

A suspected hedgehog dermatosis diagnosed via store and forward teledermatology



Jordan Taylor Said, BA,^a and Robert Stavert, MD, MBA^b
Boston, Massachusetts

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INTRODUCTION

Over the last two decades, exotic pets have become increasingly common in Western households.¹ An estimated 40,000 households in the United States alone have introduced pet hedgehogs into their homes.² Domestic hedgehogs have the potential to cause both allergic and infectious dermatologic diseases. Store and forward (SAF) teledermatology has been found to improve access to dermatologic care^{3,4}; in addition, it can be highly reliable and accurate in the diagnosis and management of dermatologic disease.⁵ Here we report a case of a suspected hedgehog dermatosis diagnosed via SAF teledermatology in a young woman.

CASE REPORT

A 29-year old white woman was evaluated via an asynchronous SAF teledermatology service in an academic community-based health system for acute onset of an intensely pruritic, edematous eruption on the left cheek and neck. The lesions were first noted 10 days before her presentation and had not improved despite the patient's application of 1% hydrocortisone cream and rubbing alcohol. The patient denied any known inciting events, the presence of similar lesions elsewhere on the body, or a history of similar lesions. She denied any fever, chills, weight loss, or other systemic symptoms. Her medical history was notable for major depressive disorder, generalized anxiety disorder, and attention deficit hyperactivity disorder. She reported taking gabapentin and amphetamine-dextroamphetamine daily and an allergy to oxycodone. The patient worked in landscaping in New England. She lived

Abbreviation used:

SAF: store and forward

by herself in an apartment with several pets, including 3 dogs, a cat, and a hedgehog. She reported that in the days prior to the eruption, she had recently begun sleeping with her hedgehog placed along her left neck. She had no recent travel history.

Forwarded photographs showed a single edematous pink round papule approximately 1.0 cm in diameter on the left cheek, and a cluster of similar pink edematous papules coalescing into 2 arciform plaques on the left side of the neck (Fig 1).

The patient was advised to stop sleeping in close proximity to her hedgehog and initiate treatment with triamcinolone 0.1% cream to be applied to the affected area for up to 10 days. She was scheduled for in-person clinical dermatologic follow-up 3 weeks later. The patient cancelled her appointment and reported that the eruption completely resolved with the recommended interventions and that she had made the decision to remove the hedgehog from her home. In a follow-up call placed 6 months after the original consultation, the patient reported that since removing the hedgehog from her home, she never had recurrence of her symptoms.

DISCUSSION

Given the clinical presentation and course, a hedgehog-related dermatosis was highly suspected, in particular, "hedgehog hives." Hedgehog hives

From the Department of Dermatology, Cambridge Health Alliance,^b Harvard Medical School.^a

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Correspondence to: Jordan Taylor Said, BA, 20 Queensberry Street, Apartment 4, Boston, MA 02215. E-mail: jordan_said@hms.harvard.edu.

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have been previously described as an acute-to-subacute cutaneous reaction that occurs when the spines of a hedgehog contact and penetrate the skin of a susceptible human host. Patients present with round, pink, edematous wheals that are intensely pruritic and sometimes arranged in clusters, similar to the presentation of this patient.⁶ Few cases of hedgehog hives have been reported in the literature; however, in previous reports, hedgehog hives presenting with edematous wheals similar to those induced by antigenic prick testing have been observed in patients with pre-existing dog or cat allergies, suggestive of allergenic overlap between dogs, cats, and hedgehogs.⁷ A practice of hedgehogs known as *anointing* may contribute to the development of this reaction.⁶ Anointing is thought to be a defense mechanism that hedgehogs use to avoid predators in which the hedgehog chews on a newly encountered object, hypersalivates, and then creates a foam that is spit onto its spines.¹ These dorsal spines are modified hairs that can then readily penetrate the human skin, potentially inducing an inflammatory response.

Differentiating between inflammatory and infectious etiologies for hedgehog-related dermatoses is important, because many cases of hedgehog-related infections have been reported. Hedgehogs carry a variety of potentially infectious organisms within the spine bed, including diverse bacteria, fungi, and arthropods such as fleas, mites, and ticks.⁸ The dermatophyte *Trichophyton erinacei* is among the most frequently encountered of these hedgehog spine-associated organisms. Hedgehogs infected with *T erinacei* may show patches of spine loss and scale, mimicking the human dermatophytosis; however, hedgehogs can also be asymptomatic carriers, increasing the risk for human transmission. Multiple cases of *T erinacei* dermatophytosis in humans associated with a history of hedgehog exposure are reported in the literature.⁸ Considering other organisms, an estimated 28% of hedgehogs may also be symptomatic or asymptomatic carriers of *Salmonella* species. Cases of human salmonellosis in individuals with exposure to hedgehogs have been reported, in particular with *Salmonella tilene*, a subtype otherwise rarely encountered in humans.⁹

In suspected cases, skin biopsy, tissue culture, and potassium hydroxide preparation can be used to differentiate infectious from inflammatory dermatoses. Because our patient was referred through SAF teledermatology, these diagnostic modalities were not immediately available. Given that hedgehog hives was the favored diagnosis, a decision was made to empirically treat with topical



Fig 1. Submitted photograph shows three-quarters profile image of the left side of the face, with a single well-demarcated edematous, erythematous papule on the left cheek and 2 clusters of similar papules clustering into 2 arciform plaques on the left neck.

steroids while awaiting subsequent in-person clinical evaluation. Given the resolution without recurrence, in the absence of treatment for an infectious organism, a diagnosis of hedgehog hives was ultimately favored; however, a self-limited infection could not be entirely excluded.

We report this case of a young woman with unilateral, linearly arranged pruritic papules on the face associated with hedgehog exposure, diagnosed via teledermatology as a suspected hedgehog-related dermatosis, most likely hedgehog hives. Hedgehogs and other rarely domesticated animals continue to become increasingly popular as exotic house pets; thus, familiarity with the potential manifestations and differentiating features of allergic and zoonotic hedgehog-associated dermatoses is of increasing relevance to the practicing dermatologist. In addition, we note this case as an example of how robust teledermatology systems may provide prompt, convenient, and high-quality care to patients even for uncommonly encountered conditions and the importance of follow-up to ensure anticipated response when empiric treatment is used.

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