

Short Communications

Changing clinical patterns of *Parthenium* dermatitis

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Key words: changing clinical patterns; *Parthenium hysterophorus*; Compositae; plants; allergic contact dermatitis; airborne contact dermatitis. © Munksgaard, 1997.

We have seen 30 new patients with allergic contact dermatitis from *Parthenium hysterophorus* between October 1993 and July 1996. All were men from 28 to 76 years of age, with duration of dermatitis from 6 months to 14 years. 9 had dermatitis in a photo-pattern, of whom 4 had lesions only in sun-exposed areas, while 5 also had minimal involvement of flexural and shaded areas. The remaining 21 had features of airborne contact dermatitis. Irrespective of clinical pattern, the majority complained of photosensitivity. Of the 9 with predominant photodistribution of lesions, 2 had no photosensitivity, with 1 showing features of actinic reticuloid (1).

Comment

P. hysterophorus is known to cause airborne contact dermatitis (2). In the past, we used only to see an airborne pattern, with lesions in both sun-exposed and shaded areas. Of late, we are seeing a changing trend in disease presentation, with lesions predominantly or exclusively in sun-exposed areas.

Contact allergy to Compositae can mimic photodermatitis (3). However, photocontact sensitivity to *Parthenium* has so far been reported in only 1 case (4). We have never been able to elicit a photopatch test response to *Parthenium*. In 3 cases, we have observed a slightly stronger response in the UVA-irradiated site compared to the non-irradiated site, which we interpret as non-specific.

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Concomitant sensitization to Lannate® and *Gerbera*

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Case Reports

Case no. 1

A 55-year-old woman, with no family or personal history of atopy, had had a seasonal job in a plant improvement firm for 6 years, working on pollination of *Gerbera* and *Primula* species. In her 6th season, she developed occupational eczema on the dorsal hands and volar forearms. At first, she blamed an orange-coloured *Gerbera* cultivar that had caused itching in previous seasons, but later other cultivars also elicited symptoms. In addition,

she noticed occupational ocular redness and itching and a stuffy nose.

She was patch tested in a dermatological clinic and was positive to the orange-coloured *Gerbera* only. Later that year, she was referred to our department and patch tested with the standard series, 4 *Gerbera* cultivars (including the orange-coloured one), Compositae mix 6% pet., tomato oleoresin 1:10 w:v eth. and the pesticide Lannate® 1% aq. Plant patch tests included both top and underside of leaves, stalk and flowers, as is and with

aq. She was positive to Lannate® 1.0% aq. (++) on D 3 and + on D 7) and all 4 *Gerbera* cultivars on D 3 (+ and ++ reactions). The orange-coloured *Gerbera* elicited more ++ reactions than the others.

To rule out reaction to Lannate® residues on the plants, she was patch tested with 3 unsprayed *Gerbera* cultivars 3 months later. Even though she had been tested with only 1 of them before, she reacted (mostly ++) to all 3 on D 3, and the ++ reaction to Lannate® was also reproduced. Aimed patch testing with Lannate® 1% aq. was negative in 23 persons. Patch testing with unsprayed plants was not performed in consecutive eczema patients, but, generally, aimed patch testing with these plants has rarely elicited even weak positive reactions (1).

The patient also had strongly positive prick tests to all unsprayed cultivars, scratch-patch tests being positive to only 2. Prick tests with 10 common inhalant allergens supplemented with *Dahlia* and chamomile pollen extracts (Soluprick®, ALK, Hørsholm, Denmark) were negative.

2 months after the onset of the eczema, she took 6 capsules of herbal medicines containing pollen, which she had previously tolerated well, and developed a widespread urticarial exantham and vesicular eczema of the hands and feet. After she stopped working, the eczema of the forearms cleared completely while the hand eczema recurred from time to time and gradually involved the palms only.

Case no. 2

A 47-year-old woman, with no personal history of atopy, had been employed as a seasonal greenhouse worker in the same firm for 5 years, working on pollination of *Gerbera* cultivars. In her 5th season, she developed nummular eczema on the hands, forearms, trunk and neck, and later vesicular eczema on the side of 1 finger. She noticed that the symptoms were worse at work, especially on Mondays. She also reported occupational itching of the eyes and transient episodes of itching and redness of the skin.

Patch testing with the standard series, supplemented with Lannate® 1% aq., Compositae mix 6% pet. and the 4 sprayed *Gerbera* cultivars, showed a + reaction to Lannate® on D 3 and 7. Prick tests with 10 common inhalant allergens were negative, while prick tests with 3 of the 4 sprayed *Gerbera* cultivars and *Dahlia* pollen extract (Soluprick®, ALK, Hørsholm, Denmark) showed small positive reactions.

When the patient stopped working, her eczema cleared, apart from 1 or 2 recurrences of vesicular finger eczema.

Discussion

Lannate® is widely used as a broad-spectrum insecticide in Danish greenhouses. The Lannate® used for testing contained 20% of the active principle, methomyl, 65% methanol and 15% other ingredients. The half-life of methomyl on the surface of plant leaves is 1.7–3.7 days and 3–7 days in the plants. In accordance with this, the 2nd patient reported that her symptoms were worst on Mondays, the plants being sprayed on Saturdays. Considering its frequent use, however, sensitization to Lannate® seems rare. Only 2 cases have previously been reported (2). They were also positive to the non-irritant 1% solution of Lannate®. Methomyl is most likely to be the allergen.

1 of the 2 cases reported previously also had a positive reaction to sprayed *Gerbera* leaf and root, but, since unsprayed plants were not available, a definitive diagnosis of *Gerbera* allergy was not made. However, it was described later by Lamminpää et al. (3). Considering that *Gerbera* is a popular cut flower and pot plant and a member of the ubiquitous allergenic Compositae family of plants, delayed-type hypersensitivity seems very rare. Even though control patch tests were not made, the gradual development of the eczema and patch test reactions, and the strength of the latter to most cultivars, suggest true allergic contact dermatitis in the 1st patient. The allergens are unknown, but are probably not sesquiterpene lactones (2): the patient was negative to both the sesquiterpene lactone and Compositae mixes.

Occupational Type-I allergy to *Gerbera* has been reported previously (4) and, in our experience, seems more common than Type IV allergy (1), probably because of the amount of pollen that these patients are exposed to at work.

The reaction of patient no. 1 after oral challenge with pollen-containing medicine indicates that the risk to these patients is not only occupational.

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