Yeast (Malassezia) Infections

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Malassezia pachydermatis is a yeast that is commonly found on certain areas of the skin of dogs. Its presence is normally not a cause for alarm, however, in some cases; *Malassezia* can reproduce in abnormally large numbers and cause disease.

Where is the yeast *Malassezia* found?
Malassezia is commonly found in the ear canal, interdigital area (between the toes), anal sacs, vagina, and rectum of healthy dogs. Disease-causing infections with this yeast can occur in dogs of all ages and breeds. There are however, several dog breeds that appear to have an increased susceptibility to developing *Malassezia* infections including:

- Basset Hounds
- Cocker Spaniels
- English Setters
- Shih Tzus
- Maltese
- West Highland White Terriers
- German Shepherd Dogs

Why do dogs get *Malassezia* yeast infections?
Malassezia is an opportunistic organism. This means the yeast takes advantage of any opportunity to grow when the conditions are right. *Malassezia* infections often appear during the high-humidity months of summer and they may persist into the fall. Any hereditary or infectious disease that weakens the skin's immune system can allow a *Malassezia* infection to begin. For example, dogs that suffer from a bacterial dermatitis (skin infection), allergies, or seborrhea can have irritated skin that is then susceptible to becoming infected with this yeast. In addition, increased levels of sebum (oils in the skin) or cerumen (ear wax) can lead to an infection. The prolonged use of certain medications, such as glucocorticoids (e.g., prednisone) or antibiotics, can predispose the dog to an infection with this yeast.

What are the signs of a *Malassezia* yeast infection in dogs?
Chronic-itchy skin is almost always present with these yeast infections. Because of the scratching, the dog may further traumatize the skin spreading the infection. The yeast may be localized on the ear, muzzle, toes, anal area, or it may be generalized, covering most of the body. Dogs with the generalized form will often have an offensive smell and display oily, scaly skin. Dogs with localized muzzle infections may rub their face or have episodes of intensely scratching their face. Dogs with infections on their toes may lick their feet constantly. Hair loss, redness, hyperpigmentation (blackening of the skin), and thickening of the skin may also be present.

Ear infections or otitis externa, is most often a mixed infection involving yeast, such as *Malassezia*, a bacterium and, at times, ear mites. If an infection develops in the ear, the dog may shake his head and scratch at his ears. There may also be a foul odor from the ear. As with the skin infections listed above, *Malassezia* starts to proliferate when the environment in the dog's ear canal changes due to another disease condition such as allergies, a hormonal imbalance (such as hypothyroidism) or a bacterial infection.

How are *Malassezia* yeast infections in dogs diagnosed?
The best way to diagnose a *Malassezia* infection is with a positive identification of the organism under a microscope. Samples can be obtained from the infected area by scraping, swabbing or applying and removing transparent tape. Most infections will have a large number of yeast present that will confirm the diagnosis. Laboratory cultures can also be performed to identify the organism. Because *Malassezia* can and will be present on a healthy animal, there may be some doubt as to whether or not it is the causative agent of the problem. Therefore, diagnosis is usually confirmed by the clinical response to treatment.

How are *Malassezia* yeast infections in dogs treated?
First and foremost any underlying disease condition must be properly diagnosed and treated; whether it is a bacterial infection, an allergy, seborrhea or any condition that suppresses the animal's immune system.

Fundamentally, treatment involves creating an environment that is hostile to *Malassezia*. To provide an inhospitable environment for this yeast, lipids (or fats) on the skin need to be removed. Chlorhexidine shampoos that are 1% or stronger, and shampoos containing benzoyl peroxide and sulfur can be used. Selsun Blue shampoo for people also has a good effect against *Malassezia* in some dogs, although it can be irritating. Shampoos containing ketoconazole have also been used.

For localized treatment of very small areas, miconazole cream can be applied to the infected area twice daily for several weeks.

For dogs with more severe cases, or in those that are resistant to topical treatment, oral ketoconazole, fluconzole, or itraconazole can be administered for several weeks. A response is generally seen within 1-2 weeks; however, therapy needs to continue for an additional 3-5 weeks. These oral antifungal drugs are very effective, but because of their potentially toxic side effects and expense, they should only be used under direct veterinary supervision.

Ear infections with *Malassezia* are treated by cleaning the ears 1-2 times daily. Ear cleaners containing acids such as acetic or

boric acid help to maintain a pH that inhibits the growth of yeast. After cleaning and allowing the ear to dry, appropriate topical medications containing nystatin, thiabendazole, or clomitrazole can be used. Again, the underlying condition must also be treated or treatment for the yeast infection will be frustrating and unsuccessful.

Conclusion

Malassezia is an extremely common yeast found on almost every dog. Infections with *Malassezia* are almost always associated with an underlying condition. Symptoms often include severe itching, that could be misdiagnosed as skin allergies. The organism can be readily identified and treatment is usually successful. If your dog has itchy skin or hair loss that has failed to respond to conventional treatments, make sure your veterinarian checks your dog for the ever-present *Malassezia*.