

Short Communication

Photoallergic contact dermatitis from diallyl disulfide

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Case Report

A 56-year-old woman presented with an 18-month history of recurrent eczema on her lips triggered by sunlight or fluorescent light. Her reactions typically occurred 24 h after such exposure, sporadically throughout the year but more consistently in summer.

Patch testing was done to a series of 68 ingredients commonly found in lip products. In addition, photopatch tests were applied to 13 such allergens capable of photoallergic reactions (Table 1). Photopatches were exposed to 15 J UVA 24 h after application. All patches and photopatches were removed at D2 and read at both D2 and D4. At D4, there was a +++ reaction on photopatch testing to diallyl disulfide (1% pet.). There was no reaction to the same allergen or to powdered garlic on patch testing. At D4, there were also +++ reactions to balsam of Peru (*Myroxylon Pereirae*) and benzoic acid

(a component of the former). Patch testing was negative to other substances related to balsam of Peru, such as vanillin, vanilla, clove oil, cinnamon (both 10% and 25% pet.), cinnamal, cinnamic alcohol, fragrance mix, and sodium benzoate.

Discussion

These results conclusively confirm a photoallergic contact dermatitis from diallyl disulfide in garlic. It appears that the reaction to balsam of Peru represents only a specific contact allergy to benzoic acid. Although it is possible that this may be a part of her problem, the clear and predictable presence of her eruption after exposure to sunlight and fluorescent light suggests that photoallergy to diallyl disulfide is more likely the culprit.

Most cases of contact dermatitis from garlic have been found on the fingertips of cooks and chefs (1, 2). Although it is unusual for contact allergy to be limited to the lips, it is possible that this might occur due to allergens found in food. Garlic should be added to the list of substances that have been reported as causing photoallergy and should be considered when photoallergy is limited to the lips (3).

Table 1. Lip photoallergen series (Chemotechnique; Malmö, Sweden)

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|------|--|
| (1) | 2-ethylhexyl-4-methoxycinnamate (10% pet.) |
| (2) | avobenzone (10% pet.) |
| (3) | diallyl disulfide (1% pet.) |
| (4) | triclosan (2% pet.) |
| (5) | para-aminobenzoic acid (10% pet.) |
| (6) | octyl dimethyl PABA (10% pet.) |
| (7) | sandalwood oil (2% pet.) |
| (8) | <i>Arnica montana</i> (0.5% pet.) |
| (9) | <i>Achillea millefolium</i> (1% pet.) |
| (10) | propolis (10% pet.) |
| (11) | oxybenzone (10% pet.) |
| (12) | balsam of Peru (25% pet.) |
| (13) | fragrance mix (8% pet.) |

References

1. Jappe U, Bonnekoh B, Hausen B M, Gollnick H. Garlic-related dermatoses: case report and review of the literature. *Am Jnl Contact Derm* 1999; 10: 37–39.
2. Chan E F, Mowad C. Contact dermatitis to foods and spices. *Am Jnl Contact Derm* 1998; 9: 71–79.
3. Mark K A, Brancaccio R R, Soter N A, Cohen D E. Allergic contact and photoallergic contact dermatitis to plant and pesticide allergens. *Arch Dermatol* 1999; 135: 67–70.