

Allergic contact dermatitis from Compositae is an important and well-known problem (1). However, the clinical diagnosis and the choice of allergens for patch testing can be challenging.

We report an intriguing case of allergic contact dermatitis due to *Cineraria* hybrid flower, belonging to the Compositae (Asteraceae) family.

Case Report

A 58-year-old housewife presented with a 2- to 3-month history of an oedematous dermatitis affecting her hands and the distal part of her forearms. She had a passion for gardening and in the previous few months had been growing a small flowering plant, a florist's *Cineraria* hybrid, belonging to the genus *Senecio* of the Compositae family.

Patch tests with the Italian baseline series of contact allergens (Società Italiana di Dermatologia Allergologica Professionale e Ambientale-SIDAPA) and with the Compositae mix were all negative. Therefore, we performed patch tests with the leaf of the plant (negative) and with the flower, 'as is', which produced an allergic reaction (++D2/++D3) (Fig. 1). Patch testing with the flowers in six control subjects was negative.

The patient refused further tests with plant extracts. The eczematous reaction at the site of the patch test with the flower was persistent for 20 days. An allergic contact dermatitis of the hands to *Cineraria* hybrid was diagnosed.

Allergic contact dermatitis due to *Cineraria* hybrid in an amateur gardener housewife

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Discussion

Cineraria belongs to the Compositae (also known as Asteraceae) family. Compositae is one of the largest plant families, approximately 25 000 species, and represents about 10% of the world's flowering plants (1). The tribe *Senecioneae* has 100 genera, with close to 3000 species distributed all over the world (2). *Cineraria* hybrids are very common flowering plants sold by florists.

The classical form of the Compositae dermatitis, especially described in hot and dry climates, is characterized by a chronic, red, thickened dermatitis affecting exposed skin, which resembles a photodermatitis with acute flare-ups during the growing season (1, 3). In our case, a localized, chronic



Fig. 1. Positive reaction to the flower of *Cineraria* hybrid.

dermatitis affecting the sites of contact with the plant was observed (3).

The main allergens in Compositae are sesquiterpene lactones (SL), 15-carbon atom molecules in which a methylene group is attached to a lactone ring (4). Routine screening with both the SL mix and the Compositae mix detects 90% of Compositae allergies, with a prevalence, respectively, of 0.9–1.8% and 3.1% (5, 6).

The Compositae mix has been considered as a more reliable test for Compositae dermatitis than the SL mix (7).

Reports from the literature (6) have underlined that it may be useful to test Compositae plant extracts as these may contain additional allergenic constituents (polyacetylenes and thiophenes) in comparison with a mixture of pure SLs (8). The plant's allergens can be extracted in various solvents such as acetone, alcohol, and ether and then used for patch testing (9). The solubility of these allergens may vary in different solvents producing variable concentrations, which, in turn, may affect patch test positivity (9, 10).

In clinical practice, besides the SL mix, Compositae mix, plant extracts, and parts of suspected plants (leaves, stems, and flowers) may be used for patch testing, although tests with plants, 'as is', can give false-positive reactions (due to irritant reactions) or false-negative reactions (due to low allergen concentrations). Most SL allergens are present in the oleoresin fraction of pollens, leaves, stems, and flowers. The trichomes, fragile hair-like appendages, contain the highest concentration of SL allergens; the greatest quantity of allergens is found in leaf undersurface trichomes as well as in flowering heads (1, 3, 5).

In our patient, only the Compositae mix was used for patch testing and was negative; the flower, 'as is', was positive, perhaps due to higher concentration of the responsible allergen in the flowers than in the leaves.

Senecio cruentus has been reported as a cause of occupational mucosal symptoms and irritant dermatitis (11). No further cases of allergic contact dermatitis to *Cineraria* hybrid have been found in current literature. This case demonstrates that *Cineraria* hybrid is another Compositae that may cause allergic contact dermatitis.

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