

Scientific Report

A case report of notoedric mange infestation in a 3-month-old pointer

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Summary

A 3-month-old short haired pointer with crusty local alopecia around the eyes was presented to Small Animal Hospital of Tehran University. Scraping and biopsy were obtained from lesions of affected area. *Notoedres* sp. was diagnosed in skin scraping by parasitologic examination. Furthermore, histopathology of lesions demonstrated moderate hyperplastic epidermis, parakeratosis and acanthosis.

Key words: Mange, *Notoedres* sp., Dog

Introduction

Notoedric mange is a contagious parasite disease of cats (Scott *et al.*, 2001). The mite primarily attacks cats but may also infest foxes, dogs, rabbits and human which causes transient lesions (Foley, 1991). The biology and life cycle of the mite are less well-understood (Harvey and Mckeever, 1998). After infestation, the skin becomes thickened, wrinkled, and folded and finally covered with dense, tightly adhering, and yellow to gray crusts. There is partial alopecia in affected areas. Intense pruritus develops and the excoriations produced by scratching may become infected. As the disease progresses, the hair loss and skin lesions spread until large areas of the body are involved. Peripheral lymphadenopathy is usually present (Scott *et al.*, 2001). In spite of reported cases of notoedric mange infestation in dogs throughout the world, it was rare and to the best of our knowledge, this is the first report from Iran.

Case report

A 3-month-old short haired pointer, was

presented to Small Animal Hospital of Tehran University with crusty local alopecia around both eyes. The affected skin was devoid of hair and became thick, leathery and wrinkled. The skin in the affected areas was markedly corrugated and was often covered by large plaques of keratinous crusts, resulting from self-inflicted trauma induced by pruritus (Fig. 1). Skin scraping and biopsy were prepared from the affected areas, cleared by 10% KOH solution and examined under low power of microscope. The obtained biopsy was fixed and stained by haematoxylin and eosin (H&E). Notoedric mite was identified by criteria of Hirst (1922). The mite was similar to *Sarcoptes scabiei*, having stalked pulvilli on leg I and II in all stages and on leg IV in the male. It was considerably smaller and more circular. The size of the female was 210–225 µm and in male it was 145–150 µm. The anus was located on the dorsal surface. There were no projecting scales but mid-dorsally, the striae were broken into a scale-like pattern; the stout setae were absent and replaced the lanceolate spines (Fig. 2).

Histopathologic examination revealed extensive acanthosis, hyperkeratotic and

Fig. 1: Notoedric mange in a pointer including alopecia and crust formation around the eyes

Fig. 2: Female adult mites. The anus was located dorsally and was surrounded by several stout setae

parakeratotic hyperkeratosis and slight inflammatory response in the perivascular spaces of papillary layer of the dermis.

Furthermore, identification of mite species could not be performed by morphologic criteria; in this case, it should be considered as *Notoedres* sp.

Discussion

Notoedres cati, primarily attacks cats but may also infect foxes, dogs and rabbits

(Foley, 1991). To the best of our knowledge, this is the first clinical report of notoedric mange in dog from Iran. The disease is highly contagious by direct contact, as in *S. scabiei var canis* (Scott *et al.*, 2001) and the infected animals become an effective source of mites for other animals. Contact with infected individual bedding or sites recently visited might also result in spread of the disease (Foley, 1991). The overall prevalence of the parasite in Iran is still unknown. It should also be considered that the biology and life cycle of the mite are less well-understood (Harvey and McKeever, 1998). So, the proposed way of acquiring notoedric mange in the present case may be due to direct contact with stray cats.

Comparing with other similar reports of notoedric infestation in animals other than cats (e.g., raccoons; Ninomiya *et al.*, 2003), clinical manifestations and pathology of the affected dog were similar.

On account of switching of *Notoedres* sp. into an unusual host, it should be considered as a new hazardous agent in human hygiene.

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