

Care of pets entails the risk of allergic contact dermatitis caused by plants

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The causes of hand eczema are manifold, and often include contact allergy. Identifying the offending allergen is sometimes difficult, and requires a detailed patient history.

Case Report

A 28-year-old woman presented with a 3-month history of pruritic erythematous scaly dermatitis on both hands



Fig. 1. (a, b) Eczematous lesions with fine scaling on the palms of both hands. (c) Eczematous lesion on the neck. (d) Positive patch test reaction to sesquiterpene lactone mix 0.1% pet. on day (D) 4. (e) Positive patch test reaction on D4 to chicory 'as is'.

(palms and backs) and on the neck (Fig. 1) starting 1 month after she obtained a rabbit. She had suffered from atopic dermatitis in her early childhood, but had no previous history of hand eczema. She grew up in a town, and did not remember having gardened as a child. She worked as a computer scientist, and had never previously worked with plants.

Contact sensitization to rabbit allergens was considered; however, prick tests with rabbit extracts and specific IgE antibodies all gave negative results. Patch tests were performed with the European baseline series (Chemotechnique, Vellinge, Sweden) and our own cosmetic series

(Chemotechnique and Trolab, Reinbek, Germany). Haptens were applied on the back with IQ Ultra™ chambers (Chemotechnique) for 48 h, and read according to ESCD guidelines.

Only the patch test with sesquiterpene lactone (SL) mix 0.1% pet. included in the European baseline series gave a positive reaction on day (D) 4 (Fig. 1). Further exposure assessment showed that the rabbit was fed with chicory leaves (*Cichorium intybus* var. *foliosum*), dandelion, hay, and dry food. The patient brought in her own chicory leaves and dandelion for further testing. Chicory leaves patch tested 'as is' gave a positive reaction on D4 (Fig. 1). Dandelion patch tested 'as is' and prick-to-prick tests with native chicory and native dandelion gave negative results.

The dermatitis disappeared when the patient stopped feeding her rabbit with chicory, confirming specific contact allergy to chicory. When the patient was questioned again, she also reported that, a long time before she obtained the rabbit, she had noted immediate oral pruritus when eating some green salads, and delayed cutaneous symptoms after applying certain ointments containing plant extracts, which she described as "dry", scaly and erythematous skin, which is compatible with contact dermatitis. She no longer applied the ointment, and did not remember the name or composition of this ointment. Unfortunately, she refused further investigations and was lost to follow-up.

Discussion

In this case, sensitization to SLs manifested as allergic contact dermatitis caused by chicory used by the patient to feed her rabbit, and as oral pruritus after she had eaten some green salads. Even if the culprit is seemingly easily identified (in this case, the rabbit), it is important to patch test with the baseline patch test series to screen for 'hidden' contact allergy.

The SL mix included in the European baseline series can detect contact allergy to plants containing SLs (1), namely, Lauraceae, Frullaniaceae, and Compositae (Asteraceae). This last-mentioned family includes endive, chicory, and lettuce. Occupationally exposed persons such as gardeners, foresters, florists and food handlers are at risk (1). Moreover, sensitization was found to be significantly more common in children with atopic dermatitis than in non-atopic children (2, 3); however, sensitization to Compositae (in persons with current or past atopic dermatitis) (4) may occur at any age.

Concerning this patient, two aetiological hypotheses could be considered: (i) sensitization during handling of chicory to feed the rabbit; and (ii) prior sensitization during the application of ointments with plant extracts, years

before she obtained the rabbit, and cross-reactivity with chicory (5). This second hypothesis is supported by the observation of positive patch test reactions to SL mix being more common in patients previously sensitized to Compositae plants than in those primarily sensitized to lettuce (5). Unfortunately, the 11 chicory-sensitive patients were excluded from that study because of the uncertainty concerning the plant material used (5). However, as lettuce and chicory belong to the same tribe, Cichoarieae, this

could also be true for chicory, although this still needs to be proven.

Oral pruritus was self-reported by the patient. Scientific data can hardly explain such immediate oral symptoms resulting from contact allergy, as the mechanisms of sensitization are different. However, it has been reported that some Compositae vegetables, such as lettuce, may induce systemic reactions through both humoral and cell-mediated mechanisms (6).

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