

management with oral corticosteroid therapy for obstructive conditions in chronic granulomatous disease. *J Pediatr* 1993;122:303-5.
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Allergy to canned tuna

To the Editor:

Clinical allergy to fish is quite common.¹ Although these reactions can be severe and even life-threatening, it has been reported that patients with allergic reactions to fresh fish "appear to be able to safely eat canned tuna" because of a loss of allergenicity in processing.² This phenomenon is believed to be so consistent that canned tuna has been used as a placebo in double-blind, placebo-controlled food challenges to fish.¹ Reported here is a patient allergic to canned tuna.

A 19-year-old man reported that for several years, he had episodes of total body flushing and itching with facial and throat swelling. On some occasions, the throat swelling resulted in shortness of breath. He denied light-headedness or loss of consciousness. The symptoms resolved with treatment with diphenhydramine. The episodes occurred exclusively after and within 15 to 30 minutes of eating certain foods, namely beans, peas, chicken, turkey, and fish, including canned tuna.

Skin prick tests were performed with a commercial extract of cod (Hollister-Stier, Spokane, Wash) and with crude extracts made by pulverizing small amounts of canned tuna and fresh tuna in normal saline. The test results were positive with all extracts (Table I). Skin test results were also positive to the other foods reported by the patient to cause symptoms (data not shown). An extract of canned tuna was analyzed by means of gel electrophoresis followed by protein staining and immunoblotting with patient sera by using methods previously described.³ Sera from a nonatopic subject and another subject with fish allergy were used as control subjects. The immunoblot revealed IgE in the patient's serum that bound to high-molecular-weight protein bands. No such binding was seen with the 2 control sera (Fig 1).

Most patients with fish allergy show no reactivity on IgE immunoblotting to canned tuna and can safely consume canned tuna.² One previous study evaluating "tuna fish-positive sera" found that one of 8 samples assayed showed binding on IgE immunoblotting to a canned tuna extract,⁴ although no clinical information was available on the subject who provided that serum. Another report describes a patient who reacted to the ingestion of canned tuna but not to fresh tuna or other fish.⁵ His reactions were believed to be due to an undeclared additive in the canned tuna.

The patient described here seems clearly allergic to canned tuna. The history of his reaction to the ingestion of canned tuna is consistent in terms of nature and timing with an IgE-mediated event. His skin test results with canned tuna extract were positive, and his serum demonstrated clear IgE binding to proteins from a canned tuna extract not recognized by sera from a nonatopic subject and another subject with fish allergy. Thus although most patients with fish allergy can be advised that they can safely consume canned tuna, this cannot be a universal recommendation.

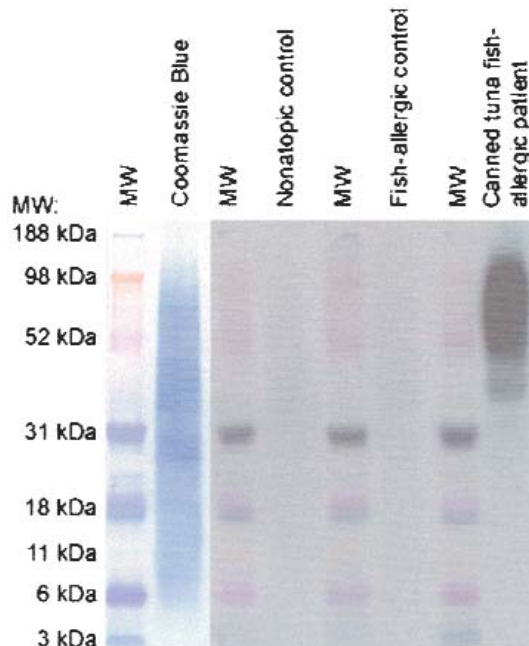


FIG 1. Canned tuna extract: protein Coomassie blue protein stain, immunoblotting for IgE antibody with control sera from a nonatopic subject and a subject with fish allergy and patient serum.

TABLE I. Skin prick test results (mm wheal/mm erythema)

(-) 50% glycerin	0
(+) Histamine	4/30
Commercial extract: cod	6/30
Canned tuna*	6/50
Fresh tuna*	5/23

*Extract prepared by pulverizing in normal saline.

John M. Kelso, MD^a
Ludmilla Bardina, MS^b
Kirsten Beyer, MD^b

^aAllergy Clinic

Naval Medical Center
San Diego CA 92134-5000

^bJaffe Food Allergy Institute
Mount Sinai School of Medicine
New York, NY 10029

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