

# A COMBINED *Staphylococcus spp.* AND *Malassezia spp.* INDUCED CHRONIC OTITIS AND DERMATITIS IN A CAT - CLINICAL CASE STUDY

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## ABSTRACT

The major primary factors causing otitis and dermatitis are allergy, autoimmune endocrine, epithelialisation disorder, fungus, yeast, parasites and virus. *Malassezia* and *Staphylococcus* are the normal inhabitant of canine skin, especially in the areas of the external ear canals, feet, lips and perineum. A change in the skin environment, such as increased sebum or moisture, or an alteration of the epidermal defence system predisposes animals to yeast overgrowth. External skin lesion treated twice a day with a topical combination gentamicin sulfate-betamethasone valerate-clotrimazole ointment and internal ear canal cleaned by enrofloxacin-dexamethasone ear cleaner mixture at the rate of 6 ml enrofloxacin and 4 ml dexamethasone gave good healing.

**Keywords:** Chronic otitis, *Malassezia pachydermatis*, *Staphylococcus*, cat

## INTRODUCTION

Chronic otitis in cats may be of unilateral or bilateral, are caused primarily by allergy, autoimmune endocrine, epithelialisation

disorder, fungus, yeast, parasites and virus. The secondary causes are those that cause disease in abnormal ear. Young animals are most commonly affected by chronic otitis.

*Malassezia* yeast and *Staphylococcus* are component of the normal cutaneous flora of dogs and cats. Alteration of cutaneous microclimate, changes of host defence mechanisms and other hormonal and physiological changes of animal may allow the microbes to multiply and become pathogenic which causes localized or generalized pruritic dermatosis and otitis in hairy breeds of dog and cats.

## CASE HISTORY AND OBSERVATION

A one year old female cat was presented with the history of patches of hair loss and thickening of skin around eye and ear and on back of neck, ventral chest, auxiliary and abdomen with restlessness, frequent scratching and frequent headshaking. Physical examination revealed severe alopecia, hyper pigmentation and lichenification of the ventral chest, erythematic lesion on the auxiliary area and ventral abdomen areas. The legs and

ventral neck were also affected. The hair was greasy and epilated easily. The outer left ear canals were thickened and brown foul smelling discharge was noticed (Fig. 1). The peripheral lymph nodes were moderately enlarged. The skin scrapping materials were subjected to direct microscopic examination for mites and fungus identification and also for bacterial and fungal culture (Bond *et al.*, 2000). Cytologic examination of skin imprints showed many bottle shaped yeast as well as many cocci and found to be negative for mites. Bacterial culture revealed *Staphylococcus* and  $\beta$ -hemolytic *Streptococcus* in blood agar and fungal culture revealed *Malassezia*. Antibiotic sensitivity test was performed on bacterial and fungal culture which were sensitive to cefetaxime, sulpha-trimethoprim and penicillin, ciprofloxacin, oxytetracycline and enrofloxacin but resistant to gentamicin and neomycin.

#### TREATMENT AND DISCUSSION

The cat was treated with inj. Cephalexin 22 mg/kg I/M, inj. Dexamethasone 20mg I/M, inj. Chlorpheniramine maleate 10mg I/M and inj. Multivitamin 0.5 ml I/M for five days. The lesions were cleaned with 2% hydrogen peroxide followed by a combination enrofloxacin-dexamethasone ear cleaner mixture (6 ml enrofloxacin and 12 mg dexamethasone) used to clean ear canal and calamine lotion was applied on the external skin lesion. The clinical symptoms of cat were reduced to 50% after treatment. Gentamicin sulfate-betamethasone valerate-clotrimazole ointment was prescribed for external skin lesion, nutrient supplement

zincovit syrup and ear drops ofloxacin were prescribed for a month. The owner was advised to avoid feeding of egg, fish and meat until complete cure.

*Malassezia spp.* and *Staphylococcus spp.* are the normal inhabitants of canine and feline skin, especially in the areas of the external ear canals, feet, lips and perineum (Bond *et al.*, 2000). A change in the skin environment such as increased sebum or moisture, or an alteration of the epidermal defence system predisposes animals to yeast overgrowth. The most common diseases associated with yeast dermatitis include allergies (flea, food or atopy), endocrinopathies (hypothyroidism or hyperadrenocorticism) and keratinization disorders such as primary seborrhea or epidermal dysplasia (Gupta *et al.*, 2004). Long-term exogenous corticosteroid administration or long-term antibiotic therapy may also predispose dogs and cats to yeast or bacterial infections. Breeds like West Highland White terriers, Cocker and Springer spaniels, Basset hounds and German shepherds are highly prone for malasseziasis. Treatment for *Malassezia* and *Staphylococcus* dermatitis includes both topical and systemic therapy. Topical therapies include degreasing shampoos containing benzoyl peroxide, tar or selenium sulfide and antimicrobial shampoos such as chlorhexidine (at greater than 2% concentration), miconazole nitrate, or ketoconazole. Other topical therapeutic options include 2% lime sulfur dip and 12% chlorhexidine or miconazole conditioners otherwise 50:50 solution of white vinegar or lime and water as a whole body rinse

after bathing or sprayed all over the body. In cases of generalized *Malassezia* and *Staphylococcus* dermatitis, topical therapy is often used in combination with a systemic anti-fungal medication such as ketoconazole. The treatment of yeast and bacterial dermatitis depends on the patient's history, signalment, physical examination findings and other diagnostic procedures like hypoallergenic

diet trial, tests for flea or inhalant allergies and blood tests for endocrine or metabolic diseases. Effective treatment may require both topical and systematic antimicrobial and antifungal therapy along with pain killer and corticosteroid. Proper management advice must be given to dog and cat owner to prevent the skin and ear infection.



**Fig. 1.** Lesions on ear and neck area

## SUMMARY

Importance in treating yeast and bacterial dermatitis is identification and addressing the underlying cause. For the *Malassezia* and *Staphylococcus dermatitis*, treatment includes both topical and systematic antimicrobial and antifungal therapy along with pain killer and corticosteroid. Proper management advice must be given to dog and cat owner to prevent the skin and ear infection.

## REFERENCES

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