

Hold the spice: Allergy to garlic and sulfites—Possible relevance in a patient with cheilitis granulomatosa

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CASE REPORT

A 46-year-old man presented with lip swelling and dermatitis with a duration of 1 year. A biopsy of his upper lip showed a dermal granulomatous infiltrate with lymphocytes, scattered multinucleated giant cells, and dilated superficial lymphovascular structures, consistent with cheilitis granulomatosa (CG). He had tried intralesional triamcinolone, with minimal improvement. He and his wife were suspicious of spices that she used when cooking chili. There was no history of recent dental work. On physical examination, the patient's upper and lower lips were oedematous with few superficial linear fissures, no erosions, and soft induration (Supporting Information Figure S1).

The patient was patch tested with the 2019 to 2020 North American Contact Dermatitis Group screening series, with dental (including dental metals and dental acrylates), flavours, emulsifiers, preservatives and corticosteroid series, and with multiple personal products, including his wife's cooking spices. The final reading on day 5 showed + reactions to sodium disulfite and his home garlic powder (tested "as is," moistened with water), and a ?+ reaction to

diallyl disulfide (Figure 1). Notably, five controls were also patch tested with the garlic powder with no positive reactions. Upon inspection of food packages, sodium metabisulfite was declared on a prepackaged deli sandwich that the patient had eaten daily during the working week.

DISCUSSION

Diallyl disulfide is the allergen present in members of the Alliaceae family, which includes garlic, shallots, chives, and leeks. Garlic allergy typically presents with dermatitis of the non-dominant thumb, index and middle fingertips as a result of holding garlic when chopping it.¹ Other patterns have included neckline dermatitis in an infant who wore a garlic necklace,² and cheilitis caused by oral ingestion of garlic.³ Given the time course of flares and the suspicions of the patient and his wife, this reaction was thought to be clinically relevant.

A Belgian analysis of 2763 patch tested patients found that 124 (4.5%) had positive reactions to sodium metabisulfite; 40.5% had facial involvement.⁴ Sulfites are used as antioxidants and

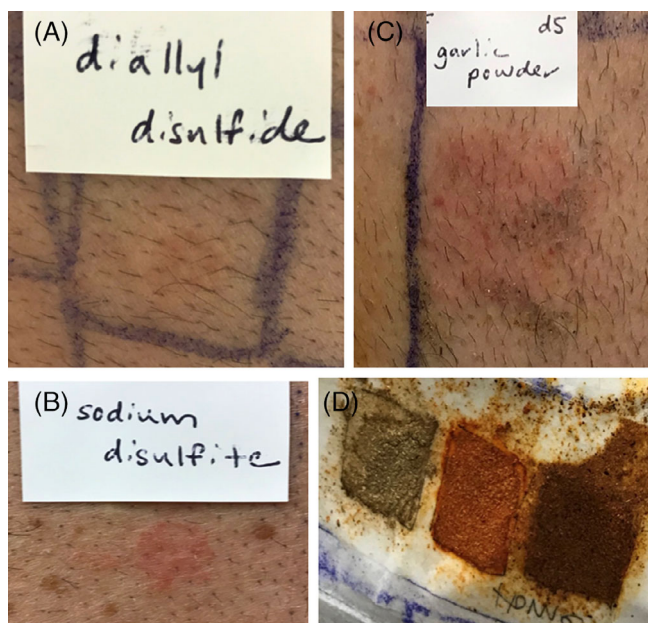


FIGURE 1 Final readings on day 5. (A), A doubtful reaction to diallyl disulfide. (B), A weak positive (+) reaction to sodium disulfite. (C), A weak positive (+) reaction to home garlic powder. (D), Spices tested moistened “as is”

preservatives; in our clinic, we have seen a number of dermatitis cases caused by this preservative in some formulations of ketoconazole cream.⁵ In addition to personal care products, sulfites are commonly found in foods, including canned or dried fruits or vegetables, alcoholic beverages, and deli meats and cheeses.⁴ Given the declaration of sodium metabisulfite on the packaging of the patient's daily lunch sandwich, we also thought that this reaction was clinically relevant.

The patient was counselled to avoid garlic, onions and pre-packaged products for 6 weeks. He also met with a dietician. After 4 weeks, he reported limited clinical improvement, frustration, and difficulty in adhering to this diet. Avoiding foods with these ingredients is extremely difficult; essentially, only fresh, non-seasoned foods are recommended. Although the patient's condition did not resolve with an attempted trial of avoidance, we still suspect that these two reactions are true allergies, given the persistence of his cheilitis and the difficult-to-avoid presence of these allergens in his

food. Although the cause of CG is unknown, there have been reports of CG possibly being related to food additive allergens (benzoates, cinnamon, and cobalt).⁶ We present this case to raise awareness of the potential role of contact allergens in CG. This case also underscores the practical difficulty in avoiding allergens in food.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to report.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of this article.

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Supplemental Figure 1:

