Encephalitozoon cuniculi in Rabbits

What is it?

E. cuniculi is a tiny, single celled protozoal parasite, which has to live inside a host cell in order to survive. E. cuniculi primarily infects rabbits and is a significant cause of disease. It is also important to note it can occasionally infect humans, especially if they are immuno-compromised. In the UK the parasite is common in laboratory and pet rabbits, but rare in the wild rabbits. A recent survey demonstrated that 52% of pet rabbits sampled were currently or had recently been infected.

How is it transmitted?

Once a rabbit has the disease it passes infectious spores in its urine. Transmission to another rabbit occurs by eating these spores in urine contaminated food and water. The unborn kittens may also be infected across the placenta during pregnancy. Once the parasite has entered the rabbit's body it is carried in the blood circulation to target organs such as the liver, kidney and central nervous system (brain and spinal cord). Whilst 52% of pet rabbits become infected, only 6% of pet rabbits ever show signs of disease, of which a percentage of these rabbits do not survive.

How can I tell if my rabbit has E. cuniculi?

If the kits are infected during pregnancy, spores are able to cross into the lens of the eye. Later on in the rabbit's life the spores multiply and erupt causing cataracts and lens rupture resulting in inflammation within the eye (uveitis). This is a serious condition and is painful to the rabbit. Clinical signs in adult rabbits include:

- Neurological disease - head tilt, unsteadiness, weakness of the hind legs, neck spasm and urinary incontinence
- Kidney disease
- Eye disease

Other causes of head tilt will also need to be ruled out.
**Treatment and Prognosis**

In affected rabbits the inflammation and release of spores results in clinical signs, particularly affecting the target organs (brain, spinal cord and kidney). Treatment is aimed at reducing inflammation, using anti-inflammatory drugs and killing the parasite. Treatment generally involves anti-inflammatory medication together with Panacur daily for 28 days.

Response to therapy is dependent on duration and severity of infection at the time of diagnosis and starting treatment.

The organism can survive in the environment (e.g. house / hutch) for 1 month. However the parasite is sensitive to routine disinfectants. Although more research is required, our current knowledge is that the parasite is killed off by 28 days of once daily dosing with Panacur. In time we may learn that a shorter period of treatment is effective, but for now, this is what we have to work with.

**Control and Prevention**

All rabbits in the group should be treated with Panacur for 28 days. The rabbits’ environment should be cleaned and disinfected each week, until the end of treatment. There is no doubt that the more rabbits are kept together, the greater the risk of infection spreading between individuals. In view of the risk, we recommend that all rabbits coming into a group are treated for 28 days with Panacur. Once this treatment is complete, they should be kept in clean accommodation, with other previously treated rabbits.

*This article was written using Great Western Exotics, specialists in veterinary care for exotic pets and part of Vets Now Referrals information as a reference.*