

*Clinical Article*

**DIAGNOSTIC AND THERAPEUTIC MANAGEMENT OF DEMODICID  
OTODECTIC MALASSEZIAL OTITIS EXTERNA IN A POODLE PUP**

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**Abstract:** A four month old Poodle pup was presented with the history of head shaking, ear scratching, itching and moist lesions with alopecia. Swab samples of the otic discharge revealed demodectic mites in one ear and *Otodectes cynotis* mite along with demodectic mites in another ear. Cytological examination of the otic discharge revealed *Malassezia* organisms. Skin scrapings and hair plucks revealed demodectic mites. Glass slide impression smears of the moist skin lesions revealed numerous cocci indicating pyoderma. Hence, the pup was treated with oral ivermectin solution @ 300 – 600 µg/kg body weight daily, cefpodoxime with clavulanic acid @ 5mg/kg body weight once orally daily, clotrimazole ear drops @ 3 drops twice a day. Benzoyl peroxide shampoo was advised for bathing. As a result, otitis externa was cleared by 21 days, while pyoderma and generalized demodicosis by 28 and 42 days respectively.

**Keywords:** *Demodex*, *Malassezia*, *Otodectes cynotis*, Poodle.

## INTRODUCTION

Otodectic mange, is a highly contagious parasitic otopathy caused by a large (300×400 µm) psoroptid ear mite *Otodectes cynotis* seen in cats, dogs, foxes, ferrets and rarely humans (Campbell, 2005). Demodicosis is associated with proliferation of mite *Demodex canis*, which is a normal inhabitant of follicles and sometimes sebaceous glands (Singh *et al.*, 2011). Otitis externa is a multifactorial disorder and it is absolutely essential to successful long-term management that the primary cause of the ear disease be diagnosed and controlled. The present paper is a report of otitis externa due to *Demodex*, *Otodectes cynotis* (ear mite) and *Malassezia* organisms along with generalized pyo-demodicosis in a Poodle pup.

## HISTORY AND CLINICAL FINDINGS

A 4 month old male Poodle was presented to the College Veterinary hospital with the complaint of hair loss, head shaking, moderate pruritus and ear scratching since 15 days. Deworming and vaccination status are regular. Clinical examination revealed moist lesion with alopecia over the left lateral thoracic region of the body (Fig.1) and face. The dog had slight yellowish otic discharge in both the ears.

On roll swab examination of otic discharge under high power objective,  $\geq 2$  demodectic mites/ field were observed in some randomly selected fields. Ear mite was also observed in the otic discharge of right ear along with demodectic mite (Fig.2). Elevated populations of Malasseziales organisms i.e  $> 4$  organisms/oil immersion field (OIF) were observed in both ears on cytological examination of otic discharge after New Methylene blue staining (Fig.3). Hair plucks collected from the skin lesions revealed more than five live demodectic mites per every field on low power objective. In addition, glass slide impression smears collected from the moist skin lesions revealed numerous cocci under OIF after New Methylene blue staining indicating pyoderma.

## TREATMENT AND DISCUSSION

In the present study, the Poodle pup was diagnosed to have otitis externa could primarily be due to *Demodex* and *Otodectes cynotis* and with secondary Malasseziales organisms. Poodles have high density of hair in the ear canals. Hence, Poodles with pendulous pinnae and hirsute ear canals are more affected with otitis externa due to the humidity of the ear canal, whether it is from hair in the ear canal or from the environment (Hayes and Pickle, 1987). *Otodectes cynotis* is the most common cause of otitis externa in cats while, it is less common in dogs (Maazi *et al.*, 2010). Angus (2005) stated that as low number of *Otodectes* mites can cause infection, the diagnosis can easily be missed. Moreover, Grono (1970) mentioned that ear mites do not like a moist environment and may die or leave the ear canal after initiating an inflammatory response. *Otodectes cynotis* infestation can occur at any age but are more common among puppies, due to transmission from the bitch to puppies during breast feeding (Marcondes, 2001). Identification of *Otodectes cynotis* in one ear with yellowish exudate is in correlation with the findings of Saridomichelakis *et al.*, (2007). On the contrary, Chickering (1988) observed dark brown to black, crumbly exudates resembling coffee grounds in *Otodectes cynotis* infestation.

Demodectic mites were observed in the otic discharge and also on the body in the present case. Saridomichelakis *et al.*, (2007) also reported otodermatitis in four dogs in his study

with coexistence of its generalized form. However, *Demodex canis* was reported as a rare cause of otitis externa in dogs (Harvey *et al.*, 2001). Hence, therapy was initiated with cefpodoximine with clavulanic acid @ 5mg/kg body weight, once orally daily as recommended by Rosser (2006). Along with this oral ivermectin solution was given for the otocariasis due to *Demodex* and *Otodectes* mites @ 300–600 µg/kg body weight daily as incremental doses, looking for any adverse reactions. The *Malassezia* otitis externa was treated with clotrimazole ear drops @ 3 drops BID (Kiss *et al.*, 1997). Benzoyl peroxide shampoo was advised for bathing once in 4 days.

By 7<sup>th</sup> day, there was a partial improvement in head shaking and ear scratching but, few live demodectic mites and more dead mites were observed in the otic discharge and hair plucks from the body. However, no *Otodectes cyanotis* mite was observed. The number of *Malassezia* organisms in the otic discharge were also partially reduced. On 14<sup>th</sup> day, head shaking and ear scratching were greatly reduced but the laboratory study revealed few Malassezian organisms and dead demodectic mites. But, few live demodectic mites along with dead mites were observed in hair plucks.

The otic discharge of both the ears were completely free of demodectic mites and Malassezian organisms by 21<sup>st</sup> day. Head shaking and ear scratching were also completely reduced. However, by 28<sup>th</sup> day trichography of the cutaneous lesions (that were improved partially) revealed few dead demodectic mites alone and pyoderma was completely cured. It took 42 days for complete clinical recovery from generalized demodicosis. On the day of presentation, alopecia was observed over the face (Fig.5) and on the left lateral thoracic region of the body however, complete regrowth of hair (Fig.6) was noticed following recovery.

## CONCLUSION

A four month old Poodle pup presented with the history of head shaking, ear scratching, itching and moist lesions with alopecia on the face and left lateral thoracic region of the body was diagnosed to have demodicid otodectic malassezian otitis externa besides generalized demodicosis with pyoderma, a rare finding to have such multi-etiological involvement. After treating with cefpodoximine with clavulanic acid tablets, oral ivermectin solution, clotrimazole ear drops and benzoyl peroxide shampoo, it took 21 days, 28 days and 42 days for complete recovery of otitis externa, pyoderma and generalized demodicosis respectively.

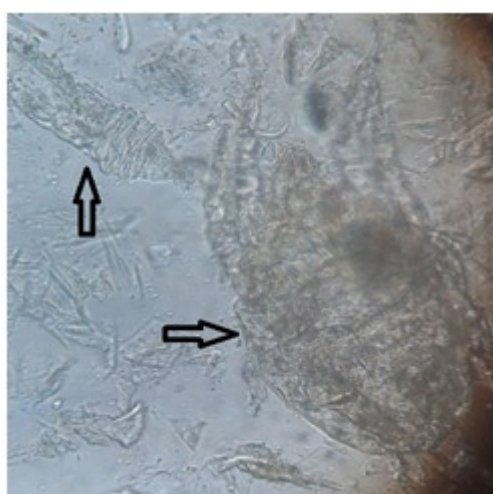
## References

- [1] Angus, J.C (2005). Pathogenesis of otitis externa – Understanding Primary causes. *Proceeding of the NAVC (North American Veterinary Conference)*. 8-12, pp: 807-09.
- [2] Campbell, K.L. (2005). Other external parasites. In: Ettinger SJ and Feldman EC (Eds), *Textbook of veterinary internal medicine.*, 6th ed. Saunders Elsevier., St. Louis., Missouri. pp. 66–67.
- [3] Chickering, W.R. (1988). Cytologic evaluation of otitic exudates. *Veterinary Clinics of North America Small Animal Practice*. 18: 773-82.
- [4] Grono, L.R. (1970). Studies of the microclimate of the external auditory canal in the dog- Relative humidity within the external auditory meatus. *Research in Veterinary Science*. 11: 316-19
- [5] Hayes, H.M., Pickle, L.W. (1987). Effects of ear type and weather on the hospital prevalence of canine otitis externa. *Research in Veterinary Science*. 42: 294–8.
- [6] Harvey, R. G., Harari, J. and Delauche, A. J. (2001). Etiopathogenesis and classification of otitis externa. In : *Ear Diseases of the Dog and Cat*. London, Manson Publishing. pp 81-122.
- [7] Kiss, G., Radvanyi, S., Szigeti, G., Lukats, B. and Nagy, G. (1997). New combination for the therapy of canine otitis externa II - Efficacy in vitro and in vivo. *Journal of Small Animal Practice*. 38(2): 57-60.
- [8] Maazi, N., Jamshidi, S.H. and Hadadzadeh, H.R. (2010). Ear Mite Infestation in Four Imported Dogs from Thailand; a Case Report. *Iran Journal of Arthropod Borne Dis*. 4: 68–71.
- [9] Marcondes, C.B. (2001). Ácaros (carrapatos e outros). In: *Entomologia Médica e Veterinária*. 1<sup>a</sup> ed. Atheneu, São Paulo. pp.305-06.
- [10] Rosser, E.J. (2006). German Sheperd dog pyoderma of otitis. *Veterinary Clinics of North America Small Animal Practice*. 34: 459-68.
- [11] Saridomichelakis, M.N., Farmaki, R., Leontides, L.S. and Koutinas, A.F. (2007). Aetiology of canine otitis externa: a retrospective study of 100 cases. *Veterinary dermatology*. 18: 341-347.
- [12] Singh, S.K., Kumar, M., Jadav, R.K. and Saxena, S.K. (2011). An Update on Therapeutic Management of Canine Demodicosis. *Veterinary World*. 4: 41-44.

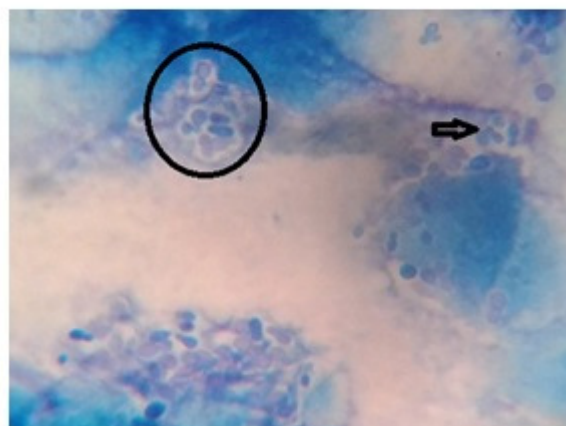
**FIGURES**



**Fig.1:** Alopecia over the left lateral thoracic region of the body



**Fig 2**

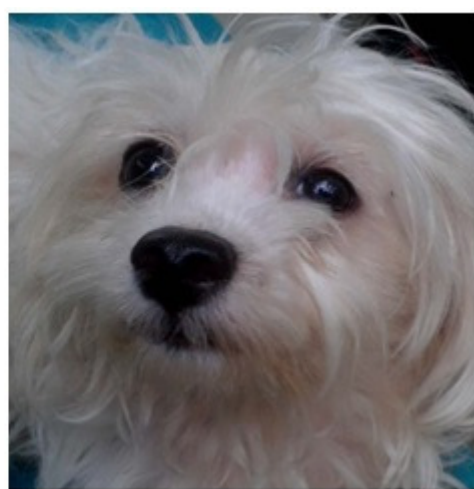


**Fig 3**

**Fig.2:** Ear mite along with demodectic mite in the otic discharge (10X)  
**Fig.3:** Elevated population of *Malassezia* organisms in roll swab cytology- (100X)



**Fig.4:** Alopecia over the face region



**Fig.5:** Complete recovery – 42<sup>nd</sup> day