



Otodectic Mite

Otodectic Mite for Dog Last updated:

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Synopsis

CAPC Recommends

Otodectes cynotis has been reported from dogs, cats, foxes, and ferrets worldwide.

Otodectes cynotis is more common in cats than in dogs or other hosts. It occurs more often in feral cats and in cats less than 1 year of age. One source states that 85% of cases of otitis externa in cats and 50% of cases in dogs are caused by *O. cynotis*.

Signs include shaking of the head, scratching at the ears, inflammation of the ear canals, and accumulation of copious cerumen and frequently serous to purulent exudates, depending on the nature of secondary infectious agents.

Mites in the ear may be observed with an otoscope or on swabs of the ear canal.

Species

Dog and cat

Otodectes cynotis (ear mite)



Otodectes cynotis with short pretarsi on front legs

Overview of Life Cycle

Life cycle stages include egg, larvae, two sequential nymph stages referred to protonymphs and deutonymphs, and adults. The complete egg-to-egg cycle takes 18 to 28 days. The life cycle usually occurs entirely within the ear canal of the host. However, mites have been recovered from the head, face, pinna, neck, rump, tail, nail beds and interdigital skin (ectopic infestations). Mites do not burrow, they feed on epidermal debris.

Stages

Adult females are 350 to 450 μm in length, and adult males are 275 to 360 μm in length. Eggs are large (about 200 μm in length).

A six-legged larva hatches from the egg and develops through two nymph stages before becoming an adult.

The adult male has short unjointed pedicels with wineglass-shaped caruncles on the distal end of each leg. The female has unjointed pedicels with caruncles on the first two pairs of legs. The posterior of the male has a pair of adanal suckers used to grasp the female during copulation.

*Video below courtesy of Dr. Chris Adolph, Southpark Veterinary Hospital

Earmite 25 sec iPhone



Disease

Clinical signs are more common in cats than in dogs and may be variable. Although some cats may be asymptomatic, others may experience severe pruritis and otitis externa.

Signs include shaking of the head, scratching at the ears, inflammation of the ear canals, and accumulation of copious cerumen and frequently serous to purulent exudates, depending on the nature of secondary infectious agents.

Cats may have what appear to be significant lesions with large quantities of dark cerumen and even blood in the ear canal, yet only one or two mites are present. Other cats may have very clean ear canals and as many as 50 mites present. Still other cats may have thousands of mites in an ear and yet exhibit few, if any, outward signs. The ears may be filled with a dry and waxy parchment-like material that occurs as sheets throughout the ear canal. Inflammatory debris may resemble coffee grounds. Other lesions include aural hematoma and patchy alopecia.

In very heavy infestations, mites may leave the ear canal and cause infestations on the head and associated body parts of the dog or cat. In rare cases, these animals may present with miliary dermatitis.

Prevalence

One source states that 85% of cases of otitis externa in 50% of cases in dogs are caused by *O. cynotis* (Wan, 2017).

Worldwide prevalence of *O. cynotis* in cats varied from 0.5% to 37%. The lowest prevalence was in Australia. The highest prevalence was in Florida, USA.

Host Associations and Transmission Between Hosts

Infestations in dogs or cats can be transferred between hosts by close contact.

Survival of mites in the environment is not thought to be a significant factor in transmission.

When mites are present in one dog or cat in a household, it is essential that all dogs and cats in the household be treated.

Prepatent Period and Environmental Factors

The complete life cycle requires 18 to 28 days.

Site of Infection and Pathogenesis

Mites live routinely in the external ear canal. Cats can have more than 1,000 mites per ear; the numbers present in dogs are usually much lower.

The ear canal epithelium becomes hyperkeratotic and hyperplastic, with dramatic hyperplasia of the ceruminous and sebaceous glands. There is a marked increase in mast cells and macrophages, and the venules become dilated. Animals developed IgE levels to the infestation about two weeks after becoming infested.

Secondary bacterial and fungal infections are often observed. Staphylococcus and Malassezia spp. are the microorganisms observed most often.

Diagnosis

Mites in the ear may be observed with an otoscope (see attached video) or on swabs of the ear canal. It is important to remember that ear mites can be found at other locations and may cause signs or lesions specific to those locations.

Treatment

Selection of appropriate treatment strategies should be determined based on age, severity of disease, presence of secondary infections, number of affected animals, presence of ectopic mites, and owner capability and compliance.

Labeled products for cats include ivermectin (Acarexx), milbemycin oxime (Milbemite), imidacloprid/moxidectin (Advantage Multi and selamectin (Revolution)).

Labeled products for dogs include selamectin (Revolution).

Pyrethrins (i.e. Otomite Plus and others) have demonstrated efficacy against *O. cynotis* in dogs and cats.

Several products have demonstrated efficacy against *O. cynotis*, but are not label approved. These include other formulations of ivermectin (dog and cat; variable dosages), doramectin (cat), fipronil (cat), afoxolaner (dog and cat; label dose), fluralaner (dog and cat; label dose), and sarolaner (dog; label dose).

Cleansing of the ear canal prior to treatment is always recommended.

When secondary infections with bacteria or fungi occur, these conditions should also be treated.

Control and Prevention

Treatment with effective products should eliminate ear mite infestations in both.

Public Health Considerations

On rare occasions, people have been infested with ear mites.

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