Can I become infected?**

It is yet to be confirmed that this infectious parasite can be transmitted to humans, however we need to be aware that it is a possibility. Infection in healthy people is rare, however the young, elderly and immunocompromised may be at an increased risk. It is recommended that you wash your hands after touching an infected rabbit, especially before eating or drinking.

### **Diagnosis**

Diagnosis of the condition is difficult. The tests available can only be used to rule out the disease and not confirm a diagnosis. A positive result only suggests your rabbit was exposed to the disease at some point and not necessarily that they are currently infected. Unfortunately a post-mortem is the only way of directly identifying the parasite because it hides within the rabbits own cells.

### **Treatment**

Fenbendazole (Panacur) is an anti-parasitic drug which is used to treat E.Cuniculi. This drug needs to be administered once daily for 28 days and should be coupled with frequent disinfectant of the rabbit hutch, food and water bowls. All rabbits in contact with the infected rabbit should be treated in order to prevent them from becoming infected. Unfortunately if the disease is severe it may only help to reduce the clinical signs and not eliminate the infection completely.

Anti-inflammatories such as steroids and non-steroidal anti-inflammatories can be given to help during the initial stages of the disease. Your vet may also prescribe antibiotics to prevent secondary infections.

If your rabbit is dehydrated then fluids may be given and syringe feeding may be necessary to kick start your rabbit's appetite if they have not been eating for a while.

Unfortunately, if the disease is severe then treatment may not improve your rabbit's condition and euthanasia may be the only option.

Treatment of the cataracts may be possible by removing the lens in the eye, however it depends how advanced the disease is and removing the eye may be the best option.

### **Prevention**

Unfortunately it is not yet possible to prevent E.Cuniculi however; good hygiene and regular disinfecting of the rabbit's hutch may help to prevent urine contamination and the spread of the disease. Routine dosing with Panacur mentioned above may be advised by your vet.

## **Snuffles (*Pasteurella multocida*)**

### **What is Snuffles?**

Snuffles is a term used to describe a group of diseases of the upper respiratory tract in rabbits. The condition is highly infectious. There are many organisms which are thought to play a role in this disease, however the bacteria *Pasteurella multocida* is thought to be responsible for the majority of cases.

### **Clinical signs**

Often the first thing you will notice is a watery discharge coming from your rabbit's nose. The bacteria causes a build-up of mucous in the upper airways which causes rabbit to make a snorting or snuffling noise, characteristic of the disease. The infection may then spread to the eyes and an ocular discharge may be observed as a result of conjunctivitis. Less commonly, the ears can become infected leading to head shaking, twisting of the neck or a head tilt.

### **Treatment**

It is important to note that, unlike the other infectious diseases covered in this article, snuffles is rarely fatal, as long as it is treated promptly. If your rabbit has a strong immune system and the infection is mild they may recover from the infection without treatment however the majority of rabbits will require a course of antibiotics. Oral or injectable antibiotics for a minimum of 2-4 weeks are most commonly used. Enrofloxacin (Baytril) or Trimethoprim and sulpha are frequently given. It may be necessary to treat for longer if the infection is severe or has been present for a while. It is important to treat this condition early as if left untreated rabbits can become chronically infected and even if symptoms resolve they may return in times of stress such as diet change or the introduction of a new pet.

### **Prevention**

Unfortunately there is no definitive way of preventing rabbits from becoming infected, however making sure your rabbit is living in a stress free environment and is otherwise healthy means their chance of successfully fighting an infection are increased. Common causes of rabbit stress include; an improper diet, overcrowding and inadequate housing. Your vet will be able to advise you on rabbit husbandry. When choosing a rabbit from a breeder or pet shop make sure the rabbit is healthy and doesn't have a runny nose and that all the other rabbits are also healthy. This makes it less likely you will purchase a rabbit with an already established infection.

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