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## **Allergic contact dermatitis from rabbit's feed**

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Key words: Atopic dermatitis; cheilitis; contact allergy; hand eczema; sesquiterpene lactones.

Running head: rabbit feed allergy.

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Atopic dermatitis in children may present as hand eczema. However, also in children hand eczema may be of exogenous origin, e.g. allergic contact dermatitis.

### **Case report**

A 10-year-old school girl was referred to us because of long standing hand eczema, refractory to topical corticosteroid treatment and UVB-irradiation, to rule out contact allergy as one cause. There was a family history of atopy, and the girl had had flexural atopic dermatitis already as a baby. At the age of 2 years she had dry fissured skin on hands and very dry skin generally. She also suffered from asthma and rhinitis and was allergic to cats and rabbits. At presentation her main problem was long standing hand eczema which never was totally clear despite treatment. She also had eczema on the foot soles during the summer season, when she ran outside without shoes. For her hand eczema she used mometasone furoate 0.1% (Elocon ointment, (Schering-Plough AB, Stockholm, Sweden) in the summer without much improvement and in the winter tacrolimus 0.03%, (Protopic ointment, Astellas Pharma AB, Gothenburg, Sweden) with better results. From her sick history there was no suspicion of an exogenous factor contributing to the hand eczema. When seen by us she had a papular eczema in the elbows and dorsally on the finger tips with erythema and dryness inside the palms and volar fingers.

Patch testing was performed to our children's standard series, our corticosteroid series, and the 2 topical creams she used. She only reacted to sesquiterpene lactone (SL) mix 0.1% pet.(Chemotechnique Diagnostics, Vellinge, Sweden)(++ day (D)3, ? D7, [Table 1](#)), which was re-tested (+D3). Due to an angular and lip cheilitis seen on D3 she was also tested to our cheilitis series, which was negative. When discussing the positive reaction to SL mix with the patient's father, he informed us that the family had 3 rabbits, living outside in a hut, and that the patient and her sister picked dandelion flowers and leaves with bare hands morning and evening since 5 years. The patient denied drinking any herbal teas (only black tea daily) or

using health care products, topically or orally. The young patient was told not to pick or touch the dandelions or eat food known to contain SLs such as lettuce and bay leaf, to see whether this would improve her skin condition. A control 5 months later revealed only an occasional fissure left on the hands and the face had cleared. The parents claimed that the improvement in their daughter's skin condition had a clear connection in terms of time with the avoidance of plants and food containing SLs. The family had gotten rid of the rabbits, and the patient avoided eating lettuce or bay leaf and didn't run outdoors without shoes. 2 years later her hands and feet were still without eczema and the only treatment she used here was emollients. She still avoided lettuce, bay leaf, and contact with plants containing SLs.

## **Discussion**

One may argue if this case is a contact dermatitis exclusively due to contact with SLs or an atopic hand dermatitis aggravated because of a superimposed contact dermatitis to SLs in dandelions (1). After she was patch tested, she avoided SLs and her dermatitis healed using the same treatment as before, viz. Protopic<sup>®</sup> ointment. This speaks for the latter explanation, viz. superimposed contact dermatitis. The 2 year follow-up, however, favours the first option, viz. a contact dermatitis exclusively due to contact with SLs. The cheilitis had also healed, probably due to the avoidance of SL-containing food. She has experienced relapses when exposed to certain herbs. Patients with contact allergy to SLs tend to have palmar vesicular dermatitis (systemic contact dermatitis or direct contact) but may also have cheilitis (2). This case shows that it is important to also patch test children with long-standing hand eczema, even if the primary suspicion is an endogenous atopic eczema (3). A contact dermatitis added to the endogenous eczema may be the straw that breaks the camel's back.

## **References**

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Table 1. Test results of the children's standard series. Vehicle is petrolatum except for allergens with \*, where aqua was used.

Testsubstance	Concentration	Day 3	Day 7
Potassium dichromate	0.5	-	-
4-phenylenediamine base	0.94	-	-
Thiuram mix	1.0	-	-
Neomycin sulfate	20.0	-	-
Cobalt chloride	0.5	-	-
Quaternium 15	1.0	-	-
Nickel sulfate	5.0	-	-
Quinoline mix	6.0	-	-
Colophony	20.0	-	-
Paraben mix	16.0	-	-
Black rubber mix	0.6	-	-
Sesquiterpenelactone mix	0.1	++	?
Mercapto mix	2.0	-	-
Epoxi resin	1.0	-	-
Myroxylon pereirae	25.0	-	-
4-tert-butylphenol-formaldehyde resin	1.0	-	-
Primin	0.01	-	-
Formaldehyde*	1.0	-	-
Fragrance mix	8.0	-	-
Ethylenediamine dihydrochloride	1.0	-	-
2,5-diazolidinylurea*	2.0	-	-
Cl+Me-isothiazolinone*	0.02	-	-
Amerchol L 101	100	-	-
Caine mix II	10.0	-	-
Lichen acid mix	0.3	-	-
Tixocortol pivalate	0.01	-	-
Toluenesulfonamide formaldehyde resin	10.0	-	-
Budesonide	0.01	-	-
Methyldibromo glutaronitrile	0.5	-	-
Textile color mix	3.2	-	-