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VVV Amruth Kumar

Associate Professor, Department of Veterinary Medicine, College of Veterinary Science, Mamnoon, P.V. Narasimha Rao Telangana Veterinary University, Hyderabad, Telangana, India

M Manjusree

B.V.Sc, Final Year Student, College of Veterinary Science, Mamnoon, P.V. Narasimha Rao Telangana Veterinary University, Hyderabad, Telangana, India

Thalluri Ramya Sai

M.V.Sc Scholar, Department of Veterinary Medicine, College of Veterinary Science, Rajendra Nagar, P.V. Narasimha Rao Telangana Veterinary University, Hyderabad, Telangana, India

Corresponding Author:

VVV Amruth Kumar

Associate Professor, Department of Veterinary Medicine, College of Veterinary Science, Mamnoon, P.V. Narasimha Rao Telangana Veterinary University, Hyderabad, Telangana, India

Successful therapeutic management of notoedric mange in a Persian Kitten: Case report

VVV Amruth Kumar, M Manjusree and Thalluri Ramya Sai

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Abstract

A 4-month-old Persian kitten suffering from anorexia, intense pruritis, alopecia, hyperkeratosis, dry crusty and scaly lesions of the face, ears and legs for three weeks was presented to the Veterinary Clinical Complex, College of Veterinary Science, Mamnoon. Laboratory examination of the skin scraping under a light microscope revealed the presence of numerous live *Notoedres cati* mites. Additionally, the kitten displayed positive signs of pinna pedal reflex. The kitten was treated with Inj. Ivermectin @0.2 mg/kg b. wt once in a week for four doses. Supportive therapy was given with syrup. Vita best derm and advised bath with Petben shampoo once in a week. Kitten showed mild recovery after 2nd dose and complete remission of clinical signs after 4th dose of Ivermectin. The present study was taken up for enumerating the effective, minimum medicinal treatment protocol for effective and faster treatment of *Notoedres cati* infection in cats, especially kittens.

Keywords: *Notoedres cati*, Ivermectin, Persian kitten, Pinna pedal reflex

1. Introduction

One of the most prevalent clinical conditions in domesticated pets is dermatosis. Cats are particularly susceptible to mange and suffer from a wide range of parasite illnesses (Scott *et al.*, 2001) ^[1]. Cat sarcoptid mites are known as *Notoedres cati*. However, it is also an opportunistic infection of other animals, including humans and canines. It is the causative agent of notoedric mange, an unusual and extremely contagious disease of cats and kittens (Sivajothi *et al.*, 2015) ^[2]. The condition is extremely contagious and mostly spreads through contact with infected bedding, areas that recently had infected animals visit, or direct contact between animals (Friberg, 2006) ^[3]. Lesions from notoedric mange include hyperkeratosis, localized alopecia and hyperpigmentation. The disease may turn out to be fatal and the clinical symptoms tend to get worse by secondary bacterial infections produced by the excoriations from self-trauma (Fadok, 1980) ^[4]. The condition can be grossly diagnosed through the microscopic identification of the mite acquired from superficial skin scrapings. Ivermectin, when administered orally or intravenously, has been shown to be effective in the treatment of ascariasis among the several acaricides that have been used to control the condition (Eraslan *et al.*, 2010 ^[5] and Scott *et al.*, 2001 ^[1]). In the current research, ivermectin therapy is described as a successful method for treating notoedric mange in domestic cats.

2. Materials and methods

A four-month-old female Persian kitten was brought to the Teaching Veterinary Clinical Complex, College of Veterinary Science, Mamnoon with a history of skin lesions on the face, ears and legs, associated with intense pruritus for three weeks. The kitten was anorectic for one week and had occasional regurgitation of food material immediately after feeding. Upon clinical examination of the cat revealed scales, crusts, erythema and alopecia (Fig. 1, 2, 3). The physiological parameters were as follows - Temperature (102.8 °F), Heart rate - 115 beats /min and the conjunctival mucus membrane (CMM) was pale. The kitten also showed positive signs of pinna pedal reflex. The procedure involves lying on the animal in lateral recumbency as the cat scratches with the ipsilateral hind limb while the ear canal is being scrubbed (Keith *et al.*, 2017) ^[6]. Skin scraping and hair pluck examination were done for the detection of mites, to be visualized using a light microscope. Upon examination under a low power,

microscope revealed numerous live *Notoedres cati* mites (Fig 4, 5). After being digested in 10% NaOH solution, skin scrapings were examined under a microscope for morphology, which revealed a circular body and short legs. According to Walker (1994) [7], the mites were identified based on their morphology and the presence of spines, which clearly distinguish *N. cati* from *Sarcoptes* sp. *Notoedres* mites are smaller than *Sarcoptes*, feature 'thumb print'-like dorsal striations, shorter limb stalks and dorsal anus as compared to terminal anus, dorsal legs and spines as observed in *Sarcoptes* species (Quesenberry and Carpenter, 2004) [8].



Fig 1, 2, 3: Presence of dry crusty, scaly lesions and alopecia

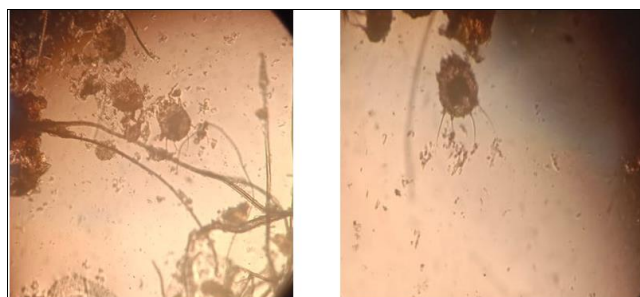


Fig 4, 5: Presence of *Notoedres cati* mites under low power microscope

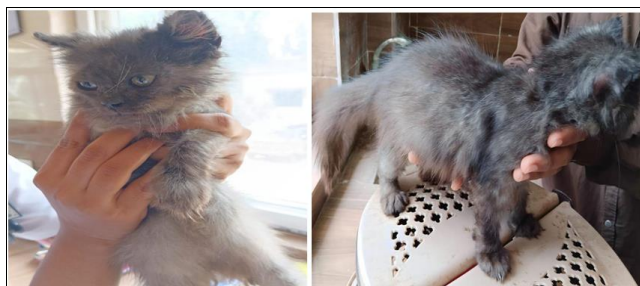


Fig 6, 7: Complete recovery observed after 4 weeks of treatment

3. Results and Discussion

The notoedric mange-affected kitten was treated with Inj. Ivermectin @0.2 mg/kg b.wt once in a week for 4 doses. Supportive therapy with Syrup. Vitabest derm @1ml/kg b.wt was given and advised to bath with Petben shampoo once in a week. Kitten showed mild recovery after 2nd dose and complete remission of all the clinical signs after 4th dose and also showed negative for skin scraping examination (Fig 6, 7). Cats from the Sarcoptidae family rarely have *Notoedres cati*. According to Chakrabarti (1986) [9] and Sivajothi *et al.* (2015) [2], the infected cat should be treated immediately and appropriately as it is zoonotic. Both the larvae and the nymphs are highly contagious. Because it is a zoonotic parasite of humans, care should be taken while handling affected cats (Chakrabarti, 1986) [9]. According to Wall *et al.* (1997) [10], the female mites' burrowing activity destroys the skin's keratinocytes, which causes the release of the cytokine (IL-1) and cutaneous inflammation as well as severe itching, alopecia, scale, and crust formation. The clinical signs, such as alopecia, erythema, scales, crusts and hyperkeratosis on the

head and pinnae and malodorous lesions, are in accordance with earlier reports (Ngetich, 2019 [11] and Stevanovic *et al.* 2019 [12]). Ivermectin is known to affect GABA neurotransmission at two or more sites, preventing the inter-neuronal activation of excitatory motor neurons and resulting in flaccid paralysis. Ivermectin may affect glutamate-gated Cl⁻ ion conductance at the postsynaptic membrane or neuromuscular endplate (Adams, 2001) [13]. It is necessary to emphasize that immunosuppression is one aspect to consider in the development of notoedric mange, other supportive medication besides ivermectin should be used to regulate the immune response (Foley *et al.* 2016) [14]. The easiest way to prevent infection is to keep healthy cats away from stray or diseased cats. Avoid boarding or grooming your cat in places with poor cleanliness. It is frequently advised to treat all cats in the family if there are several of them since they can be harboring mites.

4. Conclusion

Present communication reports a case of notoedric mange in a Persian kitten which was successfully treated with Inj. Ivermectin and minimal supportive medication.

5. References

1. Scott DW, Miller WH, Griffin CE. Parasitic skin diseases. Muller and Kirk's small animal dermatology. (6th. Edn.), Philadelphia, W. B. Saunders Co, 2001, 483-484 and 1449.
2. Sivajothi S, Sudhakara Reddy B, Rayulu VC, Sreedevi C. *Notoedres cati* in cats and its management. J Parasit Dis. 2015;39:303-5.
3. Friberg C. Feline facial dermatoses. Vet. Clin. Small Anim. 2006;36:115-140.
4. Fadok VA. Miscellaneous parasites of the skin (Part II). Comp. Cont. Ed. 1980;2:782-787.
5. Eraslan G, Kanbur M, Liman BC, Cam Y, Karabacak M, Altinordulu S. Comparative pharmacokinetics of some injectable preparations containing ivermectin in dogs. Food Chem. Toxicol. 2010;48:2181-2185.
6. Keith Hnilica A, Patterson AD. Small animal dermatology. Edn 4, Elsevier, Netherlands; c2017. p. 132- 172.
7. Walker A. The arthropods of human and domestic animals. London: Chapman and Hall; c1994. p. 7-8.
8. Quesenberry K, Carpenter J. Ferrets, rabbits, and rodents clinical medicine and surgery, 2nd edn. Elsevier, St. Louis; c2004.
9. Chakrabarti A. Human notoedric scabies from contact with cats infested with *Notoedres cati*. Int J Dermatol. 1986;25:646-8.
10. Wall R, Shearer D. Veterinary Entomology. Edn 1, Chaman and Hall 2-6 Boundary Row London SE1 8HN UK, Cornwall; c1997. p. 62-63.
11. Ngetich W. Mange in an adult domestic short haired cat case report. Archives of Animal Husbandry & Dairy Science. 2019;1:1-3.
12. Stevanovic O, Vujani D, Dobrijevic M, Nedic D, Trbojevic I. Notoedrosis in a household cat - case report. Archives of Veterinary Medicine. 2019;12:39-47.
13. Adams HR. Veterinary pharmacology and therapeutics. 8. Ames: Iowa state university press; c2001. p. 1025-1029.
14. Foley J, Serieys L, Stephenson N, Riley S, Foley C, Jennings M, *et al.* A synthetic review of *notoedres* species mites and mange. Parasitology. 2016;143:1847-1861.