

CONTACT POINTS

CONTACT DERMATITIS 2008; 59: 52–62

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Liquorice extract in a cosmetic product causing contact allergy

Contact Dermatitis 2008; 59: 52

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Key words: allergic contact dermatitis; cosmetic; liquorice; patch test.

Liquorice (*Glycyrrhiza* genus) roots have been used as a raw plant material for medicinal purposes since ancient times. Today, it is widely used in modern folk medicine alone and also in many multicomponent preparations with a variety of claimed biological activities including those of wound healing, antiseptic, and anti-allergic (1).

Case Report

A 35-year-old female with no history of atopy underwent a facial chemical exfoliation performed by a beautician. After the exfoliation procedure, a 'Recovery Cream' was applied to the skin. The following day, her face became acutely erythematous and swollen, and she developed marked periorbital oedema. The symptoms resolved after a week.

The patient was subsequently patch tested using the Recovery Cream, European baselines series (Trolab®, Hermal, Germany; Finn® chambers on Scanpor® tape, Epitest Ltd., Tuusula, Finland), and additional cosmetic and fragrance allergens. Readings at D2 and D4 gave a positive reaction (++) to the 'Recovery Cream' only.

The manufacturer of the cream provided the ingredients, and the patient was recalled and tested to the agents, diluted as appropriate. She tested positive at D2 and D4 (++) to liquorice root extract (1% pet.).

Discussion

There have been 2 previous reports of contact allergy associated with liquorice. The first in Japan (2) where oil-soluble liquorice extracts are commonly used in skin-lightening cosmetics, which are popular in Asia. The second case report is also from Japan (3).

Oil-soluble liquorice extracts are ethanolic extracts from *Glycyrrhiza glabra* Linne, which are flavonoid compounds and do not contain glycyrrhizin. Glycyrrhizin is a water-soluble liquorice extract.

It has been demonstrated that 2 of the main components of liquorice, liquiritigenin and 18(beta)-glycyrrhetic acid, have anti-inflammatory effects. The components had anti-pruritic effects *in vivo* and inhibited the degranulation of RBL-2H3 cells induced by immunoglobulin E with antigen and rat peritoneal mast cells induced by compound 48/80 *in vitro* (3).

Extracts of roasted liquorice obtained by ethanol demonstrated strong anti-inflammatory activity through its ability to reduce nitric oxide and prostaglandin E (2) production in lipopolysaccharide-stimulated mouse macrophage cell, RAW254.7 (4). It also has inhibitory effects on the pro-inflammatory cytokines and CD14 expression (5).

In conclusion, liquorice is commonly used in folk medicine for its claimed 'anti-allergic' qualities, and it has been demonstrated *in vivo* and *in vitro* to have anti-inflammatory properties. Here, liquorice is seen as a rare cause of contact allergy. The allergic component of liquorice has not yet been identified.

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