

A rare case of *Sarcoptes Scabiei* in Persian cat

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Abstract

A case of Persian cat with history of severe pruritus, alopecia, itching and crusts over whole body was presented in Medicine OPD of Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, Punjab. Microscopic examination of hair plucking and skin scrapes revealed large numbers of *Sarcoptes spp.* mites. The cat was treated with topical lime Sulphur dip, parenteral ivermectin along with oral cephalixin and Omega-6 fatty acids supplementation. The cat recovered completely after one month of treatment.

Sarcoptes scabiei is an astigmatid mite having worldwide distribution with zoonotic importance, that causes scabies in both humans and mammals. It is characterized by highly pruritic and crusting dermatitis. Sarcoptic mange (Sarcoptic acariasis) due to *S. scabiei* has been reported infrequently in the cat. Indeed, there are only six well-documented individual patients (Lindquist and Cash, 1973; Bussieras, 1984; Hawkins *et al.*, 1987; Huang *et al.*, 1998 and Kontos *et al.*, 1998) and an 'epidemic' of 25 cats in a single household (Bornstein *et al.*, 2004). The burrowing mites of the family Sarcoptidae cause intense itching from an allergic reaction to the mite, and crusting that can quickly become infected. Hair loss and crusting frequently appear first on elbows and ears and then progresses to rest of the body.

Case History and Observations

A five-month old female Persian cat weighing 2 kg was presented at Medicine OPD of Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, Punjab. The chief complain of owner included itching over whole body from past three weeks along with lethargy. Cat was having normal feed and water intake. There was no recent episode of any other health related issues. The patient was fully vaccinated with *Feligen* (Virbac), last dewormed at 4 months of age and had not received any other medication including flea treatment. The owner reported that the lesions were initially focal in nature but had then spread to other areas. Apart from this, itching in hands of family members handling the cat was also reported. On clinical examination, the cat was apparently active, rectal temperature was 103°F and mucous membranes were slightly congested with

normal hydration status. The most conspicuous lesion was the crusting fissured dorsal surface of the pinna (Figure 1). There was presence of widespread crusts, alopecia and severe itching pruritus over the dorsum extending from the neck to the tail head. Further examination revealed extensive scaling throughout the coat and positive pinnal pedal reflex. No other abnormalities were detected on clinical examination and body condition was reasonable (condition score 3/5). As the cat was presented with the signs of relatively rapid onset of disease, allergies and parasites were considered to be most likely differentials and so diagnosis was pursued along to rule out mange or mite cause of skin diseases. Blood and skin scrapping samples were collected for hematological and parasitological examination. Results revealed hemoglobin was 12.3 g/dl, PCV 36.9 per cent, TLC 19,710 cu mm involving neutrophilic leukocytosis with moderate left shift (N-80%, L-16%, E-04%) along with mild toxic changes in few neutrophils. Blood smear was negative for any blood protozoa. Cytological examination of skin surface (impression smear) revealed presence of bacteria and yeast but not in numbers considered to be significant. Microscopic examination of hair plucking and skin scrapes revealed large numbers of *Sarcoptes spp.* mites on skin scrapes (Figure 3). The case was diagnosed and treated as Sarcoptic scabies. The cat was treated with ivermectin (Hitek, *Virbac* 10%) 0.04 ml sub-cutaneous (repeated after 1 week), cephalixin suspension (Sporidex 125mg/ 5ml (@ 60mg PO BID x 5 days), syrup cetirizine (Lordizin) 0.5 ml and syrup Vitabestderm (*Virbac*) containing Omega 6 fatty acids with zinc @ 1mltwice orally for 7 days. As the use of cypermethrin is contraindicated in cats and the owners expressed a desire to avoid shampoos if possible (due to compliance issues), a lime sulphurdip with trade name

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Figure 1. The most conspicuous lesion is the crusting fissured dorsal surface of the pinna



Figure 2. Clinically recovered cat one-month post- treatment



Figure 3. Photomicrograph of sarcoptic mite in skin scrapings (100 X)

Demoscanil (JIBBS) available on www.amazon.in was initiated. The owner was advised to take necessary precautions before applying lime Sulphur to cat e.g., wearing gloves and applying protective collar until dry to prevent ingestion/licking. There was moderate resolution of pruritus and itching after first week of the treatment. A second dose of treatment with ivermectin and lime sulphur was repeated in cat for next 2 weeks. The lesions completely resolved after one month of presentation (Figure 2).

Discussion

The diagnosis of this case was confirmed by microscopic examination of hair plucking and skin scrapes. In previous breakthrough investigations (Bornsten *et al.*, 2004) mites harvested from cats had identical DNA sequences to mites collected from naturally infected dogs and wildlife. This provided compelling evidence that *S. scabiei* is not absolutely specific in relation to host species, and similar

observations have been made in relation to wombat scabies in Australia (Skerratt, 2003). Scabies causes intense pruritus associated with hypersensitivity to mite antigens, including proteins in the cuticle, saliva and feces. In infested cats the main stay of the treatment should be focused on both resolution of the pruritus as well as reducing the number of mites. As the number of successfully treated feline scabies cases are insufficient to make any firm recommendations concerning therapy, however, based on information obtained from humans (Orkin and Maibach, 1993) and canine cases, the systemic therapy with avermectin compounds is recommended as the therapy of the choice and at least as effective as topical therapy with lime sulphur or other insecticides (Walton *et al.*, 2000). The Synthetic pyrethroids, which are widely used for topical therapy in man and dogs, are far too toxic to be useful in the feline patient (Volmer *et al.*, 1998). It is strongly recommended that when treating cats or dogs with *S. scabiei* infestation, it must be prudent to treat all in-contact companion animals to guard against the

possibility of contagion and ongoing infestations.

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