



# An unusual case of Cheyletiellosis in a Persian cat and its therapeutic management

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**Abstract** A male Persian cat was presented with a history of alopecia at the dorsal tail region, with mild pruritus, flaking of skin and the owner's complaint of pruritus on herself and her family members. All the vital signs of the cat were found within the normal reference range. Skin scraping and hair samples were found to be negative for *Demodex* spp. and *Sarcoptes* spp. of mites, pediculosis and fungal infestation. Physical examination of the whole body revealed absence of fleas or flea eggs. Further, food hypersensitivity was ruled out by gradually changing the previous wheat based diet to a commercial cat food. However, eggs of *Cheyletiella* spp. were seen on microscopic examination of skin scraping and the lesions on the owner's body were indicative of infestation by *Cheyletiella* spp. as it's zoonotic in nature. A treatment protocol was initiated that included Ivermectin and bath with a shampoo containing selenium sulphide. Owners were advised to apply Calamine lotion on their lesions. Both the owner and patient recovered uneventfully 3 months post-therapy.

**Keywords** Alopecia · *Cheyletiella* · Infestation · Mites · Zoonotic

## Introduction

Parasitic Cheyletid mites are large mites that affect cats, dogs, rabbits, many wild mammals, birds and humans. These non-burrowing mites live in the pelage of their hosts and feed on lymph and other tissue fluids (Mullen and Durden 2009). They live on the hair and fur, visiting the skin only to feed (Medleau and Hnilica 2006). *Cheyletiella* dermatitis (walking dandruff) is usually a mild non-suppurative dermatitis produced by *Cheyletiella* spp. living on the surface of the skin. The parasite is zoonotic in nature and in humans it produces intensely pruritic papules with necrotic areas and their distribution corresponds to areas in contact with the infested animal (Miller et al. 2012). There are three *Cheyletiella* species of veterinary importance, namely, *C. blakei* of cats, *C. yasguri* of dogs and *C. parasitivorax* of rabbits. The eggs are glued to hairs but can be dislodged with loose hairs by host grooming. They can also be ingested and passed in faeces. The mites are commonly phoretic on cat and dog fleas (*Ctenocephalides* spp.) and also may be transmitted via these ectoparasites (Mullen and Durden 2009).

Reports of Cheyletiellosis from cat in India are rare. Hence, the current communication discusses clinical signs, lesions, diagnosis and treatment of the same in a cat.

## History and observations

An 8-month-old male Persian cat was reported to Teaching Veterinary Clinical Complex of the college with hypotrichosis restricted to the dorsal tail area, matting of the hair surrounding the alopecic area, constant licking of that region having marked dryness and scaling (Fig. 1). There was presence of visible itchy papules on the arms, back of

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**Fig. 1** Hypotrichosis and scaling restricted to the dorsal tail area with dry and matted fur

hands, thigh (Fig. 2), and abdomen of the owner and her family members. Microscopic examination of skin scraping and hair samples obtained from the cat's tail region were found negative for flea infestation, demodectic and sarcoptic mites and fungal infestations, however, revealed embryonated eggs resembling hookworm eggs. Unfortunately, adult *Cheyletiella* mites could not be traced in a single skin scraping examination. So, on the basis of history, clinical signs, lesions on the cat as well as owner, a presumptive diagnosis of Cheyletiellosis was made followed by confirmation with microscopic examination.

### Treatment and discussion

The patient was given a course of Ivermectin (drug of choice) @ 0.2 mg/kg body weight S/C followed by the same oral dose once in a week for 4 weeks along with a



**Fig. 2** Itchy papules at the back of hand and thigh (arrow marks)

shampoo containing Selenium sulphide (2.5%) for topical bathing (Miller et al. 2012, Kumar et al. 2014). There was visible improvement with respect to clinical signs and regression of lesion by day 10 post-therapy. The owner was advised to apply topical lotion containing calamine over the lesions which showed visible improvement over a period 15 days (Fig. 3) following the cat's treatment.

The top differentials were other ectoparasitic infestation such as pediculosis, demodicosis and scabies that were ruled out by skin scraping examination. Food hypersensitivity was also ruled out by gradually changing the previous wheat based diet to a commercial cat food. The confirmatory diagnosis of the mite is generally made by identifying the mite or its eggs which is very rare to find in cats. Though in the present case, no mites could be visualized, but on the basis of characteristic eggs, visible clinical signs and positive therapeutic response, the disease was confirmed as Cheyletiellosis.

Symptoms in dogs and cats suffering from cheyletiellosis range from intense to no pruritus. These mites are highly contagious, especially young animals and humans can also be affected. According to Miller et al. (2012), 27 out of 41 catteries had problems of pruritic dermatitis and had animals with Cheyletiellosis with 20% of human cases. Human infestations vary in severity mostly due to direct contact with infested animals characterized by erythematous macules on the arms, trunk and buttocks. These rapidly develop a central papule that becomes vesicular and then pustular, finally rupturing to produce a yellow crusted lesion that is frequently excoriated because of intense pruritus (Miller et al. 2012). Clinical recovery with complete regrowth of the tail hair was achieved by 2 months post-therapy (Fig. 4). The case was followed up to 3 months post-therapy without recurrence.



**Fig. 3** Visible improvement of the owner within 15 days post-treatment



**Fig. 4** Regrowth of the tail hair 3 months post-therapy

#### **Compliance with ethical standards**

**Conflict of interest** All the contributing authors hereby certify that we have no financial or non-financial associations that might pose a conflict of interest in connection with the submitted article.

**Ethical approval** All procedures (parenteral medicaments given) were in accordance with the ethical standards of the institution.

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