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## Resolving a clinical case of sarcoptic mange infestation in a dromederi camel

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### Abstract

Sarcoptic mange caused by *Sarcoptes scabiei* var *cameli* in one humped-camels (*Camelus dromedarius*) is considered to be one of the most economically important zoonotic and epizootic disease. A three and half year old male camel was presented with a history of weakness, loss of body condition, severe itching, pruritis and rubbing body against the wall and objects from last one week. Clinical examination revealed alopecia, erythma with dry rough hair coat with crust formation most evident on limbs and back but lesions are present all over the body surface. Skin scraping revealed the presence of mite *Sarcoptes scabiei* thus diagnosing the case of sarcoptic mange infestation in camel. Treatment with Inj. Ivermectin (Ivomec) @ 0.02 mg/kg subcutaneously weekly for 5 weeks, Inj. Pheniramine maleate (Avil) 10 ml I/M with supportive oral vitamin and mineral supplement (Vetagin) 30 grams once daily for one month with marked clinical improvement.

**Keywords:** Camel, *Sarcoptes scabiei*, Skin scraping, Ivermectin

### 1. Introduction

Camel (*Camelus dromedarius*) is an important livestock species in the pastoral economy and plays a crucial role in social prestige and wealth. The unique physiological system of camel allows them to occupy an important position in the desert farming. Camels are superior to all other livestock in terms of food security serving as the main source of milk, meat, drought power and a means of transportation barren areas and in arid/semi-arid areas that are not suitable for crop and animal production [1].

Among the various problems being faced by the farmers, ectoparasitism in camels and there capability of disease transmission are the important constraints in the production and performance which is reported to cause heavy economic losses. Mange is the one of most important contagious ectoparasitism having zoonotic as well as public health significance.

Sarcoptic mange caused by *Sarcoptes scabiei* var *cameli* in one humped-camels (*Camelus dromedarius*) is considered to be one of the most economically important zoonotic and epizootic disease that can spread among animals via direct physical contact with infested animal and indirectly through fomites (e.g., ropes, blankets and saddlery) especially in tropical and subtropical areas [2]. It mostly affects the head, neck, flanks, inner side of the thighs and inguinal region of the camel. The affected camels usually rub, bite or scratch the affected areas in response to irritation caused by the movement of the mite underneath the skin. Rubbing or scratching leads to excoriation, formation of scabs on skin, hair loss and spreading of infestation to other body parts. Due to burrowing nature of the mite, it penetrates deep into skin leading to pruritus, development of vesicles/pustules/papules, alopecia and scab formation [3].

Ecological parameters such as bad management, overcrowding, housing and care of the animal including feeding, handling and disposal of manure, general sanitation in the stable, separation of susceptible from infested mange animals, are considered as extrinsic determinants and are presumably the master key for governing and eliminating mange infestation in camels [4]. *Sarcoptic* infestation causes serious disturbance and irritation leading to poor health status of animal and decreased production and efficiency [5]. Due to the contact of the herdsmen with their camels during riding and handling, direct transmission from camel to man can occur resulting in the condition known as pseudoscabies [6]. Ivermectin has been reported to be effective against ectoparasites in domesticated animals including camels [7].

### Case History

A three and half year old male camel was presented to Teaching Veterinary Clinical Complex, International Institute of Veterinary Education and Research (IIVER), Rohtak with a history of weakness, loss of body condition, severe itching, pruritis and rubbing body against the wall and objects from last one week. Clinical examination revealed alopecia, erythma with dry rough hair coat with crust formation most evident on limbs and back but lesions are present all over the

body surface (fig 1A & B). Skin scraping from suspected case of mange was collected in 10% potassium hydroxide from affected areas further the mix is heated to digest the collected scraping to release mites from the scab collected. The mixture was finally centrifuged and the supernatant was discarded. Few drops from the sediment left was taken and examined under microscope which revealed presence of *Sarcoptes scabiei* (fig 2).



Fig 1A & B: Showing alopecia, erythma, dry and rough hair coat with crust formation.



Fig 2: Skin scraping revealed *Sarcoptes scabiei*.

### Result

Based on clinical and skin scraping examination, the present case was diagnosed as *Sarcoptes scabiei* mite infestation. Hence the case was treated with inj. Ivomec @ 0.02 mg/kg subcutaneously weekly for 5 weeks, Inj. Pheniramine maleate (Avil) 10 ml I/M with supportive oral vitamin and mineral supplement (Vetagin) 30 grams once daily for one month. Owner was advised to disinfectant the surroundings and to isolate the camel from rest of the herd and people living in contact. Following treatment improvement in the condition was markedly observed.

### Discussion

Mange is one of common and important disease in camels caused by *Sarcoptes scabiei* var *cameli* [8]. Pruritis, hairloss,

intense itching, erythmatous lesions as the mite is burrowing in nature and causes hypermia of the skin causing vesicle papule and pustule formation finally loss of vitality with thick scab formation. The present findings are similar to those reported by [9].

Treatment of Sarcoptic mange in camel by using Ivermectin @ 200 mg/kg body weight was done successfully in accordance to [10]. Administration of oral multivitamin supplementation was done as poor nutrition and deficiency of certain vitamins (vitamin A deficiency) as documented by [11] and minerals can be a precipitating factor for the infestation of mange in camels [12].

### Conclusion

Sarcoptic mange infestation (*Sarcoptes scabiei*) in camel is considered as the most obstinate and economically important zoonotic and epizootic disease associated with alopecia, intense pruritis and erythema. Ivermectin along with mineral supplementation is efficient in curing sarcoptic mange in camels with proper disinfection of the premises along with proper management and hygiene maintained.

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