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## A successful treatment report on rabbits infected with sarcoptic mange

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### Abstract

In the present study two rabbits were presented with the clinical signs of alopecia, intense itching, erythema, and dry crusty lesions on eyes, ears, nose and legs. Skin scrapings revealed *Sarcoptes scabiei* mites. Treatment was initiated with subcutaneous injection of Ivermectin @ 200 mcg/kg b.wt at weekly intervals for 3 weeks and multivitamins as a supportive therapy @ 5 drops twice a day was given for early recovery. After 3 weeks of treatment, clinical examination revealed marked improvement of lesions and skin scrapings were negative for mites.

**Keywords:** Sarcoptic sp., mange, rabbit, ivermectin

### Introduction

Dermatological problems are one of the most common clinical entities in domestic pets and fur bearing animals [3] and among them, Sarcoptic mange is a highly contagious, non-seasonal, pruritic skin condition in rabbits and is caused by mite *Sarcoptes scabiei*. Overcrowded living conditions and poor hygiene are significant factors for infection with *Sarcoptes scabiei* mites [7]. It is frequently found on the sparsely haired parts of the body such as the face, ears and legs [5], causing intense itching, pruritis, crust formation, scale production, thickening and wrinkling of skin of affected area [10]. It is most obstinate, persistent and zoonotically important contagious disease [6]. If, it is left untreated may cause significant morbidity and economic losses. The traditional treatment of sarcoptic mange includes external application of Organophosphates, Pyrethroid compounds or Amitraz, but its use may be problematic in that it needs frequent and careful application and may have side effects. The avermectin drug group includes ivermectin, abamectin, doramectin, eprinomectin and selamectin which can be used to treat rabbits that are naturally infested with *S. scabiei* and because of its long acting effect and easier to apply have therefore replaced the conventional dips, rinses and aerosol sprays [2, 5]. Ivermectin is used as a broad spectrum parasiticide in domestic animals and is also recommended for treatment of ear mange in rabbits [12]. The present paper reports successful therapeutic management of sarcoptic mange in a rabbit.

### History and Clinical Examination

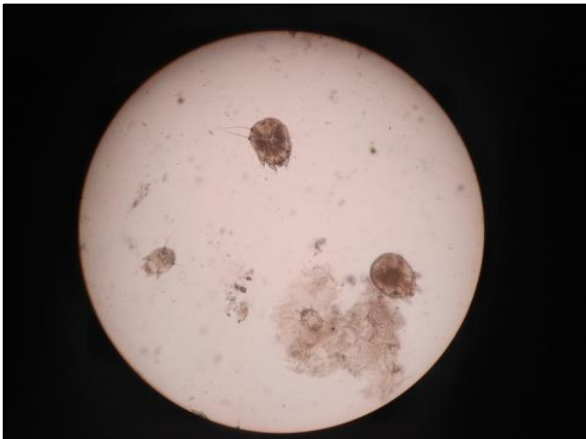
Two non-descript rabbits were presented to teaching veterinary clinical complex, Bihar Veterinary College, Patna with the history of dullness, anorexia, skin lesions with intense itching in ears and nose. On clinical examination erythema, alopecia around eyes, ears and nose and on head, white indurate dry crust like lesions on ears pinna and face were observed (Fig.1 and 2). Anamnesis revealed that exposed rabbits were kept in moist, dirty and ill ventilated house. For confirmatory diagnosis, skin scrapping examination was carried out as per the standard method [11]. Sample of skin scrapping was collected aseptically from affected sites in 10% potassium hydroxide. The mixture was heated, centrifuge and supernatant discarded, a few drops of sediment were placed on a slide for direct microscopic examination. Examination of samples revealed the presence of large number of sarcoptes species mange mites (Fig. 3).



**Fig 1:** Picture showing severe dry crusty lesions on around nose, eyes, ears and legs.



**Fig 2:** Picture showing mild dry crusty lesions on around eyes, nose and ear pinna.



**Fig 3:** *Sarcoptes sp.* under microscope.

### Treatment and discussion

The affected rabbits were treated with injection Ivermectin @ 200 µg/kg body weight subcutaneously weekly interval for three weeks along with topical application of 5% betadin solution regularly for 2 weeks. Multivitamins (A to Z drop) orally @5 drops twice a day as a supportive therapy was also prescribed to hasten up the recovery. The owner was also advised to disinfect the nest areas and surroundings of the sheds with cypermethrin @ 2 ml/litre of water. There was marked clinical improvement in skin lesions after 14 days of treatment. The skin scrapings taken from same sites were

examined and found negative for the mites after three weeks of treatment. At the same time, after removal of crusts, hair growth in previously infested areas was observed in both infested rabbits and clinical signs like alopecia and intense itching were also resolved completely.

Mange caused by *Sarcoptes* species is more common in rabbits and diagnosis is usually confirmed by microscopic skin scrapping examination. In the present study, demonstration of mange under microscope along with skin lesions was sufficient for confirmatory diagnosis of sarcoptic mange [10]. Clinical manifestations such as development of scales, scabs, crusts and alopecia along with a large density of *S. scabiei* below crusts as observed in present study were in accordance with the findings of [9, 5]. Ivermectin, at a dosage of 0.2-0.4 mg/kg of body weight administered subcutaneously once every 2 weeks for 2-3 treatments is usually a simple, safe, effective treatment [13, 8]. In the present case study, treatment was carried out with Ivermectin @ 200 µg/kg body weight, subcutaneously at weekly interval for three week was found to be effective in treating sarcoptic mange [6, 5] whereas, Kachhawa *et al.*, [4], Mitra *et al.* [8] 2014 and Singh *et al.* [10] reported that 400 µg/kg body weight introduced subcutaneously was an effective treatment for the sarcoptic mange. Ivermectin given subcutaneously selectively binds to glutamate gated and gamma-amino-butiric acid (GABA) gated chloride channels in the mites nervous system, resulting in hyperpolarization of cells, paralysis and finally death of mites [1]. So, the present observations indicates ivermectin therapy coupled with supportive treatment and disinfection of rabbit cages or houses of infected animals is effective in control of mange in rabbits.

### Conclusion

In the present study it is concluded that mange in rabbit has a major constraint and it may be successfully treated with ivermectin and supportive therapy.

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