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Short Communication

Sarcoptic Mange and Its Therapeutic Management in Pet Rabbits

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ABSTRACT

Rabbits are very much prone to skin infections of which Sarcoptic mange is most commonly noticed. Eight non descriptive rabbits of 1-2 yr age of both the sexes were presented by different owners with the history of pruritis, scab and crusts formation in the ears, paws and alopecia all over the body. Detailed clinical examination revealed thick crusts over the ear margins, paws and scales on the body. Skin scrapings of the affected areas under microscope confirmed the *Sarcoptes spp*., mite. Ivermectin @400 mcg/kg bwt sc administered once in a week for four weeks along with topical application of benzyl benzoate and supplementation with vitamins and minerals were found to be effective with a good prognosis. No recurrence was reported till date in all the rabbits.

Key Words: Rabbit, Sarcoptes, Mange, Ivermectin, Benzyl benzoate.

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INTRODUCTION

Rabbits are the third most common animals that the people are preferring to raise next to dogs and cats. This is because they require little space, crepuscular, vegetarian and not much attention is required as of dogs and cats. Skin infections in rabbits are common problem that many owners report and are scared to handle because few skin infections are zoonotic in nature. Sarcoptic mange in rabbits is a common, highly contagious ectoparasitic infestation. It is caused by *Sarcoptes scabiei*, which is distinguished by presence or absence of pruritis, morphology of mite and distribution of lesions and if left untreated may cause significant morbidity and economic losses (Bhardwaj *et al*, 2012). It is of zoonotic importance; affecting dogs, cats and humans causing a transient itching dermatosis. Sarcoptic mange generally spread by direct skin contact or through contact with environment. As it is a deep burrowing mite in epidermis causing intense itching, pruritis, pyoderma, crust formation, scare production, thickening and wrinkling on skin of affected areas, it also affects the health apart from damage of skin tissues by loss of blood or body fluids, cause allergic reactions and secondary bacterial infections (Walker and Stacheci, 1996). Clinically, mite infestation is characterized by pruritis, alopecia at ears, nose, feet, areas around genitalia and in prolonged illness, the animal become emaciated and may even die due to cachexia (Roy *et al*, 2001). Microscopic examination of skin scrapings is an appropriate method for diagnosis of mites. Completely relying only on clinical signs to confirm the infestation is not recommended. The avermectin

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group of drugs includes ivermectin, abamectin, doramectin, eprinomectin and selamectin can be used to treat rabbits that are naturally infected with scabies (Kachhawa *et al*, 2013). Among these acaricides, ivermectin given orally or, parentrally, has been reported to be effective in treatment of scabies (Mitra *et al*, 2014).

Case history and Clinical examination

A total of eight non-descriptive pet rabbits, 1-2 yr of age of both the sexes belonging to different owners were presented to the Veterinary Clinical Complex, College of Veterinary Science, Garividi with the history of pruritis, alopecia, crust formation and scales on the body. Reduction in appetite and bodyweight was reported in five rabbits. Clinical examination revealed loss of fur, white indurated dry crusts and scabs on the ears, nose, face, periocular and paws (Fig.1 &2). Pruritis was noticed while collecting the skin scrapings. Skin scrapings were collected from the affected areas, and examined under microscope which revealed *Sarcoptes spp*., mite (Fig. 3&4). The mites had a round body, short legs, a long, unjointed stalk with a sucker on front pairs of legs.

Treatment and Discussion

Treatment with initial dose of ivermectin @400 µg/kg bwt SC was administered. The therapy was given at weekly intervals for four weeks. Skin scrapings were collected at each week before giving the dose of ivermectin on subsequent weeks. The scrapings were negative in two rabbits on day 7, on day 14 in five rabbits and on day 21 in one rabbit. The clinical lesions started resolving on day 14 and completely resolved on day 45 in all the rabbits. Oral vitamin supplements (Syp. Multistar®) was suggested. Topical benzyl benzoate was advised in all the rabbits at the affected areas for two weeks. Cleaning of cages with flame gun or locally available flame appliances was advised.

Mange infestation is very commonly noticed in rabbits and highly contagious. Mites induce several skin conditions in rabbits such as psoroptic, sarcoptic, and notoedric mange (Sharma *et al*, 2018). Sarcoptic mange is much more prevalent than other mites and is fatal ectoparasitic infestation (Jaiswal *et al*, 2022). In the present report, the skin lesions noted were loss of fur, white indurated dry crusts and scabs on the ears, nose, face, periocular and paws which was similar to the findings of Kacchawa *et al* (2013) who also reported that the lesions were commonly seen in ears, nose, feet and perineal area. Davies *et al* (1991) reported that the clinical signs of Sarcoptic mange includes pruritis, seborrhea, alopecia, hypersensitivity reaction, crusting and hyperkeratosis. Dry crusty lesions are commonly seen in the ear margins (Reddy *et al*, 2016). However, chronic cases of Sarcoptic mange leads to anorexia, lethargy, emaciation and can even cause death in rabbits (Scott *et al*, 2001). Microscopic evaluation of the skin scrapings for the morphology and physical characteristics of the mites can be used to differentiate sarcoptic mites from other mites that are found in rabbits. The mites have a round body,



Fig.1&2 White indurated dry crusts and scabs on the ears, nose, periocular and paws region

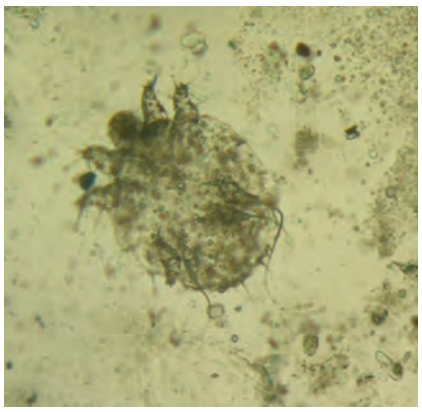
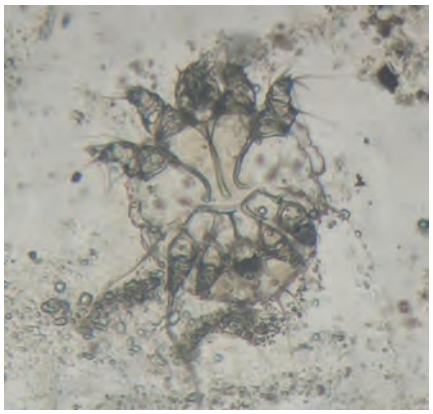



Fig. 3&4 Skin scrapings showing Sarcoptes Spp., mite under microscope

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short legs, a long, unjointed stalk with a sucker on front pairs of legs, vertical setae and a terminal anus (Radi, 2004). Using injectable macrocyclic lactones like ivermectin, doramectin, and moxidectin instead of dips have many advantages like they are quicker and safer, cause the least stress to the rabbit, does not require any special handling facilities and they are also having broad spectrum anthelminthic activity (Voyvoda *et al*, 2005). Parentral ivermectin therapeutic protocol once in a week was found to be successful in rabbits with sarcoptic mange by Panigrahi *et al* (2016), Singh *et al* (2017) and Kumar *et al* (2018). Multiple doses of ivermectin is advised because the mite eggs are resistant to acaricidal products and thus multiple treatments at various intervals are required to ensure presence of active drug during the time of hatching (Arends *et al*, 1999). Supplementation of vitamins and minerals with ivermectin augments the parasitological and clinical recovery in rabbits as it reduces the drug induced stress and also prevent deficiencies because of anorexia. Moreover, the age old practices of using benzyl benzoate, carbamates, sulfur-based compounds and paraffin oil may be used also for mange treatment. Diluted benzyl benzoate is used as a topical treatment of scabies to decrease the severity of skin irritation (Larranaga *et al*, 2016) in the present cases. Therefore, to conclude treatment with ivermectin, topical application of benzyl benzoate, and supplementation with multivitamins and cleaning of cages of rabbits could effectively control mange in rabbits.

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