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## AVIAN & EXOTIC CLINIC of the Monterey Peninsula

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### **E. cuniculi**

Encephalitozoon cuniculi, an obligate, intercellular, microsporidian parasite, is often associated with neurologic disease in pet rabbits. Although many rabbits infected with *E. cuniculi* are asymptomatic, signs of neurologic disease caused by *E. cuniculi* include behavioral changes, torticollis, nystagmus, ataxia, rolling, or seizures and often follow a stressful event in the rabbit's life. Encephalitozoonosis in pet rabbits is more likely to be the cause of vestibular signs than is pasteurellosis. The neurologic signs may include urinary incontinence, a stiff rear gait, and posterior paresis. Stressed or immunocompromised animals appear to be more susceptible. Transmission is generally by ingestion or by oral inoculation of infective spores shed in the urine, although transplacental transmission may also occur.

#### **Diagnosis**

Although it has been reported that encephalitozoonosis can be presumptively diagnosed based on signs of neurologic disease together with demonstration of high concentrations of serum antibodies (paired with titers are preferable), this diagnostic approach is not always reliable. While rabbits with encephalitozoonosis are seropositive, many seropositive rabbits are apparently healthy and do not show signs of disease. In addition, a higher antibody titer in a rabbit does not necessarily indicate it has an active or recent infection. However the absence of antibodies (seronegativity) for *E. cuniculi* indicates that other differential diagnoses must be considered in such rabbits. Enzyme-linked immunosorbent assays (ELISAs), indirect immunofluorescence assays, and carbon immunoassays are suitable for detecting antibodies. So although a serologic evaluation can be helpful, it is far from diagnostic, and a definitive diagnosis of *E. cuniculi* as the cause of disease in a live rabbit is difficult and requires histologic identification of the organism.

#### **Treatment**

An antiparasitical, fenbendazole is often used to treat encephalitozoonosis. This drug is only parasitostatic, so rabbits require long-term treatment. A small study has described the eradication of *E. cuniculi* organisms in rabbits treated with fenbendazole (20 mg/kg/day orally for 28 days). In addition, some clinicians have reported a favorable response with the concurrent use of medication used to treat motion sickness in people (i.e. meclizine). In severe cases treatment includes dexamethasone subcutaneously once, then again 48 and 96 hours later. Treatment for encephaliozoonosis is not always successful but has resulted in improvement in many cases; a lack of treatment generally leads to euthanasia.

**Source:**

Carpenter, James. "Diagnosing and Treating Common Neurologic Diseases in Rabbits". *Veterinary Medicine*. Nov. 2006: 730-731.