THERAPEUTIC MANAGEMENT OF CONCURRENT MALASSEZIASIS AND HYPOTHYROIDISM IN A DOG

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A three years old female Labrador was presented to the Department of Veterinary Medicine, Pantnagar with a history of alopecia, heat seeking behaviour, pruritis and obesity. Gram staining revealed numerous yeast like polymorphous spores. Serum T3 value and T4 value was 0.32 ng/mL and 1.1 μg/dL respectively. Based on findings, the condition was diagnosed as hypothyroidism with Malassezias dermatitis. The dog was treated with ketoconazole @ 10 mg/kg BW once orally and bathed with a shampoo containing 2% miconazole nitrate and 2% chlorhexidine gluconate. For hypothyroidism the dog was given Levo-thyroxine sodium tablet @ 20 μg/kg b.wt. SID orally for about 2 months. The dog showed improvement as there was regression of clinical symptoms.

Key words: Dog, Hypothyroidism, Levo-Thyroxine, Malasseziasis.

Malassezial dermatitis in animals occurs with allergies, endocrinopathies (hypothyroidism, Cushing’s disease), immunosuppressive and other skin disorders. Hypothyroidism is a common canine endocrinopathy. Thyroid hormone is needed for initiation of anagen hair follicles, regulation of cornification process and sebaceous gland secretion (Jackson and Marsella, 2012). Most of the dermatological abnormalities in dogs with hypothyroid are curable. Oral levothyroxine is the drug of choice for hypothyroidism (Feldman and Nelson, 1996), whereas a combination of topical as well as systemic antifungal therapies are effective in Malasseziasis. The therapeutic management of concurrent Malasseziasis out of hypothyroidism was successfully managed with the help of Levo-thyroxine sodium, ketoconazole and topical antifungal in the present case.

A 3 years old female Labrador was presented to the Department of Veterinary Medicine, College of Veterinary and Animal Sciences, Pantnagar with a history of alopecia, heat seeking behaviour, pruritis, seborrhea and obesity. Lesions were confined to the ventral side of the body mainly neck, inguinal and peri-anal areas. The dog was previously treated with antibiotics, corticosteroids, antihistaminics and mineral supplement with slight improvement. On clinical examination the conjunctival mucous membranes were normal, respiratory rate 32/min, heart rate 82/min, and rectal temperature was 102.4°F.

Physical examination of the skin revealed erythema, greasy scales, crusts and strong rancid odour. Skin scraping was found negative for mites. Moreover potassium hydroxide preparation from skin lesions showed no fungal elements and skin scrapings were also found negative for fungal culture. However, Gram staining revealed numerous Gram-positive, yeast like polymorphous spores. Serum biochemistry revealed normal glucose levels (90 mg/dl) whereas the serum T3 value was 0.32 ng/ml and T4 values was 1.1 μg/dl which was found to be considerably below normal. Based on clinical signs, lesions on skin and the biochemical values the dog was diagnosed to be having hypothyroidism with concurrent Malassezial dermatitis.

The dog was treated with ketoconazole @ 10 mg/kg BW once orally and bathed with a shampoo containing 2% miconazole nitrate and 2% chlorhexidine gluconate twice a week for three weeks. To manage hypothyroidism, the dog was given Levo-thyroxine sodium tablet @ 22 μg/kg b.wt. SID orally for about 2 months with significant success. The owner was advised to continue L-thyroxine to the dog for the rest of life.

In the present report, the dog having concurrent malasseziasis and hypothyroidism was successfully cured with oral Levo-
thyroxine sodium and a combination of topical and systemic antifungal therapy. This
dog with T4 concentration below normal
indicated hypothyroidism, responded to
treatment with levothyroxine; confirmed the
diagnosis. Concomitant with Kumar and
Srikala (2013) report of hypothyroidism in 49
dogs of various breed, age and sex with
successfull management of the affected dogs
Levothyroxine and other specific drugs
without recurrence.

Malasseziasis that occurs due to the
proliferation of yeasts possibly promoted by
excessive sebum production or disruption of
the epidermal barrier resulting in
hypersensitivity diseases (atopy, adverse
cutaneous food reactions, flea bite
hypersensitivity and contact allergy),
cornification disorders, ectoparasite infection,
bacterial pyoderma and endocrine diseases as
hyperadrenocorticism, hypothyroidism and
diabetes mellitus; as also reported by
Outerbridge (2006). It has been documented
that thyroid hormones influence serum and
cutaneous fatty acid concentrations by
Campbell and Davis (1990) and influence
sebaceous gland function. Seborrheic changes
are common in hypothyroid dogs, that
predispose secondary malassezia infections,
which intensifies the seborrheic signs as also
reported by Miller et al. (2012).

Conclusions

Most of the dermatological
abnormalities associated with hypothyroid
dogs are correctable with treatment.
Measurement of serum total T4 remains
useful test for diagnosing hypothyroidism.
Such mixed infections can be treated with the
use of proper medication and follow up at
regular intervals.

References
Effects of thyroid hormones on serum and
cutaneous fatty acid concentrations in
Canine and Feline Endocrinology and
Reproduction, 2nd edn., W.B. Saunders,
Manual of Canine and Feline Dermatolog
-y. 3rd edn., BSAVA, Gloucester, U.K.
Pp. 94-95.
Hypothyroidism associated skin and coat
abnormalities in dogs - a study of 49
Miller Jr, W.H., Griffin, C.E. and Campbell,
Animal Dermatology. 7th edn., W.B.