

**Occupational dermatitis
because of carnation**

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Introduction

Carnation (*Dianthus caryophyllus*) (Fig. 1) is a perennial flower belonging to the Caryophyllaceae family, together with *Gypsophila paniculata* and *Saponaria officinalis*. It is a popular flower in Greece, accompanying both moments of joy and grief.

Case Report

A 40-year-old female was referred to the Allergy Department, presenting eczema on her face (more intense on her upper eyelids) and her neck. She was a part-time carnation seller in a nightclub. She presented no symptoms during the first 4 years of work, while a year ago she started noticing an occasional redness and swelling with itching on her eyelids and neck. Symptoms were related to her work environment, starting to appear 2–3 hr after handling carnations, while improvement was noticed on weekends and days off. On her hands, she presented a slight itching but no dermatitis. Contact dermatitis because of airborne allergens was suspected, but she insisted that she noticed no symptoms when she carefully handled carnations without touching her face or neck.

Patch test using the European standard series (TRUE test) was negative.

Patch test with pieces of carnation leaves and stalk, provided by the patient, were applied on her back. The test was read at 30 min and on D2 and D4. No immediate reaction was noticed after 30 min. On D2 (and D4), the test resulted positive (+++) to carnation leaves. 5 volunteers were tested as controls, with negative results.

The patient was treated with topical steroids, and she remains at the same work avoiding the handling and the direct contact with carnations, selling them in small baskets prepared by her colleagues.

Discussion

Decorative plants are estimated to cause 1–1.5% of the contact dermatitis cases (1). *D. caryophyllus* may cause occupational dermatitis either by volatile airborne allergens or by direct contact, as in the case of our patient (1–4). Eugenol, which is the main constituent of carnation oil, widely used in dentistry, may also cause contact dermatitis (5).

The fragrance mix, included in the European standard patch test series, consists of 8 substances including eugenol. Our patient had a negative reaction to fragrance mix, obviously because the responsible allergen was not eugenol but another carnation molecule. As shown by electrophoresis, *D. caryophyllus* contains several different protein bands between 10 and 200 kDa (2). Another case of positive carnation test and negative

standard series patch test has been reported before (3).

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Fig. 1. *Dianthus caryophyllus*.