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Amith NG
Veterinary Officer, Veterinary
Dispensary, Ramohalli,
Bangalore, Karnataka, India

Vidyasagar
Assistant Professor, Department
of Livestock production and
Management, Veterinary College,
Bidar, Karnataka, India

Deepika Jamadhar
Department of Livestock
Product Technology, Veterinary
College, Bidar, Karnataka, India

Therapeutic management of sarcoptic mange in a rabbit

Amith NG, Vidyasagar and Deepika Jamadhar

Abstract

One year old rabbit was presented to veterinary dispensary, Chandrappa circle, Bangalore south taluk, Bangalore urban with the history of severe pruritus and alopecia on ears and legs. Clinical examination of the rabbits revealed erythematous, scabby and dry crusty lesions on both ear margin and legs. Deep and superficial skin scrapings were collected from ear margins upon microscopic examination large number of *Sarcoptes scabiei* mites under low power objective Treatment was done with subcutaneous injection of Ivermectin at 400 mcg per kg body weight and Intramuscular injection of vitamin A, D, E combination at 0.2ml per kg body weight at weekly intervals for 3 weeks. Supportive therapy with multivitamin rabbit drops at 4 drops twice a day was given. Rabbit was recovered completely and No relapse of infestation was observed during the 6 month observation period following the treatment.

Keywords: Rabbit, *Sarcoptes*, mites, alopecia

Introduction

Dermatological problems are one of the most common clinical entities in domestic pets and fur bearing animals (Deshmukh *et al.*, 2010) [1]. Among dermatological problems mite infestation was one of the most common and major constraint in rabbits (Darzi *et al.*, 2007) [2]. Rabbits were affected with wide variety of parasitic infestation, among which the incidence of mange was high (Rajeswari *et al.*, 2001) [10]. Mange was the most obstinate, resistant and contagious disease with zoonotic importance (Kumar *et al.*, 2002) [3]. It is characterized by pruritus, alopecia and in prolonged illness, the animal become emaciated and may even die due to cachexia (Roy *et al.*, 2001) [4]. Sarcoptic mange infestation due to *Sarcoptes scabiei* was one of the major constrains in commercial rabbit rearing (Darzi *et al.*, 2007) [16]. Increased housing density and poor hygiene were the most important predisposing factors in case of *Sarcoptes scabiei* infestation (Carthy *et al.*, 2004; Davies *et al.*, 1991) reported that the clinical signs of Sarcoptic mange includes pruritus, seborrhea, alopecia, hypersensitivity reaction, crusting and hyperkeratosis. Dry crusty lesions are commonly seen in the ear margins (Reddy *et al.*, 2016). The avermectin group of drugs includes ivermectin, abamectin, doramectin, eprinomectin and selamectin which can be used to treat rabbits that are naturally infected with scabies (Kachhawa *et al.*, 2013) [8]. Among these acaricides, ivermectin given orally or, parenterally, has been reported to be effective in treatment of acariosis (Aulakh *et al.*, 2003, Erasian *et al.*, 2010). The present article reports successful management of sarcoptic mange in rabbit.

Case history and observations

A year rabbit was presented to veterinary dispensary, chandrappa circle, Bangalore south taluk, Bangalore urban with the history of alopecia and severe pruritus. Clinical examination of the rabbits revealed erythematous, scabby and dry crusty lesions on both ear margin and legs (Fig.1a and 1b). The rabbit was found positive for Pinna- pedal reflex. Both deep and superficial skin scrapings were collected from ear margins for microscopic examination which revealed large number of *Sarcoptes scabiei* mites under low power objective (Fig. 2). Based on the history, clinical and microscopic examination of skin scrapings *Sarcoptes* infection was confirmed.

Corresponding Author
Vidyasagar
Assistant Professor, Department
of Livestock production and
Management, Veterinary College,
Bidar, Karnataka, India



Fig 1a: Rabbit presented with lesions in the ear, face and legs



Fig 1b: Dried crusty scabs distributed in the ear margins



Fig 2: *Sarcoptes scabiei* mite under microscope

Treatment and Discussion

The affected rabbit was treated with inj Ivermectin @ 400 µg/kg body weight, subcutaneously and inj vitamin A, D, E combination @ 0.2ml intramuscularly at weekly intervals for three weeks. Drops multivitamin rabbit was administered orally as 4 drops twice a day. There was marked improvement in skin lesions after three weeks of treatment. The deep skin scrapings taken from the same site revealed absence of mites after three weeks of treatment. At the same time, clinical signs like alopecia and intense itching were also reduced completely (Fig.3). The rabbit was kept under observation for 6 months post treatment for identification of recurrent infestation with *Sarcoptes scabiei*.

Ear mite and mange infestation have been reported as major skin diseases in young ones as well as adult rabbits (Siegmu, 1979). Mange caused by *S. Scabiei* was more common in rabbits and distinguished by presence or absence of pruritus, morphology of mite and distribution of lesions (Deshmukh *et al.*, 2010; Bhardwaj *et al.*, 2012) [1]. Diagnosis is usually confirmed by skin scrapings examination and results are sometimes falsely negative for which repeated deep scrapings were recommended (Birchard and Sherding, 2000). Demonstration of mites under microscope along with characteristic skin lesions in most of the body parts confirms the sarcoptic mange infestation in rabbit. *Sarcoptes* sp. were burrowing fur mite, produce their pathological effects by burrowing activity and mechanical damage caused by the parasites during excavation, irritation action of their secretion, allergic reactions to some of their extracellular products and especially release of intra-leukin-I (Wall and Shearer, 1997). Ivermectin given subcutaneously @400 µg/ kg. body weight 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, which was in accordance with (Aulakh *et al.*, 2003) Disinfection of the rabbit cages and their houses with a blow lamp was effective in control of mange in rabbits (Darzi *et al.*, 2007) [16]. Treatment with subcutaneous administration of 3 doses of Ivermectin @ 400 µg / kg body weight at 7 days interval was effective in treating *S. scabiei* (Panigrahi and Gupta 2013).

However present observation indicates Ivermectin therapy coupled with supportive treatment in infected rabbit is effective in control of mange in rabbits.



Fig 3: Rabbit showed complete recovery after therapy

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