



DEMODICOSIS (Demodectic Mange)

The demodex mite is part of the normal fauna of the skin, and is present in small numbers in most if not all dogs (*Demodex canis*) and humans (*D. folliculorum*, *D. brevis*). The entire life cycle is spent on the skin. The parasite resides in the hair follicles feeding on cells, serum and epidermal debris. Large populations distort the habitat, increase keratinisation through their abrasive claws and may even penetrate the dermis.

Fusiform eggs hatch into small, six-legged larvae which become eight-legged nymphs and finally eight-legged adults. The life cycle for most demodex mites is estimated to be 20-35 days. Transmission occurs by direct contact from the bitch to nursing neonates during the first 2 days of life and can be demonstrated as early as 16 hours after birth in the canine. Attempts to transmit the disease in multiple ways have been failed in the dog, horse, swine and sheep. Mites are rapidly killed by dissociation on the surface of the skin within an hour under normal circumstances.

Dogs with chronic generalised demodicosis have severely depressed T-cell responses. Eradication of the mites results in restoration of the T-cell function. The response of normal T-cells cultures in serum of affected dogs is suppressed, indicating an immunosuppressive factor in the serum.

Clinical Signs

Localised demodicosis usually presents as mild redness and partial hair loss. Fine, silver scales may cover the area of variable itchiness. The most common site is the face. Most cases occur at 3-6 months of age and heal spontaneously; but up to 10% will progress to the generalised form.

Breeds predisposed to generalised demodicosis are Old English Sheep dog, Afghan Hound, Collie, German Shepherd, Staffordshire and Pit bull terrier, Doberman, Dalmatians, Great Dane, English Bulldogs, Boston terriers, Dachshunds, Chihuahua, Boxers, pugs, Sharpeis, Beagles and Pointers. Pure bred dogs have a much higher incidence than mongrels. There is a heritable breeding disposition.

Most prominent signs.

Alopecia (hair loss), folliculitis (inflammation of hair follicles), peripheral lymphadenopathy (enlarged glands). A secondary bacterial infections is typically associated with oedema and severe crusting (swelling and scabs), *Staphylococcus intermedius* is the most common encountered bacteria. Blackheads and generalised scaling can also be seen.

Diagnosis

Requires deep skin scrapings to reveal large numbers of mites. Sometimes biopsy is required where skin scrapings are negative.

Treatment

1. Localised

90% of cases will clear spontaneously. The inherited predisposition allows not to treat the localised form to aid in differentiation the self-healing dogs from those which will develop the generalised form. Benzoyl peroxide shampoo can be used. Rechecks should find fewer mites on skin scrapings. Spreading lesions and regional or generalised lymphadenopathy indicates upcoming generalised demodicosis and a poorer prognosis.

2. Generalised

Approximately 30-50% of all dogs under one year recover spontaneously from the disease. Control of secondary pyoderma and seborrhoea are important.

Amitraz All crusts should be removed (eg benzoyl peroxide shampoo) and the entire dog may need to be clipped to ensure good contact with Amitraz. The dog must be completely dry (2-8 hours) before using Amitraz. Owners with asthma are advised against this product. The dog is sponged down in a well ventilated area (wearing protective clothing). The procedure should be repeated weekly until no live mites are found on skin scrapings. 10% of all patients will eventually relapse.

Ivermectin orally at 300-500mcg/kg daily.

Milbemycin 0.5-1mg/kg for 3 months.

These products must be used under veterinary supervisions and continued for at least a month after a negative skin-scraping for mites