

Clinical article

OTITIS EXTERNA ASSOCIATED WITH SCABIES AND ITS ZOOBOTIC IMPORTANCE

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Abstract: A two month old pup presented with the history of head shaking, intense pruritus revealed crusting lesions with alopecia over the pinnal margins and conspicuous brownish ear discharge on clinical examination. Pinnal pedal reflex was found positive however, *Sarcoptes scabiei* mange infection was confirmed by microscopic examination of pinnal scrapings. In addition cytological examination of otic discharge revealed *Malassezia* and bacterial organisms. The owner also reported intense pruritus and had small papules due to the zoonotic spread of the infection. Therapy was initiated with 0.25% fipronil pump solution @ 2ml/ kg body weight twice weekly for *Sarcoptes* and ear drops with the combination of clotrimazole and ofloxacin were used for the treatment of mixed otitis externa. Shampoo with ketoconazole and chlorhexidine was advised for bathing. After the onset of treatment, the condition started improvement within one week and full recovery was seen after 21 days. The owner also got treatment with external application of 25% benzoyl benzoate.

Keywords: Clotrimazole, Fipronil, *Malassezia*, *Sarcoptes scabiei*.

Introduction

Otitis externa is defined as an acute or chronic inflammation of the epithelium of the external ear canal which may also involve the pinna and it results from a combination of dynamic changes affecting the anatomical, physiological and microbiological status of the external ear canal. August (1988) classified the cases of otitis externa based on the causative factors as predisposing factors, primary causes, perpetuating factors. *Sarcoptes scabiei* can cause inflammation, pruritus on or near the pinnae, resulting in head shaking, ear scratching and subsequent secondary otitis externa. The transmission from animal to animal is through direct contact or via fomites. The *Sarcoptes scabiei* mange mite gets transmitted to humans on close contact with infected dogs, leading to intense pruritus and irritation due to the hypersensitivity reactions for the mites and their products. The present paper reports the

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zoonotic importance of scabies in humans closely associated with dogs and successful management of the condition.

History and clinical findings

A two month old pup was brought to the College Veterinary hospital with the history of head shaking and intense pruritus since 15 days. Clinical examination revealed crusting lesions with alopecia over the pinnal margins (Fig.1) of both the ears and conspicuous brownish ear discharge. The lesions were not evident elsewhere on the body. Audio-podal reflex (Pinnal pedal reflex) was found to be positive on examination. Superficial, deep skin scrapings and swab samples were collected for laboratory examination. Skin scrapings readily revealed ova and adult live mites. The mites had round body, short legs and long unjointed stalk with sucker on front pairs of legs, a thick body wall with large spines on dorsal surface. No other ectoparasites could be observed. Both ears were found to be positive for *Sarcoptes* mites. The number of mites ranged from 3-7/ field (Fig.2) in some randomly selected fields indicating severe infection. Cytological examination of otic exudates under oil immersion objective (100X) revealed the presence of *Malassezia* and bacterial cocci indicating mixed otitis externa (Fig.3). The number of *Malassezia* organisms were about 8-10/ field and were considered to be pathogenic. However, bacterial cocci were numerous in chains or clusters making them difficult to count. The owner had close association with the pet and also reported intense pruritus, more severe during nights since 7 days. He had small papules due to the zoonotic spread of the infection (Fig.4). A presumptive diagnosis of scabies was made, based on history of pruritus which was severe during nights and contact with the affected dogs.

Treatment and discussion

Based on the morphology, mites were identified as *Sarcoptes scabiei* (Soulsby, 1982). As the age of the dog is 2 months, ivermectin is contraindicated, hence in the present study 0.25% fipronil pump solution was used @ 2ml/ kg body weight twice weekly. Fipronil is a member of the phenylpyrazole class of insecticides, and is an antagonist of parasite GABA receptors. Based on cytological examination, ear drops with the combination of ofloxacin and clotrimazole @ 3 drops two times in a day were used as recommended by Kiss et al., (1997). A shampoo containing ketoconazole and chlorhexidine was advised for bathing once in a week.

By 7th day it was observed that head shaking and ear scratching were reduced but, few live mites and dead mites were observed. The number of *Malassezia* and bacterial organisms were

also reduced. On 14th day, clinical examination revealed that number of Malassezian organisms/oil immersion field were normal (< 2organisms/ field) and cocci were also completely absent. Head shaking and pruritus was completely reduced, few dead mites and no live mites were observed in skin scrapings. Regrowth of hair was observed on the pinnal margins and crusting lesions were also improved. Audio-podal reflex was found to be negative. On 21st day no mites were observed in skin scrapings and crusting lesions were completely reduced. Fipronil was reported to be effective in the treatment of scabies in a litter of young puppies (Curtis, 1996). This product is a useful treatment option in young dogs as it is licensed for application to puppies from two days of age.

The *Sarcoptes* infestation, although self-limiting in humans, can be intensely itching and bothersome. However, there are reported cases of Sarcoptic mange in humans that are not self-clearing and require treatment to control them (Taplin et al., 1991). Hence, the owner got treatment from the dermatologist with external application of 25% benzoyl benzoate over the lesions with which improvement was noticed after two applications in one week period. Owner was advised to wash all the inanimate objects that were in contact with the dogs with hot water. He was also advised to spray the floor and walls with Cypermethrin @ 4ml per litre of water monthly twice. No recurrence was observed in the period of 3 months.

Conclusion

The human scabies infection is not rare in our setup, the predisposing factors being low socioeconomic conditions, overcrowding and poor hygiene. The animal scabies in humans should be considered as a differential diagnosis for the itchy dermal lesions in those who give a history of a direct contact with animals. The prevention includes an early identification and a prompt treatment of the source animals. Care must be taken while they are being handled. Protective clothing such as gloves should be worn.

References

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Fig.1 Pinnal margin with crusty lesions and alopecia

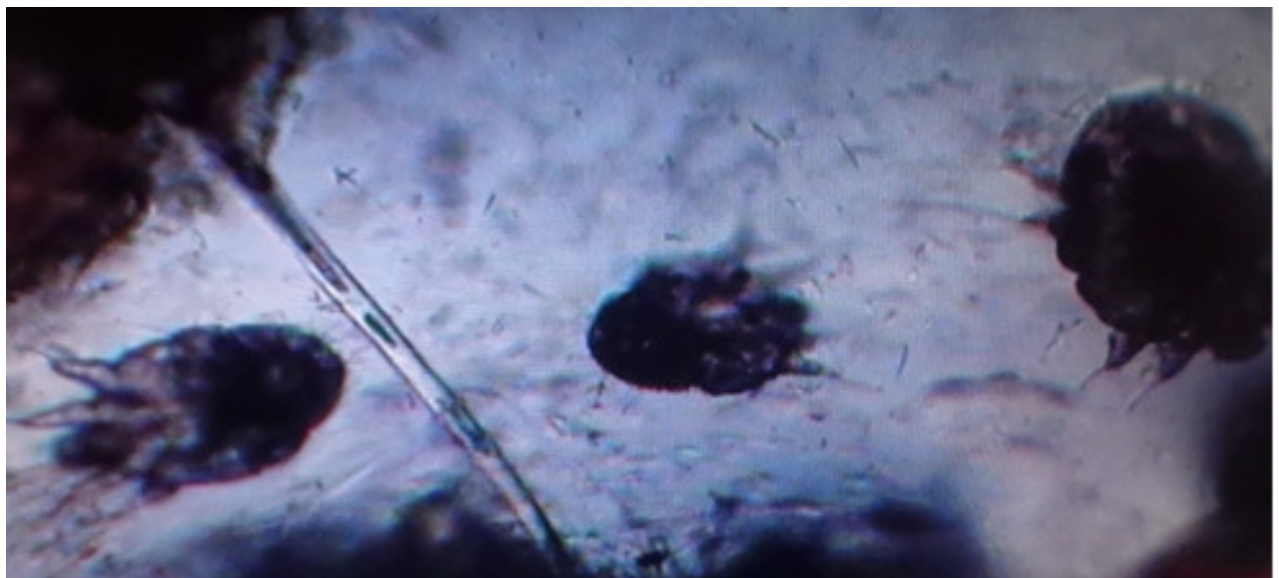


Fig. 2 *Sarcoptes scabiei* mites (3) in one field under low power objective (10X)

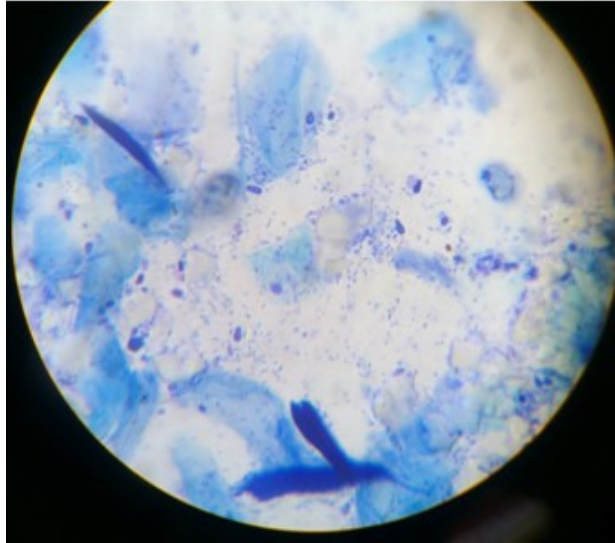


Fig. 3 Presence of *Malassezia* and bacterial cocci (100X) - Mixed otitis externa



Fig. 4 Small papular eruptions due to zoonotic spread of *Sarcoptes* infection