

dermatologic problem had been determined, she was employed on another ward, where she was no longer exposed to chlorprothixene. Accidentally re-exposed to chlorprothixene, she had a flare-up reaction. The cause of the repeated detection of an elevated total IgE level remained unclear. The sensitivity to *p*-phenyldiamine had no clinical relevance.

In conclusion, the well-known contact dermatitis due to neuroleptic drugs can occur not only in phenothiazines, particularly chlorpromazine, but also in thioxanthenes. As reports about this side-effect are less frequent than in the 1950s, it may be forgotten or thought to be unimportant, but the withdrawal of chlorpromazine merely reduced the problem and did not solve it. Therefore, health-care workers, allergists, and physicians specializing in occupational diseases should be aware of the possibility of contact allergies.

Key words: airborne contact dermatitis; chlorprothixene; neuroleptics; occupational allergy.

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REFERENCES

1. Cronin E. Contact Dermatitis. XVII. Reactions to contact allergens given orally or systemically. *Br J Dermatol* 1972;86: 104-7.
2. Epstein JH, Brunsting LA, Petersen MC, Schwarz BE. A study of photosensitivity occurring with chlorpromazine therapy. *J Invest Dermatol* 1957;28:329-38.
3. Sebrnik A, Hes JP, Brenner S. Adverse cutaneous reactions to psychotropic drugs. *Acta Derm Venereol Suppl* 1991;158: 3-12.
4. Harth Y, Rapoport M. Photosensitivity associated with antipsychotics, antidepressants and anxiolytics. *Drug Saf* 1996;14:252-9.
5. Schwenck K, Gall H, Sterry W. Aerogene Kontaktdermatitis auf das Neuroleptikum Chlorprothixen. *Allergologie* 1994;17: 467-9.

Food allergy to concealed sunflower pollen

FOOD allergy reactions develop in some patients with pollinosis when they consume certain foods (1). It is well documented that such patients frequently show allergic symptoms of the immediate type after exposure to concealed food antigens.

In some cases of "food" allergy, the responses may result from far-related antigens. We report a case of systemic allergic reaction to sunflower pollen concealed in a commercial product of peeled sunflower (*Helianthus annuus* L.) seeds.

A 22-year-old woman was referred to our allergy clinic for a systemic allergic reaction after the ingestion of a commercially prepared package of peeled sunflower seeds. She was otherwise a healthy woman with insignificant medical history, and she had never had any reaction to ingestion of sunflower seeds when peeled by herself. She consumed such self-peeled seeds very often. A few minutes after first ingestion of the commercial product, she developed systemic allergic reactions comprising rhinitis, nasal congestion, tearing, and facial and generalized urticaria. The symptoms resolved spontaneously within a few hours. Skin prick tests revealed positive wheal and flare reaction to sunflower pollen and house-dust mites. Measurement of specific IgE concentrations in her serum by the Alastat diagnostic method (Alastat, Diagnostic Products Corporation, Los Angeles, CA, USA) showed elevated concentrations of IgE against pollen antigens of the Compositae family that were available for testing: mugwort (*Artemisia vulgaris*), oxeye-daisy (*Chrysanthemum leucanthemum*), and dandelion (*Taraxacum* species) (12.47, 10/78, and 4.5 IU/ml, respectively). The levels of specific IgE were elevated also against house-dust mites (*Dermatophagoides pteronyssinus* and *D. farinae*, 3.21 IU/ml and 5.63 IU/ml, respectively), cat epithelium (0.86 IU/ml), olive pollen (2.17 IU/ml), and eucalyptus (0.35 IU/ml). Negative results were obtained for several other pollen and food antigens. Since the patient did not suffer from any allergic symptoms before her recent exposure to sunflower seeds, no clinical relevance could be attributed to these latter results. Open food challenge with the exact commercial preparation of peeled sunflower seeds in minute quantity caused rhinitis and nasal congestion, which were treated promptly and resolved. Analysis of the commercial package of peeled seeds showed a high level of contamination by sunflower pollen. Such pollen had probably derived from a large number of unripe flower heads that had been mixed during harvest with the ripe ones.

Taken together, the medical history, skin tests, specific IgE, food challenge, and pollen analysis demonstrated IgE-mediated sensitization to sunflower pollen that had been concealed in the commercial product.

Sensitization to inhalant pollen allergens was found with significantly higher frequency in patients with sensitization to fruits, legumes, other

vegetables, and sunflower seeds than in those sensitized to foods of animal origin (2). Allergy to sunflower seeds has been documented in food-allergic patients from Mediterranean countries (3), and sunflower pollen sensitization has been reported as an occupational allergy (4). The case presented here is different in that the patient in our report did not have any food allergy, and the clinical circumstances of presentation were unique.

Increased concentrations of specific IgE in our patient against other members of the Compositae family of vegetables were consistent with the observation of cross-reactivity between sunflower and other Compositae pollen, including mugwort and dandelion, as shown by RAST and immunoblotting-inhibition experiments (5). Thus, the production of IgE against additional members of the Compositae family supports the validity of our conclusions.

Eating sunflower seeds is common in Israel as well as in other Mediterranean countries. The seeds are usually bought unpeeled, cleaned, and then peeled and eaten. However, commercially available packages of peeled sunflower seeds are not always clean enough and apparently may contain sunflower pollen. The case further shows that ingestion of such preparations of peeled seeds can cause systemic allergic symptoms in some patients.

Therefore, we recommend the following two measures to improve the safety of the public:

- 1) Care should be taken to remove the flowering heads during the sunflower harvest.
- 2) Certain "natural" food products may be contaminated with pollen, and allergic subjects should be warned of such a possibility.

Key words: food allergy; sunflower.

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A case of systemic allergic reaction to sunflower-pollen contamination of commercial peeled sunflower seeds.

REFERENCES

1. Sampson HA. Adverse reactions to foods. In: Middleton E Jr, Reed CE, Ellis EF, Adkinson NF Jr, Yunginger JW, Busse WW, editors. Allergy: principles and practice. 4th ed. St Louis, MO: Mosby, 1993:1661-86.
2. Crespo JF, Pascual C, Vallecillo A, Esteban MM. Sensitization to inhalant allergens in children diagnosed with food hypersensitivity. Allergy Proc 1995;16:89-92.
3. Crespo JF, Pascual C, Burks AW, Helm RM, Esteban MM. Frequency of food allergy in a pediatric population from Spain. Pediatr Allergy Immunol 1995;6:39-43.
4. Jimenez A, Morenco C, Martinez J, et al. Sensitization to sunflower pollen: only an occupational allergy? Int Arch Allergy Immunol 1994;105:297-307.
5. Fernandez C, Martin-Esteban M, Fiander A, et al. Analysis of cross-reactivity between sunflower pollen and other pollens of the Compositae family. J Allergy Clin Immunol 1993;92: 660-7.

A simplified measurement of protein in natural latex

LATEX allergy causes several clinical manifestations which are now recognized as significant contributors to morbidity and mortality during medical and surgical procedures (1). The results of protein assays are established as an acceptable criterion with which to rate the potential allergenicity of current natural rubber products (2), and this explains the need for a sensitive, rapid, and convenient protein assay in these samples.

Colorimetric assays are not suitable to measure proteins in latex, since interfering substances have to be removed. The modified bicinchoninic acid (BCA) assay precipitates proteins with sodium deoxycholate (DOC) and trichloroacetic acid (TCA) (3). Still, latex rubber particles coagulate in acid media and therefore could interfere by scattering light, giving erroneous results. Furthermore, when only micrograms of protein are to be analyzed, DOC is not efficient as co-precipitant of TCA when detergents are present (2), and

they are necessary for particle-bound protein extraction.

Some 25% of proteins in natural latex are particle-bound. Therefore, a protein assay for latex must include solubilization of particle-bound proteins; for this purpose, sodium dodecyl sulfate (SDS) and Triton X-100 have been shown to be effective by

Description of a simplified method of protein measurement, avoiding protein precipitation, with bicinchoninic acid as color reagent in natural latex.

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