Demodectic Mange

submitted by Dan Nichols

Demodectic Mange ("demodicosis", "red mange") is caused by parasitic mite DEMODEX FOLLICULORUM. The mite must live on the host in order to survive, but usually does so without harming the host. It is a normal inhabitant of the skin of most dogs and therefore is not possible to eradicate. Puppies are not born with the mites, but transmission will occur from the dam during the first few days of life while the pup is nursing. Clinical disease rarely occurs following transmission. If demodecosis does occur, the skin lesions are usually localized and spontaneously regress.

Certain dogs seem more likely to develop demodicosis. Many theories have been offered for this selection for certain animals: hair coat length, hormone levels and nutritional status have been suggested as predisposing factors. Hereditary factors have been more recently suspected because the disease seems to develop in certain lines of purebred dogs. Presently, the most likely predisposing factors for the development of demodicosis is an inherited (but unknown) immunologic defect.

The clincial disease usually occurs in dogs less than one year of age, but it can occur in mature adult dogs. It occurs most frequently in purebred dogs; some breeds seem more likely to develop the disease (e.g., dobermans, bull dogs). Two forms of the disease occur. The LOCALIZED form appears as one to several discrete, well demarcated areas of hair loss and redness. The redness is due to an allergic reaction to the mite and is responsible for the name "red mange". The lesions most commonly appear on the lips, around the eyes and the forelimbs, but can occur anywhere on the face and trunk. The dog seldom scratches the areas unless a secondary bacterail infection develops with the mange. GENERALIZED demodicosis is an extension of localized disease. The lesions either extend to a larger area, or larger numbers of lesions appear. The whole body may be involved and the dog often emits a rancid odor. Secondary bacterial infections often occur with this form of the disease, and scratching with self trauma are common. The generalized form of demodex is itself immunosuprressive; apparently the mites depress the dog's immune system, and the dog is less resistant to other infections.

Diagnosis of the disease is made by microscopically examining one to several skin scrapings in the area of fresh lesions. The skin scraping must be "deep" (blood must be seen on the slide) because the mite burrow into the skin. Diagnosis may be difficult because all dogs harbor the mite. A large number of adult mites, or the presence of immature forms of eggs is suggestive of an active infection. Sometimes the skin is so diseased that it is to thick to properly scrape. In such cases, a skin biopsy has been necessary to detect the mites.

Treatment for the demodex depends upon the extent of involvement and the presence of secondary infection. Many cases of the localized form will spontaneously regress on the own in 3 - 8 weeks. However, approximate 10% of these cases will become generalized, often in spite of therapy. Hence all cases should probably be treated. The prognosis for the localized form is much better. Treatment consists of local application of the appropriate parasiticide (available only from veterinarians) for 3 - 8 weeks.

The prognosis for the generalized form of the disease is always guarded. Up to 50% of these cases may spontaneous regress on their own. It is impossible to predict which dogs will self cure. However, if the problem has been chronic in the kennel or in the patient, self cure is doubtful. Treatment consists of cleaning the skin, followed by application of the appropriate parasiticide to the whole body. Cleaning the skin is a very important part of the therapy. The dog should be clipped, especially if the majority of the body is involved.

Anti-seborrheaic shampoos should be applied to break down the accumulated skin and mite products. Two parasiticides are commonly used to kill the mite. SCOTTS FORMULA was until recently the only effective drug. It is applied to one third of the body each day (front, middle then back). A newer parasiticide is now available. AMITRAZ is diluted in water, much the same as other dips, and

applied once every two weeks. Hence, it is much easier to use and very effective. Regardless of the drug used, treatment should be continued several weeks after skin scrapings are negative for the presence of mites.

If a secondary infection is present, it also must be treated. Secondary bacterial infections should be treated with prolonged antibiotic therapy (often up to six weeks). Some dogs have low hyroid levels; low levels may predispose the dog to the disease. Therapy in such animals often includes replacements thyroid hormone. Animals that remain refractory to all treatments probably have an incompetant immune system. In some instances, treatment may include a drug designed to enhance the immune system. Care must be taken with these drugs, since many of them may in fact depress the immune system at different doses. Steroids (often used to decrease itching and scratching are contraindicated in dogs with demodecosis because they suppress the immune system. Mature animals that develop demodecosis often have an underlying disease that renders their immune system incompetent (e.g., cancer or metabolic diseases). Potential breeding animals that develop demodecosis should be reconsidered for breeding use. Affected and related animals should not be used for breeding because of the liklihood that hereditary plays a signigicant role in the development of disease.

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