

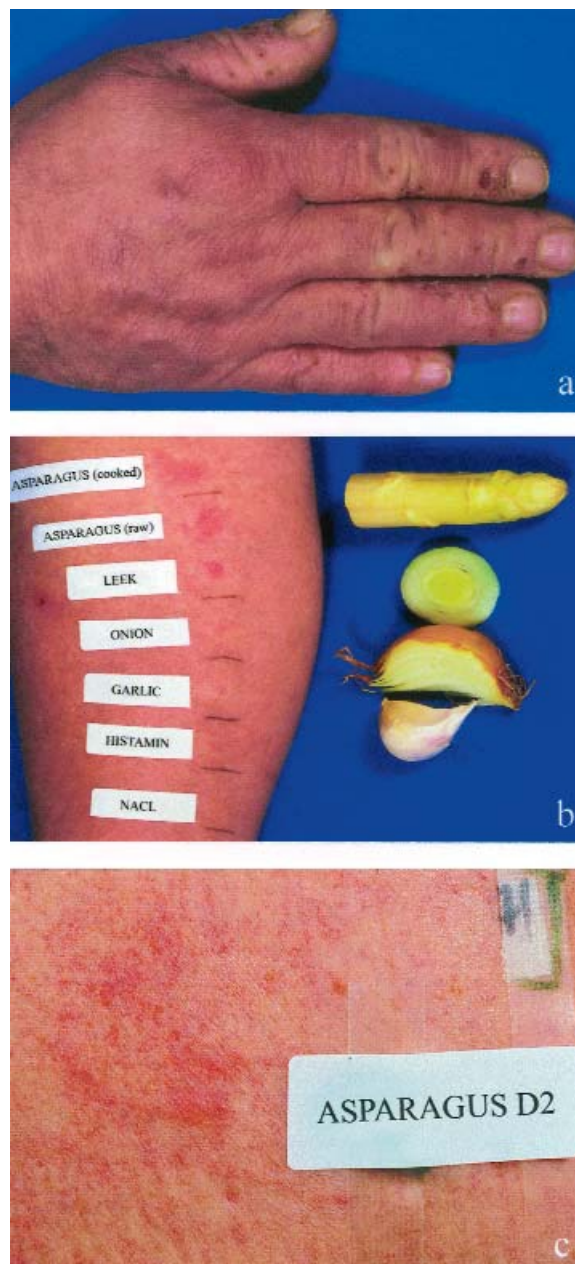


FIG 1. **a**, Protein contact dermatitis: Dyshidrosiform hand eczema. **b**, Positive prick-to-prick test to fresh, raw and cooked asparagus and negative response to garlic, onion, and leek. **c**, Positive epicutaneous patch test reaction to asparagus on day 2.

Protein contact dermatitis to asparagus

To the Editor:

Asparagus (*Asparagus officinalis*) is a worldwide cultivated and consumed vegetable with mainly seasonal availability. It belongs to the *Liliaceae* family. The occurrence of immediate and delayed-type hypersensitivity reactions to other important members of the *Liliaceae* family such as garlic (*Allium sativum*), onion (*Allium cepa*), and leek (*Allium porrum*), causing allergic contact dermatitis or contact urticaria/angioedema, asthma, and rhinitis, has previously been described.¹⁻⁵

Our report concerns a 55-year-old cook presenting with itchy dyshidrosiform eczema on both hands (Fig 1, **a**). The skin lesions appeared every May for more than 10 years and improved during holidays. In particular, the patient described that contact with fresh, raw asparagus caused pruritic vesicles, papules, and erythematous plaques. Furthermore, the patient reported several episodes of dysphagia and dyspnea after ingestion of asparagus. His medical history indicated no evidence of atopic disease.

Skin prick tests with allergen extracts of seasonal and perennial airborne allergens including mugwort, birch and grass pollens, domestic mites, and cat and dog dander were uniformly negative. Prick testing with standard food allergens revealed positive skin reactions to fish proteins only. Total serum IgE levels (411.3 IU/mL) as well as allergen-specific IgE to asparagus (15.1 kUA/L, CAP class 3) were elevated. Specific IgE directed against other *Liliaceae* vegetables including garlic and onion could not be detected (<0.35 kUA/L).

Prick-to-prick tests with native material of fresh, raw asparagus and asparagus cooked at 100°C showed positive skin reactions, whereas onion, garlic, and leek were negative (Fig 1, b).

During epicutaneous patch testing with asparagus, a strong (++) delayed-type skin reaction with a peak response on day 2 developed in this patient (Fig 1, c).

Prick-to-prick tests and epicutaneous patch tests performed in two control subjects were uniformly negative, indicating the absence of a direct irritative potential of asparagus.

Though food allergies are often associated with allergies to pollen, this report documents the possibility of occupational sensitization to asparagus in the absence of sensitization to common inhalant allergens. Moreover, we could not find any cross-reactivity between asparagus, garlic, onion, or leek in our patient, although immunologic cross-reactivity in the *Liliaceae* family has been described.^{6,7} Several cases of allergic reactions by ingestion or inhalation of asparagus have been reported.⁸ This patient, working as a cook, had chronically/seasonally relapsing protein contact dermatitis to asparagus, which appears to be extremely rare despite its wide use and consumption. Taken together, the potential of asparagus as an “occupational” allergen must be considered, particularly if allergic contact dermatitis occurs seasonally.

Juliane Rieker, MD

Thomas Ruzicka, MD

Norbert J. Neumann, MD

Bernhard Homey, MD

Department of Dermatology

Heinrich-Heine-University of Duesseldorf

Duesseldorf, Germany

REFERENCES

1. McFadden JP, White IR, Rycroft RJG. Allergic contact dermatitis from garlic. *Contact Dermatitis* 1992;27:333-4.
2. Pires G, Pargana E, Loureiro V, Almeida MM, Pinto JR. Allergy to garlic. *Allergy* 2002;57:957-8.
3. Asero R, Mistrello G, Roncarolo D, Amato S. A case of onion allergy. *J Allergy Clin Immunol* 2001;108:309-10.
4. Cadot P, Tits G, Bussels L, Ceuppens JL. Asthma and hand dermatitis to leek. *Allergy* 2001;56:192-3.
5. Amin S, Lahti A, Maibach HI. *Contact urticaria syndrome*. CRC Press. 1997.
6. Sanchez-Hernandez MC, Hernandez M, Delgado J, Guardia P, Monteseirin J, Bartolomé B, et al. Allergenic cross-reactivity in the *Liliaceae* family. *Allergy* 2000;55:297-9.
7. Anibarro B, Fontela JL, De La Hoz F. Occupational asthma induced by garlic dust. *J Allergy Clin Immunol* 1997;100:734-8.
8. Escribano MM, Munoz-Bellido FJ, Serrano P, De La Calle A, Conde J. Acute urticaria after ingestion of asparagus. *Allergy* 1998;53:622-3.
doi:10.1016/j.jaci.2003.10.066