International Journal of Science, Environment and Technology, Vol. 5, No 6, 2016, 4213 – 4218
ISSN 2278-3687 (O)
2277-663X (P)

PREVALENCE OF SARCOPTIC MANGE IN RABBITS

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Abstract: *Sarcoptic* mange due to *Sarcoptes scabiei* infestation is considered as an uncommon disease in rabbits. The present study reported the prevalence of the skin mite, *Sarcoptes scabiei*, in pet rabbits. Skin lesions were observed mostly at ear lobes, ear margins and skin around the eyes, nose and paws in all infested rabbits. Confirmation of mange was done by a twofold skin scraping. The infected rabbits were clinically managed with ivermectin @ 200µg/kg BW subcutaneously four injections at weekly intervals with supportive therapy of pheniramine maleate.
Keywords: Mange, *Sarcoptes scabiei*, Rabbits, ivermectin.

Introduction

Rabbit has emerged as a key livestock that is increasingly being raised by farmers in many parts of our country. However, diseases and inadequate technical knowledge amongst animal health providers on these diseases are the major challenges facing the sustainability of rabbit farming. The mite infestation is very common in subtropical countries like India especially during rainy and winter season due to low temperature and high humidity (Kumar, 1998). It has become a major constraint in rabbit production (Soundararajan and Iyue, 2005). Mange causes severe economic losses due to pruritus, alopecia, inappetance, ear canker, self-inflicted trauma and deaths. *Psoroptes cuniculi* infestation in rabbits is common and cause ear canker while *Sarcoptic* mange due to *Sarcoptes scabiei var. cuniculi* infestation is comparatively less common in rabbits (Radi, 2004). It is a highly contagious, non-seasonal prurutic ectoparasitic condition in a wide range of laboratory animals including rabbits. These mites inhabit and burrow the epidermis of skin and lay eggs. *Sarcoptes* infested rabbits are extremely pruritic. The developed lesions produce scabs which protect the mites from being removed while scratching. Animals affected by scabies are hypertensive and suffer weight loss; infestation may lead to complications and death due to the development of secondary infections (Aiello *et al.*, 1998). The present communication reports the occurrence and clinical management of *Sarcoptic* mange in two rabbits.

*Received Nov 5, 2016 * Published Dec 2, 2016 * www.ijset.net*

Materials and Methods

Two rabbits out of eight maintained at Department of Veterinary Parasitology, Veterinary College and Research Institute, Tirunelveli showed clinical signs of crust formation, alopecia and intense pruritus. Skin lesions were more confined to ear lobes, ear margins, and skin around nose and paws in both the rabbits (Fig. 1). All the rabbits were clinically examined for the presence of the skin lesions all over the body. Superficial and deep skin scrapings were collected aseptically from ears and from distal ends of both affected rabbits using a blunt scalpel blade dipped in liquid paraffin and processed and examined as per the standard protocol (Bowman *et al*., 2003). Infected rabbits were isolated from other healthy rabbits. The treatment was started with ivermectin @ 0.2 mg/kg BW sc four injections at weekly intervals under the skin between shoulder blades of rabbits, pheniramine maleate @ 1 mg/kg BW intramuscularly followed by orally for 14 days. They were also supplemented with Glossy Coat @ 2ml per day daily once for 21 days. Cages and surroundings were disinfected with cypermethrin @ 2ml per litre of water weekly once. Parasitological examination were carried out on 10^{th}, 14^{th} and 30^{th} day of post treatment to observe the degree of alopecia, intensity of itching, crusts formation.

Results and Discussion

Microscopic evaluation of the scrapings revealed the presence of eggs and adult stages of *Sarcoptes scabiei var. cuniculi* in abundance indicating active infection. (Souslby, 2006). The mites have a round body and short legs. All the four pairs of legs were not projecting beyond the body margin, spines were present on the dorsum and anal opening was terminal (Fig. 2). No other ectoparasites could be observed in the infected rabbits. The clinical signs of crust formation, alopecia and intense pruritus were also reported by Bornstein *et al*., (2001) and Radi (2004). Successful therapy with parenteral ivermectin administered @ 200 µg/kg body weight along with supportive therapy was recorded. White *et al*., (2003) used ivermectin at a dosage of 0.2-0.4 mg/kg body weight administered subcutaneously once every 2 weeks for 2-3 treatments and it was usually a simple, safe and effective treatment. Ivermectin has been advocated for sarcoptic infestation in rabbits by other workers also (Seddiek *et al.* 2013). Durdane *et al*., (2010) compared the efficacy of the ivermectin and doramectin in rabbits naturally infected with *Sarcoptes spp.*and reported equal efficacy but quicker recovery in ivermectin treated rabbits. Significant improvement was found 14^{th} day after treatment. Subsidence of the clinical signs and failure to recover of mites from skin scrapings 30^{th} after treatment confirmed the complete recovery of rabbits from the mange infection (Fig. 4).

Repeated injections are needed to completely remove the mites as the eggs hatch out after 10-14 days.

References

[1] Aiello, S.E., Mays, A. and Amstutz, H.E. (1998). Rabbits. In Merck Veterinary Manual (S.E. Aiello, ed.). Merck Inc, New Jersey, 1386-1396.

[2] Bornstein, S., Morner, T. and Samuel W.M. 2001. Parasitic diseases of wild mammals, In W.M. Samuel, M.J. Pybus and A.A. Kocan (ed.), *Sarcoptic scabei* and *Sarcotic* mange, Iowa state University Press, Ames, Iowa p: 107-119.

[3] Bowman, D.D., Lynn, R.C., Eberhard, M.L., and Georgi, J.R., 2003. Georgis' Parasitology for Veterinarians Philadelphia: Saunders, 8th edn., 422 pp.

[4] Durdane, K., Tonay, I., Efsun, K., Ensari, G and Osman, Y. (2010) Comparision of efficacy of ivermectin and doramectin against mange mites (*S.scabiei*) in naturally infected rabbits in Turkey, Veterinaria Italiana, 46: 56

[5] Kumar, N., 1998. Studies on rabbit mange with special reference to evaluation of recent chemotherapeutic agents against rabbit mange. M.V. Sc. Thesis, Punjab Agriculture University, Ludhiana, India.

[6] Radi, Z.A., 2004. Outbreak of *Sarcoptic* mange and malasseziasis in rabbits (Oryctolaguscuniculus). Comp. Med., 54(4): 434-437.

[7] Seddiek, S.A., Khater, H.F., El-Shorbagy, M.M. and Ali, A.M,. 2013. The acaricidal efficacy of aqueous neem extract and ivermectin against *Sarcoptes scabiei var. cuniculi* in experimentally infested rabbits. Parasitol. Res.,112(6): 2319-2330.

[8] Soundararajan, C. and Iyue, M., 2005.Incidence of mange infestation in rabbits. J. Vet. Parasitol., 19:161-162.

[9] Soulsby, E.J.L (2006). Helminths, arthropods and protozoa of domesticated animals, 7th Ed. Bailliere Tindall, London, 482-486.

[10] White, S.D., Bourdeau, P.J. and Meredith, A. (2003) Dermatologic problems of rabbits. Compend. Contin. Educ. Pract.Vet. 25:90-101.

Fig. 1 Mange lesions around nose & ear margin

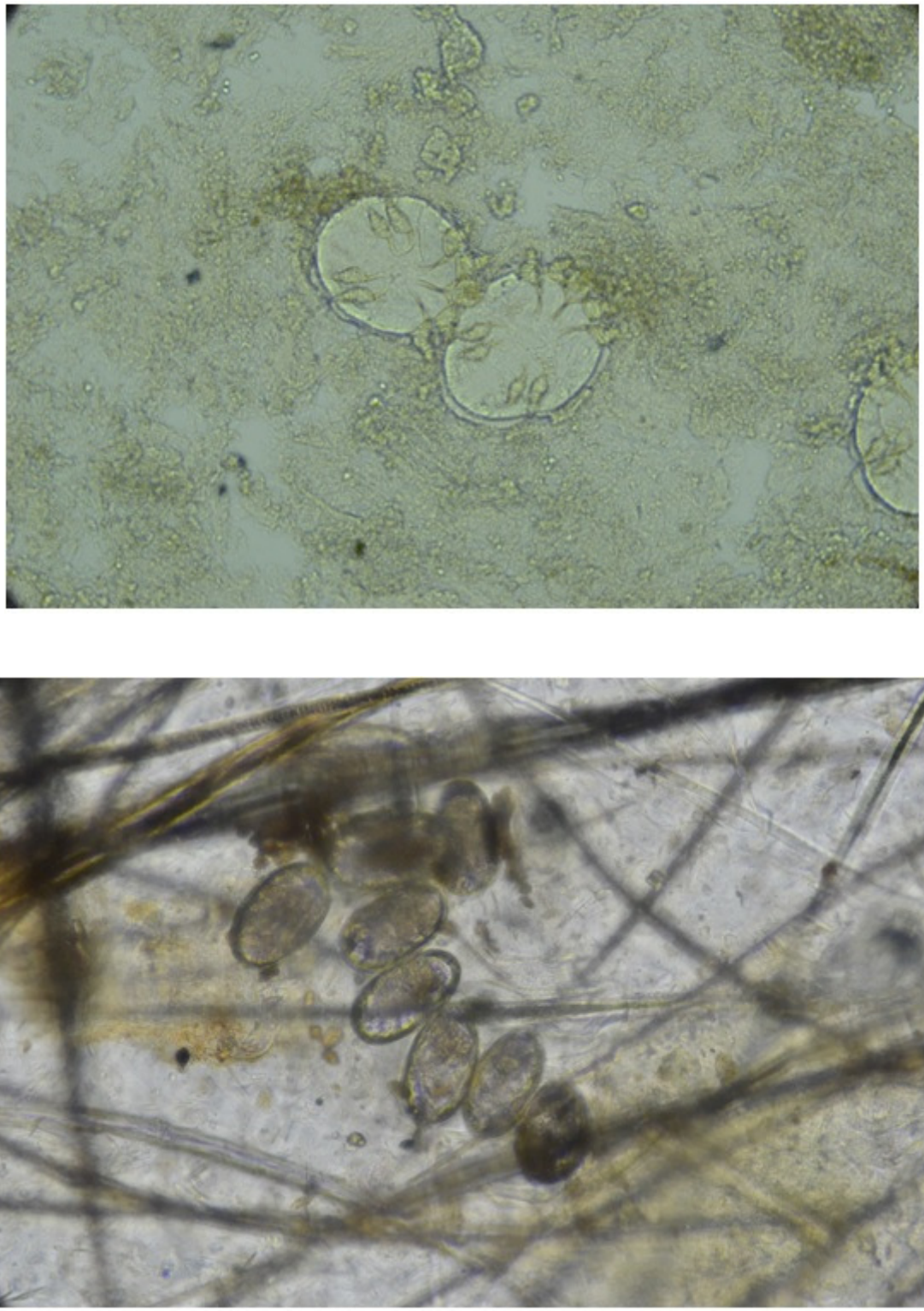

Fig. 2 Skin scraping showing eggs and Adult *Sarcoptes scabiei var.cuniculi*

Fig. 3 Improvement in mange lesions 30th day after treatment