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Surendar AP

Chief Consultant, PetBliss
Animal Multispeciality Clinic,
20, Redhills Main Road,
Thenpalani Nagar, Kolathur,
Chennai, Tamil Nadu, India

Dharani M

Assistant Professor, Department
of Veterinary Public Health and
Epidemiology, Veterinary
College and Research Institute,
TANUVAS, Udumalpet, Tamil
Nadu, India

Scabies (sarcoptic mange) in a goat: A clinical case report

Surendar AP and Dharani M

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Abstract

Scabies is a highly contagious parasitic skin disease affecting goats and other livestock, caused by burrowing mites that induce severe dermatitis. Among the mange mites, *Sarcoptes scabiei* var. *caprae* is of major clinical importance due to its zoonotic potential and economic impact. This case report describes the occurrence, clinical presentation, diagnosis, and therapeutic management of scabies in a goat presented with alopecia, thickened skin, and pruritic lesions. Diagnosis was confirmed by deep skin scraping and microscopic identification of mites. Treatment with ivermectin administered subcutaneously resulted in complete clinical recovery. The report emphasizes the importance of early diagnosis and effective antiparasitic therapy in controlling scabies outbreaks in goats.

Keywords: Scabies, sarcoptic mange, goat, *Sarcoptes scabiei*, ivermectin

Introduction

Goats are susceptible to infestation by a range of ectoparasitic mites, including *Sarcoptes*, *Psoroptes*, *Chorioptes*, and *Demodex* species, which cause various forms of mange with differing clinical severity. Among these, sarcoptic mange caused by *Sarcoptes scabiei* var. *caprae* is considered the most severe due to the burrowing nature of the mite and the intense hypersensitivity reaction elicited in the host (Radostits *et al.*, 2007) [3]. The disease is characterized by intense pruritus, alopecia, crust formation, and progressive thickening of the skin, leading to significant discomfort and reduced productivity.

Scabies is highly contagious and spreads rapidly through direct contact between animals, particularly under conditions of overcrowding and poor hygiene (Urquhart *et al.*, 2003) [5]. Lesions are most commonly observed on sparsely haired areas such as the muzzle, periocular region, ears, and neck, with advanced cases showing extension to the ventral body surface, inner thighs, and scrotum (Taylor *et al.*, 2016) [4]. Although sarcoptic mange is often reported more frequently in young or immunocompromised animals, outbreaks affecting goats of all age groups have also been documented (Nwoha, 2011; Lughano & Dominic, 2006) [2, 1]. The present report describes a clinical case of scabies in a goat and highlights the diagnostic approach and therapeutic response.

Case history and clinical findings

A goat from a private farm with a history of skin problems affecting multiple animals was presented for clinical examination. The affected goat showed marked pruritus, restlessness, and progressive hair loss. Clinical examination revealed alopecic patches around the eyes, muzzle, and dorsal aspect of the neck. The skin appeared thickened, wrinkled, and dry, with crusty lesions observed in affected areas.

Additional lesions were noted on the ventral body surface and inner thighs (Figure 1). The animal showed signs of discomfort due to intense itching, leading to frequent scratching and rubbing against objects. Based on the clinical signs and herd history, a tentative diagnosis of mange was made.

Corresponding Author:

Surendar AP

Chief Consultant, PetBliss
Animal Multispeciality Clinic,
20, Redhills Main Road,
Thenpalani Nagar, Kolathur,
Chennai, Tamil Nadu, India



Fig 1: Goat showing alopecia with thickened, crusted, and hyperkeratotic skin lesions along the dorsal neck region, characteristic of sarcoptic mange (scabies) infestation

Diagnostic investigation

Deep skin scrapings were collected from the periphery of active lesions and processed using standard parasitological techniques. Microscopic examination of the scrapings revealed the presence of mites in different developmental stages, including eggs, larvae, and adults (Figure 2a & 2b). The mites were globose in shape with a dorsally folded cuticle, and the fourth pair of legs did not extend beyond the body margin. Based on these morphological characteristics, the mites were identified as *Sarcoptes scabiei* var. *caprae*, confirming the diagnosis of sarcoptic mange.



Fig 2a: Microscopic view of *Sarcoptes scabiei* var. *caprae*. The mites were globose in shape; the dorsal surface is covered with fine folds and grooves



Fig 2b: The fourth pairs of legs did not project beyond the margin of the body

Treatment and management

The affected goat was treated with ivermectin at a dose rate of 0.2 mg/kg body weight, administered subcutaneously. A second dose was repeated after a one-week interval as per recommended therapeutic protocol.

Following treatment, a marked reduction in pruritus was observed within a few days. Progressive healing of skin lesions, reduction in crust formation, and initiation of hair regrowth were noted. Complete clinical recovery was achieved after the second dose, with no recurrence observed during follow-up.

Discussion

Scabies remains an important parasitic skin disease of goats with considerable implications for animal welfare and farm economics. The clinical signs observed in the present case, including alopecia, crusted lesions, thickened and wrinkled skin, and intense pruritus, are in close agreement with earlier descriptions of sarcoptic mange in goats (Nwoha, 2011; Radostits *et al.*, 2007) [2, 3]. The distribution of lesions around the head, neck, and ventral body regions reflects the predilection sites of *Sarcoptes scabiei* mites.

While mange infestation is often reported to be more prevalent in young animals, the occurrence of sarcoptic mange across different age groups, as observed in this case, supports previous findings that age is not a limiting factor when management and environmental conditions favor transmission (Lughano & Dominic, 2006; Urquhart *et al.*, 2003) [1, 5]. Definitive diagnosis through microscopic examination of deep skin scrapings remains a reliable and economical method, allowing identification of mites at various developmental stages (Taylor *et al.*, 2016) [4].

Ivermectin continues to be the drug of choice for the treatment of sarcoptic mange in goats due to its broad-spectrum antiparasitic activity and ease of administration. Administration of ivermectin at a dose of 0.2 mg/kg body weight, repeated after one week, has been shown to effectively eliminate mites and interrupt their life cycle (Radostits *et al.*, 2007; Nwoha, 2011) [3, 2]. The rapid clinical improvement observed in the present case further substantiates the efficacy of ivermectin in the successful management of caprine scabies.

Conclusion

The present case report highlights scabies as a significant and contagious ectoparasitic disease in goats. Accurate diagnosis through skin scraping and prompt treatment with ivermectin resulted in successful recovery. Early intervention and appropriate control measures are essential to prevent spread

within the herd and to minimize economic losses associated with mange infestations.

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