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Successful management of sarcoptic mange in rabbits

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Abstract

In the present study two rabbits were presented with signs of severe itching all over the body, irregular dried dirty encrusted scabs with erythema on the edge of the ear, nose, face & legs with loss of hairs & thickening of skin since last one month. Skin scrapings were positive for *Sarcoptes scabiei* and antibiotic sensitivity test was done. The rabbits were treated with Ivermectin @ 200 µg/kg body weight sub-cutaneously weekly for 4 weeks, Enrofloxacin @ 5 mg/kg body weight for 7 days & a lotion containing Ofloxacin & Miconazole was applied on external pinna & other non-hairy parts for 7 days. Supplementation of omega-3 & omega-6 fatty acids were given daily orally for 30 days. The itching stopped by 7th day of treatment. The lesions are subsided by end of 3weeks and skin scrapping was negative for *Sarcoptes scabiei* after 3weeks of treatment.

Keywords: Mange, rabbit, ivermectin, ABST

Introduction

Dermatological problems are one of the most common clinical entities in domestic pets and fur bearing animals due to hot and humid climates [6, 7]. Mange is the most obstinate, resistant and contagious disease with zoonotic importance. Among various species of mites, *Sarcoptes scabiei* is a deep burrowing mite in epidermis causing intense itching, purities, pyoderma, crust formation, scare production, thickening and wrinkling on skin of affected areas. Being a contagious parasitic skin disease, mites are generally spread rabbit to rabbit by direct skin contact between infected and non-infected rabbits or, through contact with the environment. Severe infection especially in young or, debilitated animals causes high mortality. Overcrowded living conditions and poor hygiene are significant factors for infection with *S. scabiei* mites. It causes infestation which affects ears, nose, feet and areas around genitalia. Sarcoptic mange, if left untreated may cause significant morbidity and economic loss in livestock.

Case history and observations

Two male rabbits of breed Soviet Chinchilla between age group two to three years were presented at TVCC, CVSc. and A.H., OUAT, Bhubaneswar with signs of severe itching all over the body, irregular dried dirty encrusted scabs with erythema on the edge of the ear, nose, face & legs with loss of hairs and thickening of skin since last one month. Diagnostic samples were collected from skin lesions in symptomatic rabbits. Skin scrapings were taken from legs and ears using a scalpel blade until there was slight ooze of blood from dermal capillaries. Materials were suspended in a few drops of 10% KOH, examined under a light microscope(X 10-40) to determine the presence of mite. The superficial swab from the lesions sent to Microbiology laboratory for culture and sensitivity test.



Fig 1: Skin of rabbit showing the lesions of sarcoptic mange infection



Fig 2: Microscopic Examination revealed the presence of mites in the deep skin scrapings: *Sarcoptes scabiei var cuniculi*

Treatment and Discussions

A large number of mobile, round bodied mites were observed among the hairs and keratinous debris. All of the stages of lifecycle in *Sarcoptes scabiei* were identified under the microscope. From the culture sensitivity test predominantly Gram positive Cocci were found along with highly sensitive antibiotics Enrofloxacin, Gatifloxacin, Amoxicillin, Clindamycin were detected. The rabbits were treated with Ivermectin @ 200 µg/kg body weight sub-cutaneously weekly for 4 weeks, Enrofloxacin @ 5 mg/kg body weight for 7 days & a lotion containing Ofloxacin & Miconazole was applied on external pinna and other non-hairy parts for 7 days. Supplementation of omega-3 & omega-6 fatty acids were given daily orally for 30 days. The itching stopped by 7th day of treatment. The lesions were subsided by end of 3weeks & the rabbits were alright with the absence of all the lesions by end of 4th week. The hair coat became normal & lustrous by 5th week of treatment. The skin scrapings were negative for *Sarcoptes scabiei* after 3weeks of treatment & again 4th week of post treatment. The mange incidence in soviet chinchilla rabbits was found to be 32.6% and in German Angora rabbits 17.6% while white giant and new Zealand white rabbits were free from mange infestations^[8, 9]. In the present study the mange infestation might be due the breed susceptibility. The clinical symptoms such as irregular dried dirty encrusted scabs with erythema on the edge of the ear, nose, face and legs with loss of hairs & thickening of skin in the present study were corroborating with the study of Bulliot (2013)^[3]. Some affected animals also shows pyodermatitis due to allergic reaction or extracellular product of mite such as interleukin-1^[5]. In the present study Ivermectin @ 200 µg/kg body weight was injected sub-cutaneously weekly for 4weeks found effective where as kaplaywar *et al.* (2017)^[4] reported that 400 µg/kg·b/wt for 3 weeks at weekly intervals, Ayodhya (2013)^[2] 700 mcg/kg·b/wt found effective for effective treatment in mange. Ivermectin given subcutaneously selectively binds to glutamate gated and gamma-aminobutyric acid (GABA) gated chloride channels in the mites nervous system, resulting in hyperpolarization of cells, paralysis and finally death of mites^[1, 6]. The antibiotics and Local application was given to prevent the secondary bacterial infection^[7]. So, Ivermectin with supportive treatment is effective in controlling mange in Rabbits.

Conclusion

In the present study it is concluded that Sarcoptic mange in rabbit can be successfully managed through a combined treatment of Ivermectin along with highly sensitive antibiotic, Omega-3 and Omega-6 fatty acids supplementation.

Alleviation of clinical signs



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