

Five Cases of Contact Dermatitis to a Trendy Pet

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Key Words

Dermatitis · Ferret · Pet

Abstract

Skin contact with animal hair may induce contact urticaria (syndrome) or protein contact dermatitis. We report here 5 cases of dermatitis due to contact with ferrets kept as pets. The nature of the skin lesions, i.e. eczematous dermatitis, as well as the history of our 5 cases point to protein contact dermatitis. Further studies are requested to confirm this hypothesis and to identify the mechanisms and allergens. Physicians must be aware of the possibility of contact dermatitis with ferrets, especially when the patient has no previous history of atopic dermatitis and presents dermatitis of the neck, arm and around mouth.

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Introduction

Skin contact with animal hair may induce contact urticaria (syndrome) or protein contact dermatitis. We report here 5 cases of dermatitis due to contact with ferrets kept as pets.

Case Reports

Case 1

Case 1 was a 45-year-old non-atopic woman with recurrent eczema of the face and neck (fig. 1). She had had the pet for 4 months when she developed skin lesions following contact with the animal. The le-

sions relapsed 48 h after she renewed contact with the animal and disappeared within a few days upon avoidance. Semi-open test (non-occlusive patch test) of hair, urine and saliva on the skin [1] produced positive reactions (++) to ferret hair (fig. 2) and urine (+) on day 3, but none to saliva. Specific IgE antibodies against ferret were not detected. The patient refused avoiding contact with the ferret and was lost sight of.

Case 2

The second case was a 34-year-old non-atopic woman with eczematous dermatitis of the face and the neck. She has had the pet for 2 months when she developed skin lesions. The lesions relapsed 48 h after she renewed contact with the ferret. Open application tests with ferret hair, ferret food and litter remained negative. Avoidance of contact with the ferret resulted in sponta-



Fig. 1. Eczema of the face and neck (case 1).

Color version available online

neous improvement of the skin lesions within 15 days.

Case 3

This case was a 35-year-old non-atopic woman who had acquired a ferret as a pet 8 months prior to the development of an itchy dermatitis of the right side of the neck, arm folds and around the mouth. The lesions disappeared upon avoidance but recurred as soon as she renewed contact with the animal. A few years before she had developed asthma in contact with a rat and had been obliged to abandon it. A semi-open test (non-occlusive patch test) with ferret hair caused erythema and papules on day 2 but remained negative on day 4. Specific IgE antibodies against ferret were negative. The evolution is unknown because the patient was lost sight of.

Case 4

This case was a non-atopic 30-year-old man with recurrent dermatitis of the face for 18 months. The dermatitis began on the lips (dry and scaly), then spread to the cheeks, forehead and sides of the neck. It looked like head and neck dermatitis. His girlfriend had had a female ferret as a pet for over 2 years and the animal usually had close contact with his mouth and face. Total IgE was 138 kU/l (normal <100), specific IgE antibodies against *Pityrosporum orbiculare* were negative and not performed against ferret. A prick test with ferret hair in serum saline was positive, with a papule diameter of 6 mm and an erythema diameter of 25 mm (histamine as positive control 8/40) (fig. 3). The patient's dermatitis requires continuous treatment with topic corticosteroid or topic tacrolimus due to lack of avoidance of the animal.

Case 5

This case was a young non-atopic girl aged 18 years with a history of recurrent pruriginous dermatitis of the right eyelid since February 2009, spreading to the wings of the nose and the upper lip. The dermatitis appeared 3 months after she had got a ferret. She noticed herself that the dermatitis worsened or recurred after contact with the animal and avoided it. Patch tests with European standard series, cosmetic series, 6 personal cosmetic products supplied and ferret hair showed positive results for nickel sulfate (++) and for ferret hair (+) whereas the prick test with ferret hair remained negative.



Fig. 2. Positive reaction to ferret hair after semi-open test (case 1).



Fig. 3. Result of a prick test with ferret hair in serum saline (case 4).

Discussion

The domestic ferret (*Mustela putorius furo*) is a mammal from the Mustelidae family. It is the third most common uncaged pet in North America after dogs and cats [2]. The literature about allergy to ferrets is poor and essentially quotes respiratory symptoms with prick test positive for ferret hair or urine and identification of proteins either from urine or hair [2–4].

Our 5 subjects did not suffer from respiratory symptoms. They all had skin lesions which could be misdiagnosed as atopic dermatitis, but none of them had a background of atopic dermatitis. The topography was not typically the one of seborrheic dermatitis, and furthermore the sharp borders of the lesions were unusual for an allergic contact dermatitis. In fact the dermatosis was clearly related to con-

tact with the ferret. Skin tests, which are not standardized, were clearly positive in 3 of our cases (prick test in 1 case and semi-open test in 2 cases). To our knowledge there are only two reports of skin reactions as a result of ferret contact [3, 5]. The case of Splingard [5] is very similar to ours, but skin test was not performed.

New pets such as ferrets have been increasing in number since 1970. Reports of allergy to small mammals are scarce [6]. Beside the well-known asthma or conjunctivitis from exposure to the animal (rabbit, hamster, mouse, guinea pig and gerbil) [7–14], there are a few reports of anaphylactic shock after guinea pig, gerbil or hamster bite [15–18]. The nature of the skin lesions, i.e. eczematous dermatitis, as well as the history of our 5 cases point to protein contact dermatitis. Further studies are requested to confirm this hypothesis and to

identify the mechanisms and allergens. The specificity for ferret is to be carried out on the arm, neck and face on close contact to the skin. Physicians must be aware of the possibility of contact dermatitis with ferrets, especially when the patient has no previous history of atopic dermatitis and presents a dermatitis of the neck, arm and around the mouth.

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Disclosure Statement

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