

us in 1989 (1). We report a second patient with an occupational contact dermatitis with positive patch tests elicited by this plant.

Case Report

A 56-year-old nurseryman (growing exclusively *Paeonia* without use of pesticides) presented with a 1-year history of facial eczema, later spreading to his fingers, hands, and upper legs after cutting peony flowers and handling roots (*Paeonia officinalis* variety; Figs 1 and 2). He had been working in the same, small nursery for more than 40 years and did not use gloves. The *Paeonia* flowers were harvested in early summer with dividing and planting of roots taking place in autumn.

A few months after eczema developed, he suspected it to be because of his work with peonies. He noticed improvement at weekends and on holidays, with rapid recurrence of the dermatitis as soon as he had contact again with peonies. His colleagues were unaffected.

The patient was patch tested with the European baseline series (Trolab-Hermal, Reinbek, Germany) (readings on D2 and D4 after 2 days of occlusion) and with freshly crushed peony flower, stem, leaf, and root in Van der Bend® Square

Contact dermatitis due to *Paeonia* (peony): a rare sensitizer?

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occupational dermatitis; *Paeonia*; peony;
plant extracts; plants.

There is as far as we know, only one recent report in the literature on contact dermatitis to peony reported by



Fig. 1. *Paeonia officinalis*.



Fig. 2. Peony roots.

Chambers (Van der Bend, Brielle, the Netherlands) on Fixomull® tape (Beiersdorf, Almere, the Netherlands). Two months later, patch tests were performed with different extracts: both stem and root in water, in methylethyl ketone, and in ethanol. All elicited positive reactions (Table 1). Patch tests in 20 controls with these extracts were negative.

The extracts were made by our laboratory. Fresh plant material was cut in pieces and subsequently brought in liquid nitrogen in freezer mill tubes (Freezer mill 6750; Glen Creston Inc., London, UK). After running two cycles of 10 seconds, with a pause of 5 seconds, the powdered material was weighed and suspended in a 10-fold amount of water, methylethyl ketone, or ethanol to obtain a 10% concentrated extract (w/v). These extracts were used for patch testing. We also used plant material that the patient brought in on his first visit. These dry plant materials were extracted in the same manner and also tested, but the reactions were not as strong as those from fresh parts. Therefore, 2-month-old dried material still contained sufficient allergen to elicit an allergic reaction.

After avoiding skin contact with peonies by wearing protective gloves (Nitrotough™ N210; Marigold Industrial, London, UK), he had no recurrence of eczema and continued his work in the peony nursery.

The eczema in his face could be explained by (contaminated) hand-face contact.

Discussion

We interpreted the patch test reactions to *Paeonia* as allergic and not as irritant reactions as patch tests with the extracts in 20 controls were negative. Patch testing with plant parts might cause irritant reactions as peonies contain calcium oxalate (2). The allergen responsible for the sensitization and the dermatitis is not known. Unfortunately, we were not in the position to have the extracts analysed nor was the patient in favour of further patch testing as his problems were solved.

Cutting peonies by hand makes skin contact with the sap of the plant unavoidable if suitable skin protection is not used. It is possible to work with gloves and wearing an overall with long sleeves. Glove use is possi-

ble when handling, dividing or planting the roots.

The popularity of peonies as cut flowers is responsible for a considerable increase in production. In recent years, the production in the Netherlands has been more than 50 million flower stems per year. The number of growers has increased, so we might expect to see some more comparable cases but as far as we know this is the second described patient with an occupational, allergic contact dermatitis because of *Paeonia*.

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References

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Table 1. Positive patch test results (*Paeonia* plant parts and extracts of root and stem in water, ethanol, and MEK) in a peony grower

Plant materials	Reading D2	Reading D4
Petal, crushed	?+	+
Stem, crushed	++	++
Leaf, crushed	++	+++
Root, crushed	++	+++
Stem, 10% aq. extract	++	++
Stem, 10% ethanol extract	–	+
Stem, 10% MEK extract	++	++
Root, 10% aq. extract	++	++
Root, 10% ethanol extract	–	+
Root, 10% MEK extract	–	+

aq., aqueous; MEK, methylethyl ketone.