Background: Hedgehogs are increasingly popular pets in the United States and Europe. A number of infections may be acquired from these animals, and hedgehogs are possible hosts of parasites. However, to our knowledge there are no previous reports of urticarial reactions to hedgehogs.

Observations: We describe 3 patients who developed an acute, transient, urticarial reaction after contact with the extended spines of pet hedgehogs. One patient also developed a more prolonged reaction at the site of contact. Interestingly, all 3 patients had documented allergies to cats and/or dogs. The results of prick testing in 1 patient to an extract of hedgehog dander produced an immediate wheal-and-flare reaction.

Conclusions: A variety of dermatologic disorders may be seen in handlers of hedgehogs. Due to the increasing popularity of these animals as pets, it is likely that these reactions will be noted more frequently by dermatologists. The presence of allergies to other pets may be predictive of hedgehog hives and further investigation of the cross reaction of various animal antigens may clarify this relationship.

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Hedgehogs are quilled mammalian insectivores that have spines for protection from predators. The spines are modified hairs that have a spongy matrix and an outer keratinous shaft. The spines can readily penetrate the skin and are a nidus for dermatophyte infection that can be transmitted to humans. Dermatophytosis is the only previously reported cutaneous inflammatory reaction as a result of hedgehogs. We describe 3 patients with urticarial reactions to hedgehogs. In all cases, the reactions occurred within minutes after handling and were characterized by intense pruritus and erythema. The wheals resembled the wheals resulting from a prick test in appearance and course and corresponded to the pattern and spacing of the hedgehog spines. In addition, 1 patient developed a more persistent papular eruption in the areas affected by the hives. The course and morphologic characteristics of the eruption in our 3 patients resembled the results of a prick test in which antigenic material present on the hedgehog spines is inoculated.

Interestingly, all 3 patients reported allergic reactions to cats. In contrast, 3 additional family members of patients 2 and 3 who had no reaction to the hedgehog also had no history of animal allergies. The presence of reported allergies to cats in these patients may indicate a predisposition to an allergic response to other animals. Contact urticaria has previously been reported in a number of small animals, including cats, dogs, rats, mice, guinea pigs, rabbits, hamsters, and toads. Several studies have shown that cat allergens are cross reactive with other mammals, including dogs, foxes, raccoon, mink, mice, and rats. To our knowledge, there are no published studies examining hedgehog antigens, and further studies are needed to elucidate the relationship of an allergy to cats as a predictor of an allergy to hedgehogs.

A second factor that may increase the irritation or antigenicity of the hedgehog spines is a behavior termed anointing or anointing. When a hedgehog encounters a new or interesting object or food, it will chew it and hypersalivate, which causes the formation of a foam that the animal then spits back onto its spines. It is believed that this behavior may cause the accumulation of toxins on the spines to make the hedgehog less palatable to predators. The presence of saliva and organic material on the spines of the hedgehog may also increase the potential for skin irritation in pet handlers.

Transmission of fungi from the hedgehog to humans is another cause of dermatoses due to these pets. The dermatophyte, Trichophyton erinacei, is carried by 25% of hedgehogs, generally without producing signs in the animal. Trichophyton erinacei, which is closely related to Trichophyton mentagrophytes, causes an extremely inflammatory and pruritic eruption that resolves spontaneously 2 to 3 weeks after onset. Potassium hydroxide preparations show fungal hyphae, and the dermatophyte grows well on standard dermatophyte media. Although tinea corporis is more common, tinea capitis due to T erinacei from a hedgehog has been described in a 3-year-old girl.

An additional cause of dermatoses from handling hedgehogs may be the presence of ectoparasites on the pet. Fleas (Archeaopsylla erinacei), mites (Caparinia, Choriopotes, and Notoedres), and ticks (Ixodes hexagonus) are all potential parasites of pet hedgehogs. The pet of patients 2 and 3 had a mite infestation; however, their reactions to the animal persisted after adequate treatment of the parasites.
In summary, hedgehogs may produce cutaneous reactions in pet owners by several different mechanisms. Although not previously reported, the propensity to develop acute urticarial reactions to hedgehogs such as we have seen is likely to be common. The transient nature of the eruption and the clear association with handling the pet may decrease the likelihood that the owner would seek medical advice. As hedgehogs increase in popularity as pets, it is likely that more cases of hedgehog dermatoses will be seen by dermatologists who should be familiar with the potential causes and the appropriate evaluation.

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