



RESEARCH PAPER

Successful therapeutic management of sarcoptic mange in rabbits

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Abstract : A major constraint for rabbit production is mange, which can lead to dermatological problems in rabbits as well. Sarcoptic mange occurs in the epidermis and is characterized by inflammation, hypersensitivity reaction, alopecia and alopecia. This study reports the successful treatment of sarcoptic mange in rabbits at the Department of Veterinary Clinical Complex, RVC using Ivermectin @400ig/Kg body weight subcutaneously once weekly along with supportive therapy for four weeks. Using the following treatment regimen, complete recovery was observed within a month, with negative skin scraping and marked improvement of lesions.

Key Words : Sarcoptic mange, Alopecia, Ivermectin, Rabbits

View Point Article : Xaxa, Lovelin Shweta and Kumar, Praveen (2021). Successful therapeutic management of sarcoptic mange in rabbits. *Internat. J. agric. Sci.*, 17 (AAEBSSD) : 194-196, DOI:10.15740/HAS/IJAS/17-AAEBSSD/194-196. Copyright@2021: Hind Agricultural Society.

Article History : Received : 21.07.2021; Revised : 25.07.2021; Accepted : 30.07.2021

INTRODUCTION

Since ancient times, rabbits have been domesticated in India; now it is a common practice. They are bred mostly for meat, pelts, wool, and also for medical research. Even the manure produced is used mostly for enriching garden plots and raising earthworms. An infestation of mange is very common among rabbits. *Sarcoptes scabiei* is the primary cause of mange in rabbits, followed by psoroptes, notoedres, and cheyletiella (Prakash *et al.*, 2016). The zoonotic significance of *Sarcoptes scabiei* is well known as well (Bandi and Saikumar, 2013). In accordance with Sajid *et al.*, 2017, sarcoptic mange is a disease of the skin that can be spread both via direct as well as indirect contact. These parasites live deeply burrowed in the skin and cause intense itching,

irritation, dry and scaly skin with hair loss in affected areas (Patton *et al.*, 2008). A traditional treatment involves the application of insecticides to the rabbit, but rabbits are highly sensitive creatures and need careful application. A macrocyclic lactone disaccharide, ivermectins are easy to administer and cause an increase in permeability and hyperpolarization of the cell membranes of the invertebrate muscle and nervous system (Turner *et al.*, 1989). In this study, ivermectin was successfully used to treat rabbits with sarcoptic mange.

MATERIAL AND METHODS

Two rabbits of 6 months of age weighing 1 kg were presented to Veterinary Clinical Complex, RVC,

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Jharkhand with alopecia, scratching, and eating less than normal. Scabs and skin lesions covered the body surface and ear margins. According to history, rabbits spent a lot of time in open areas. A clinical examination revealed normal temperatures, respirations, and pulses. Deep and superficial skin scrapping were collected from the lesions in a sterile vial and examined microscopically under low power objective using the standard method (Hendrix and Robinson, 2017). *Sarcoptes scabiei* was detected in the tested samples. Injection of Ivermectin at a rate of 400 µg/kg body weight was administered following confirmation. Chlorpheniramine maleate was given @ 0.4ml intramuscularly for 7 days. Also, 2 ml of syrup Vimeral was given daily in drinking water for 30 days. Additionally, Benzyl benzoate was applied topically to the lesions until they healed and hair began to grow. The owner was instructed to disinfect the cage and surrounding with Pyrethrin @ 2 ml/ lit of water once weekly.

RESULTS AND DISCUSSION

Microscopic examination of samples revealed the presence of *Sarcoptes scabiei* in abundance, indicating active infection. Prakash *et al.*, 2017 reported an incidence of 23.6% for sarcoptic mange. These mites in the skin penetrate deep to the stratum corneum and cause severe irritation with intense itching and scratching resulting in exudation, alopecia and hyperkeratosis (Reddy *et al.*, 2016). Ivermectin combined with other conjunctive therapies had very good results as negative results were seen within 15 days of treatment. The use of ivermectin for sarcoptic infestation has been recommended by other researchers as well (Kaplaywar *et al.*, 2017). According to other researchers, Sharun *et*

al., 2019 states that injectable Ivermectin is much more efficient, safe, and causes the least stress to rabbits. Additionally, insecticides spraying in the building reduced the mite load, as the mites live hidden in the joints of cages and cracks and crevices (Rajeshwari *et al.*, 2009).

Meenakshishisondraram and Anna, 2016 used cypermethrin for disinfecting the premises. Along with this vitamin an antistress and vitamin supplement has hastened the recovery process. According to Kumar *et al.*, 2018, the findings are in agreement. The alopecia and itching have already subsided on day 5 itself. Complete healing with mitigation of clinical signs and the negative results was observed within 30 days of treatment with no adverse reaction. By 4 weeks of treatment, the rabbits began eating normally and their weight reached 1.25 kgs. Following treatment, the animals were observed for 2 months for recurrences of mites, but no recurrences were observed.

Conclusion:

It is concluded that *Sarcoptes scabiei* is a very important disease affecting the health of rabbits and also a threat to humans through its zoonotic potential. It is very important to break the life cycle and control the tick. Topically applied products are not effective enough to control ectoparasites, therefore managemental control, as well as the use of macrocyclic lactones, works together to eliminate them.

Acknowledgement:

We the authors are thankful to the Vice Chancellor, Director Research, BAU and the Dean Ranchi Veterinary College, for providing facilities and encouragement to conduct the clinical study at



Fig. 1: Rabbits infected with *Sarcoptes scabiei* infection showing crusty and scabby lesions on ear and body surface



Fig. 2: Microscopic image of *Sarcoptes scabiei* in skin scraping under 40X

Department of Veterinary Clinical complex.

REFERENCES

- Hendrix, C.M. and Robinson, E. (2017).** *Diagnostic parasitology for veterinary technicians*. 5th edition, Elsevier.
- Kaplaywar, S., Jyothi, J. and Murthy, G.S.S.(2017).** Resolving Sarcoptic mange infection in a New Zealand white rabbit. 1. Kaplaywar, S., Jyothi, J. and Murthy, G.S.S.(2017). Resolving Sarcoptic mange infection in a New Zealand white rabbit. *The Pharma Innovation Journal*. **6**(11): 641-642.
- Kumar, M., Nath, A., Debbarma, S., Bhattacharjee, S., Monsang, S., Bijwal, D. and Raghavan, S. (2018).** Comparative curative efficacy of ivermectin with vitamin supplementation treatment against naturally infected *Sarcoptes scabiei* mite in rabbits: A retrospective study. *International Journal of Livestock Research*, **8** (12):82-86.
- Meenakshisundaram, A. and Anna, T. (2016).** Prevalance of Sarcoptic Mange in rabbits. *International Journal of Science, Environment and technology*, **5**(6): 4213-4218.
- Patton, N.M., Hagen, K.W., Gorham, J.R. and Flatt, R.E. (2008).** *Domestic rabbits: Diseases and Parasites*. U.S Department of Agriculture, USA.
- Prakash, M.A., Soundararajan, C., Nagarajan, K., Gnanaraj, P.T. and Saravanakumar, V.R. (2017).** Sarcoptic mange infestation in rabbits in an organized farm at Tamil Nadu. *Journal of Parasitic Disease*, **41**(2): 429-432.
- Rajeshwari, Y.B., Satyanarayan, K. and Prasanna, S.B. (2009).** *Care and management of laboratory and pet animals*. New India Publishing Agency, New Delhi, India.
- Reddy, B.K., Amaravathi, M. and Jyosthna, S. (2016). Clinico-therapeutic management of sarcoptic mange in a Rabbit. *International Journal of Advanced Research in Biological Sciences*, **3**(4): 42-44.
- Sjid, M.S., Naeem, M.A., Kausar, A., Hassan, M.J. and Saleemi, M.K. (2017). *Sarcoptes scabiei* (Acari: sarcoptidae) infestation in rabbits (*Oryctolagus cuniculus*): A case study. *Revistacolombina de Entomologia.*, **43** (1).
- Turner, M.J. and Schaeffer, J.M. (1989).** *Mode of action of ivermectin*. In *ivermectin and abamectin*, W. C. Campbell, Ed. , Springer, New York, NY, USA.

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