

Contact urticaria to common ivy (*Hedera helix* cv. 'Hester') with concomitant immediate sensitivity to the labiate family (Lamiaceae) in a Danish gardener

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Common ivy (*Hedera helix*) is a very common evergreen plant. Both irritant and allergic contact dermatitis

have been reported (1), whereas immediate reactions have not been thoroughly investigated (2).

Skin and immediate mucosal symptoms to a number of plants have been observed among gardeners, especially in atopics (3).

We report a case of contact urticaria to common ivy and rosemary with cross-reactivity to the labiate family in a gardener handling these plants on a daily basis.

Case Report

A 45-year-old female gardener was referred to our dermatological department with hand eczema. For 2 years, she had worked in a greenhouse in a nursery specialized in herbs and common ivy (*H. helix*).

The patient reported the occasional development of immediate skin reactions to the common ivy cultivar 'Hester' (Fig. 1) and rosemary (*Rosmarinus officinalis*), described as an urticaria-like rash located in the volar aspect of the wrists. Common ivy also elicited rhinitis.

Her current problem was acute vesicular, secondarily infected hand eczema after handling peppermint (*Mentha piperita*) for 7 hr. Prior to these reactions, the patient had had no history of skin disease, hay fever, or asthma. Her daughter had atopic dermatitis. Prick test with standard inhalant allergens as well as suspected plants were performed and reactions considered positive when >4 mm (4). The patient was positive to mugwort; further results of prick test and histamine release (HR) test are shown in Table 1.



Fig. 1. Common ivy (*Hedera helix* cv. 'Hester').

Table 1. Prick test (positive when >4 mm) and histamine release (HR) test for common ivy and members of the labiate family with which the gardener had contact

	Positive prick test (>4 mm)	HR test
Common ivy (<i>Hedera helix</i> 'Hester') (leaf)	+	+
Common ivy (<i>H. helix</i> 'Hester') (stalk)	+	+
Rosemary (<i>Rosmarinus officinalis</i>) (leaf)	+	+
Rosemary (<i>R. officinalis</i>) (stalk)	+	+
Basil (<i>Ocimum basilicum</i>) (leaf)	–	+
Basil (<i>O. basilicum</i>) (stalk)	+	+
Sage (<i>Salvia officinalis</i>) (leaf)	–	+
Sage (<i>S. officinalis</i>) (stalk)	–	+
Oregano (<i>Origanum vulgare</i>) (leaf)	–	+
Oregano (<i>O. vulgare</i>) (stalk)	–	+
Marjoram (<i>Origanum majorana</i>) (leaf)	–	+
Marjoram (<i>O. majorana</i>) (stalk)	–	+
Thyme (<i>Thymus vulgaris</i>) (leaf)	–	+
Thyme (<i>T. vulgaris</i>) (stalk)	–	+
Peppermint (<i>Mentha piperita</i>) (leaf)	–	+
Peppermint (<i>M. piperita</i>) (stalk)	–	+

Additionally, prick test with common ivy cultivar was performed in 10 controls with positive prick test for mugwort. One of these had a positive reaction – HR test was negative.

Epicutaneous testing with the standard series, topical steroids, the patient's own gloves, faltarinol (0.03% pet.), and all the herbs mentioned 'as is' only showed a positive reaction (1+) to peppermint on D3 and D7. The test material was applied in Finn Chambers® (Epitest Ltd. Oy, Tuusula, Finland) mounted on Scanpor® (Actavis Norway AS, Vennessla, Norway) for 2 days and the readings made on D3 and D7.

Discussion

On the basis of a positive prick test to mugwort and a daughter with atopic dermatitis, the patient must be characterized as an atopic. Individuals sensitized to common aeroallergens are significantly more often allergic to indoor plants (4). The positive HR tests to the ivy cultivar and rosemary support a true immunoglobulin E-mediated hypersensitivity in this patient.

Cross-reactivity between mugwort pollen and ivy is less likely in view of the negative results in controls with mugwort allergy. Jørs, in a Danish questionnaire study, found a higher prevalence of skin and mucosal symptoms in gardeners handling *Ficus benjamina* and *H. helix* compared with a control group not handling these plants (2). Thus, rhinitis and urticaria were significantly more prevalent in gardeners, but a causal

relationship between these symptoms and the plants, rather than other occupational contact allergens, could not be established because of the nature of the study (2).

An urticarial reaction to common ivy has previously been reported in a patient with positive patch test to the plant, but testing for immediate hypersensitivity was not carried out (5).

Cross-reactivity between members of the Lamiaceae has previously been reported both in immediate- (6) and in delayed-type reactions (7).

The patient only had clinical symptoms from common ivy and rosemary, which elicited both positive prick test and positive HR test. The high number of positive HR tests to different herbs where the prick test was negative may indicate serological cross-reactivity rather than concomitant sensitivity. Likewise, the positive prick test and HR test for basil were of no clinical relevance because the patient had no symptoms with that particular herb.

Conclusions

To our knowledge, this is the first report of contact urticaria to common ivy confirmed by positive prick test and positive HR test. Additionally, an important occupational contact allergy to peppermint was discovered.

Heavy exposure in atopic persons carries a risk of sensitization; it is important to look for both immediate- and delayed-type hypersensitivities.

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