

SUCCESSFUL MEDICAL MANAGEMENT OF CONCURRENT CANINE DEMODICOSIS, MALASSEZIOSIS AND ASSOCIATED PYODERMA IN A PUG

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ABSTRACT

A three and a half months old male Pug was presented with a complaint of severe itching and hair loss since one month. Clinical examination of the skin revealed generalized alopecia with erythema and pustules all over the body with lichenification, hyperpigmentation and greasy exudations. Laboratory evaluation revealed numerous *Demodex canis* mites in skin scrapping, blue - purple peanut shaped yeast organisms of *Malassezia* genus in tape impression smear and Gram positive cocci sensitive to Cephalexin in antibiotic sensitivity test (ABST). The case was diagnosed as concurrent demodicosis and Malasseziosis with associated pyoderma and treated successfully.

Keywords: Demodicosis, malasseziosis, pyoderma

INTRODUCTION

Canine demodicosis is a skin disorder associated with higher than normal

populations of *Demodex* mites whose transmission appears to be from bitch to sucking puppy by direct contact during the first few days of the pup's life (Graig, 2003). *Malassezia* dermatitis in dogs is a term used to describe skin diseases associated with *Malassezia* overgrowth in affected regions. Primary lesions are commonly associated with pruritus and secondary changes, such as erythema, alopecia, excoriations, seborrhoea, lichenification and hyperpigmentation (Machado *et al.*, 2011). Pyoderma is probably the most commonly recognized skin disease in dogs. It develops whenever the cutaneous balance and protective mechanisms are disturbed (Noli, 2003).

CASE HISTORY AND OBSERVATION

A male Pug of three and a half months old and weighing 4.2 kg was presented to Teaching Veterinary Clinical Complex (TVCC), of College of Veterinary and Animal Sciences (COVAS) Pookode with a complaint of severe itching and hair loss

since one month. The feeding and excretion habits of the animal were reported to be normal. The animal was regularly vaccinated and dewormed. History revealed washing of the kennel with Dettol and water daily. Animal had a past medical history for the same condition and it involved treatment with Nizral shampoo, Miconazole lotion, oral cephalexin and prednisolone with no favourable outcome.

General inspection of the animal showed a bright and placid mentation and the animal had diffuse skin lesions. Physiological norms of the animal were found to be within the normal range. Detailed clinical examination of the skin was performed which revealed generalized alopecia with erythema and pustules (Fig. 1) all over the body. Generalized lichenification and hyperpigmentation with scaling of skin and greasy exudations were evident. There were focal lesions of folliculitis along with associated ulcerations and lesions of secondary pyoderma all over the body.

A deep skin scraping, cello tape impression smear and a sterile swab



Fig. 1. Pustules over ventral abdomen



Fig. 2. Demodex mites in skin scrapings (10X)

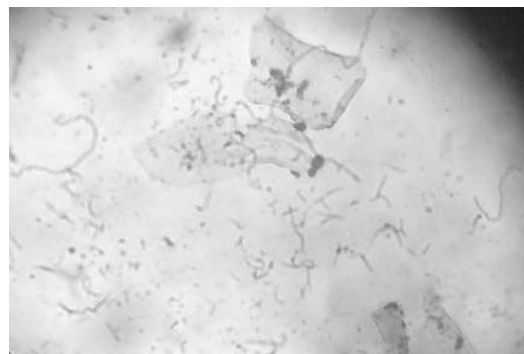


Fig. 3. Blue-purple peanut shaped *Malassezia* organisms in Wright's stained cello tape impression smear (100X)

impression from the area of ulceration were collected for laboratory evaluation. Numerous Cigar shaped *Demodex canis* mites were observed (Fig. 2) under low power of microscope in skin scrapping. Wright's staining of cello tape impression smear revealed blue - purple peanut shaped yeast organisms of *Malassezia* genus (Fig. 3) under microscopy. Culture in BHIA revealed white colonies of Gram positive cocci which were found to be sensitive to Cephalexin. The case was diagnosed as concurrent canine demodicosis and malasseziosis with associated bacterial pyoderma.

TREATMENT AND DISCUSSION

Treatment plan was formulated to treat all the three conditions simultaneously and separately. For demodicosis, it was advised to give medicated bathe with Petben shampoo twice in a week along with topical application of 0.025% of Amitraz on a daily basis. Oral ivermectin (Neomec 10mg) at the dose rate of 400 mcg per Kg daily was also advised for two and half months. For malasseziosis, treatment included medicated bath with Ketochlor shampoo twice in a day and Fluconazole @ 5mg/kg/day orally for two months. Intermediate pyoderma was treated with oral Cefalexin @ 20mg/kg BID for three weeks along with supportive therapy which included Immunol syrup @ 5ml twice a day, Nutriccoat syrup @ 5ml/day on daily basis for two months. Miticidal treatment was continued for two and half months. The animal showed clinical improvement gradually and significant changes after one month. The animal recovered completely with in two and half months.

Malassezia pachydermatis is a yeast that is normally found in low numbers in the external ear canals, perioral areas, perianal regions and moist skin folds. Skin disease occurs in dogs when a hypersensitivity reaction to the organisms develops, or when cutaneous overgrowth occurs (Keith, 2011). *D. canis*, a normal resident of the canine skin is primarily transmitted from the mother to neonates during the first 2 to 3 days of nursing (Scott *et al.*, 2001). Treatment with ivermectin 0.2 - 0.6 mg/kg PO every 24 hours is often effective and should be continued

for at least 1 month beyond the time when follow-up skin scrapings become negative for mites (Keith and Linda, 2006). While surface pyoderma may be treated with topical therapy alone, superficial and deep pyoderma require treatment with systemic antibiotics. The antibiotic should be administered for a minimum of 3 weeks for superficial pyoderma and a treatment of at least 6 weeks or sometimes longer is required for deep pyoderma (Noli, 2003).

SUMMARY

Canine demodicosis, caused by pathogenic proliferation of *Demodex canis* mites and *Malassezia* dermatitis, caused by the yeast *Malassezia pachydermatis* are among the common dermatological problems in dogs. They may be presented with associated secondary bacterial pyoderma. Careful diagnostic evaluation and individual treatment with proper nursing care is necessary for complete remission and well being of the dogs.

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