

A CASE STUDY OF CHORIOPTIC MANGE INFESTATION IN SHEEP AND GOAT

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ABSTRACT

An outbreak of chorioptic mange infestation was observed in a sheep and goat flock during 2021 in the Kandukur village of Anantapur district, with a history of skin itching, thick scabs and loss of hair. Skin lesions were characterized by alopecia, crusty scabs on hind limbs, face, ears and scrotal region. Microscopic examination of deep skin scrapings revealed the presence of Chorioptes spp mites. Affected sheep and goats were treated with Ivermectin injection (200 mg/kg, body wt) administered subcutaneously weekly once for 2 weeks along with dipping using Butox spray (Deltamethrin) and supportive therapy with brotone syrup (liver tonic). Examination of deep skin scraping two weeks post treatment found negative for the Chorioptes spp mites.

Key words: Chorioptic mange, ivermectin, sheep and goat.

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Chorioptic mange infestation in sheep and goats occurs rarely and is also called as leg mange or foot mange (Bhatia *et al.*, 2012). These parasitic mange mites affect hoofs, lower parts of legs and occasionally affects scrotum and they feed on the lymph, blood, tissues and skin of the animals, there

by releasing certain toxic substances which cause skin damage. This mange infestation causes considerable economic loss to the farmers as it decreases the hide quality due to various defects (Woldemeskel, 2000). It is characterized by marked hyperkeratosis with lesions starting on the head and neck, weight loss, severe irritation, and death in severe cases (Rao and Naidu, 1999). The mange mites spread through direct contact between adult ewe to lamb while suckling (Schmidt, 1994). The female mites cause a tunnel formation in the epidermis where they deposit eggs causing

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marked irritation and tissue injury leading to hyperkeratosis (Sloss, 1994). The entire life cycle is completed in about 10-13 days (Radostits *et al.*, 2006).

The work was carried out in May 2021 during an outbreak of mange reported at kandukur village of Anantapur district. A total of 22 sheep (weaners) and 15 goats were affected. Butox spray (deltamethrin) was sprayed on the animals a year earlier, but it did not totally heal them; six months later, recurring attacks were noticed. The affected sheep and goat showed signs like restlessness, continuously rubbing their bodies against hard objects. Clinical signs exhibited by the affected sheep and goat included pruritis, erythema, alopecia, small crusts, and scabs on the body (Fig 1 and 2). So, deep skin scrapings were collected from the affected sheep after segregation and examined as per standard protocol (Soulsby, 1982). Affected sheep and goats were treated with ivermectin @ 200 mg/kg. bwt, sub-cutaneously, weekly once along with dipping in acaricidal solutions (Butox 2 ml/Lt of water) and supportive therapy with Brotone syrup (liver tonic) orally for 7 days. Samples were again collected after 15 days of post treatment.

Main important clinical signs in the affected flock observed were lesions in non-wooly regions of the body like face, head, neck and scrotum (Kaufman *et al.*, 2009; Al-Shebani *et al.*, 2012). The skin lesions were characterized by general erythema, presence of thick scabs which appeared first in the mouth region later spread to other parts like

head and ears. As the disease progressed the sheep showed intense itching with hair loss, thick brown scabs formation with wrinkling of skin as shown in the pictures (Radostits *et al.*, 2000). The skin scrapings examination confirmed *Chorioptes ovis* based on the morphological characteristics like small round body with segmented pedicel with cup shaped suckers as shown in the Fig 3. All the affected sheep and goats were segregated and were treated with single dose of ivermectin (Hitex) wkly once @ 200 mg/kg. b. wt, s/c along with supportive therapy orally with Brotone syrup for 7 days and dipping in Butox (Intervet India Pvt. Ltd.) spray (deltamethrin) solution. Since, persistence of lesions were observed even after 1st week of treatment with only Ivermectin injection without dipping, we have continued treatment up to 2nd week and the lesions were resolved then. Jesse *et al.* (2016) also observed that the systemic injection with Ivermectin alone is not at all effective in the treatment of chorioptic mange in the goats. The skin scrapings were examined after 15 days of post treatment found to be negative for mange mites. The present findings agreed with the findings of Singh and Swarnkar (2010), Akomas *et al.*, (2011). Pruritis also decreased gradually, and healing of skin was observed after 20 days. So, the present findings are in agreement with earlier findings of Shastri *et al.* (1990) and Sekar *et al.* (1997).

In the present study, parenteral administration of ivermectin and vitamin supplement and acaricidal dipping provided to be effective for the therapeutic management of chorioptic mange infection in sheep and goats.



Fig 1: Scrotum of sheep infected with chorioptic mange



Fig 2: Goat infected with chorioptic mange



Fig 3: Chorioptic mange mite (magnification 40X)

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