

Delayed-onset Systemic Contact Dermatitis

Sharif Currimbhoy, BS, and Rajani Katta, MD

PRECÍS

Systemic contact dermatitis may develop years after allergic contact dermatitis, and therefore, avoidance diets may represent effective therapy for recurrent dermatitis.

DISCUSSION

A 32-year-old woman presented with dermatitis of the face and neck for 2 years. Patch testing was performed with the North American Contact Dermatitis Group standard series and a cosmetics series. At 72 hours, she had reactions to multiple fragrance allergens, including balsam of Peru (BOP), and to lanolin and oxybenzone. Several of her skin care products contained fragrance allergens. With allergen avoidance and the use of topical steroids, she noted significant improvement. At 5 months of follow-up, she had no dermatitis. She presented 4 years later for a recurrence of dermatitis in the same areas, despite continued allergen avoidance. Her skin had remained clear for years, but in the preceding 3 months, she had experienced persistent dermatitis. She was instructed to begin the BOP avoidance diet. At 8 weeks, she noted significant improvement. She reported that specific food, including cinnamon, soda, and chocolate, resulted in flares. Systemic contact dermatitis (SCD) is a cutaneous reaction that occurs after sensitization to an allergen with subsequent systemic exposure, such as via oral, inhaled, intravenous, or intramuscular routes.¹ Although allergic contact dermatitis (ACD) results in inflammation at the site of allergen contact, SCD differs. In SCD, the reaction may occur locally, regionally, or widely. In the case of SCD to BOP, ingestion of related food can result in widespread involvement, or more localized dermatitis, such as of the face, hands, or genitals.² In cases of ACD to BOP, it is well known that some patients, but not all, will react to systemic exposure in the form of ingested food or flavorings. Our patient had ACD to topical products

and later developed SCD, despite no further changes in skin care products or food. This highlights important areas of further study. What is the mechanism underlying the development of SCD, and why does SCD develop in some, but not all, patients with ACD? There are few cases described in which SCD developed years after the development of ACD, but it is unknown whether this is due to rarity, underdiagnosis, or underreporting. In 1 case, a patient developed SCD after eating chocolate. She had a prior positive patch test result to BOP, although the period was not specified. Her reaction resolved upon institution of an avoidance diet and recurred with oral BOP challenge.³ A few hypotheses for the pathophysiology of this reaction have been proposed with other agents that cause SCD, such as mercury, nickel, and oral medications.^{1,4} One hypothesis focuses on the complex interplay between CD4 and CD8 cells in the development and manifestation of cutaneous allergy. Research has demonstrated an age-dependent loss of suppressive activity of certain CD4 populations,⁵ and this regulatory imbalance may facilitate conversion from ACD to SCD to previously sensitized allergens.

PEARL

Patients may develop SCD years after the development of ACD. Therefore, with a recurrence of dermatitis despite topical allergen avoidance, SCD should remain in the differential, and avoidance diets may represent effective therapy.

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From the Department of Dermatology, Baylor College of Medicine, Houston, TX.
Address reprint requests to Rajani Katta, MD, Baylor College of Medicine, 1977
Butler Blvd, Suite E6.200, Houston, TX 77030.

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