

## A case of allergy to frog's legs

PREVIOUSLY, no cases of pathologic reaction to frogs seem to have been reported. We now present the case of a patient who developed pronounced allergic symptoms after occupational contact with frog's legs.

Allergy to frog's legs might well be observed more often if it were not for the small quantities in

### *A rare case of a possibly IgE-mediated reaction.*

which this delicacy is consumed. The total quantity of frog's legs imported to Europe could not be ascertained. In 1984,

the Goods Association of the Hamburg Stock Exchange indicated that import of frog's legs is counted together with that of whales and seals (583.3 tons in 1983), whereas the Saarland Statistical Office recorded it together with the import of horses and turtles (42.6 tons in 1983). And yet, in the same year, the import and consumption of frog's legs was between 30 and 40 tons annually in the Saarland alone (B. Paulus, Personal Communication, 10 March 1984, Trading Company for Escargots and Frog's Legs, Rehlingen), a single province of Germany with a population of about a million.

■ A 26-year-old cook complained of itching and urticaria all over his body after having had contact with salicylates. Insect stings resulted in pronounced local swellings.

In 1974, he had noticed itching of the hands and dyshidrotic changes in his fingers for the first time while working in a restaurant kitchen. In 1976, the symptoms became aggravated: red skin eruptions, blisters, discharge, and swelling of the backs of his fingers and the skin between the fingers. Since these symptoms appeared regularly after occupational handling of frog's legs and disappeared after a few days without contact, they were diagnosed as contact dermatitis and allergic reaction to frog's legs.

Ingestion of frog's legs while tasting produced initial anaphylactic reactions such as constriction of and severe itching in the throat and difficulty in swallowing. However, handling of living frogs, tadpoles, and toads did not result in symptoms.

The rub test is performed by rubbing the skin of the forearm with material which is believed to cause the allergy. The test is considered positive if urticaria appears at this skin area within 15–20 min. This is a sure proof of an IgE-mediated immune reaction of type I. The negative result of this test must not be interpreted.



FIGURE 1 Rub test, according to Gronemeyer & Debelić (1), positive with defrosted frog's legs.

The rub test was described by Gronemeyer & Debelić in 1967 (1) and is considered reliable proof. It is the only available method if no commercial test substances are available.

■ White cell count and differential blood count were normal. Total IgE was 275 E. Prick testing produced a significant reaction with *Dermatophagoides pteronyssinus* and *D. farinae*; RAST was highly positive with values of 3.3 and 3.1, respectively. However, the patient was free of clinical symptoms. Tests with all the spices used in the cooking of frog's legs were negative.

Rub tests with defrosted and uncooked frog's legs were highly positive in May 1976 as well as July 1984, even after several years of avoidance of this allergen due to change of occupation. In July 1984, itching and red skin eruptions occurred 2 min after rubbing with the allergen; one small urticaria wheal developed after 5 min and several wheals after 7 min; after 19 min, heavy itching and pronounced urticaria developed.

■ Frog's legs allergy seems to be proven by the rub test (1), since commercially provided test substances do not exist. The patient's quick reaction appears to indicate a high sensitivity, very likely an IgE-mediated immune reaction of type I.

Whether the patient's dyshidrotic and dermatitic changes represent allergic contact dermatitis is questionable; an unspecific skin irritation due to his occupation (e.g., frequent washing of hands) is possible. Types I and IV allergy to the same irritant is likely since allergic contact dermatitis is a type IV allergy by definition.

An allergic reaction to any chemicals used for processing frog's legs is highly unlikely. In 1984, most frog's legs were imported deep-frozen and skinned from several Asian countries (Goods

Association of Hamburg Stock Exchange, and B. Paulus). European frog's legs are never used. Usage of chemicals of any kind is strictly prohibited and regularly controlled in Germany. As reported (D. Wöhner, Personal Communication, 10 January 1984, Public Veterinary Institute, Saarbrücken, Germany), chemicals were never found in imported frog's legs, and *Salmonella* contamination only in very rare cases. Fresh frog's legs are imported only occasionally, via Paris, for a few gourmet restaurants (B. Paulus).

Only one case of food poisoning from frogs has been reported: schizophrenia-like symptoms culminating in the motiveless murder of relatives among native Africans after consumption of bullfrogs (2). Possible causes include the ingestion of bufotonin, a schizophrenogenic substance found in the tissue of some species of frogs, or an allergic reaction to food.

Key words: food allergy; frog's legs allergy; professional dermatosis.

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#### REFERENCES

1. Gronemeyer W, Debelić M. Der sogenannte "Reibtest", seine Anwendung und klinische Bedeutung (zugleich ein Beitrag zur Frage der perkutanen Resorption grossmolekularer Antigene). *Dermatologica* 1967;134:208-18.
2. De Liz AJ. Unexpected schizophrenic-like syndromes in Africa. *J Orthomol Psychiatry* 1975;4:200-6.

F. G. T. STEURICH

Specialist in Internal Medicine, Pneumonology, Allergology,  
Environmental Medicine  
Friedrich-Ebert-Straße 40  
D-66763 Dillingen/Saar  
Germany

## Delayed hypersensitivity skin reaction to enoxaparin

**D**EDELAYED hypersensitivity skin reactions have been described as erythematous, infiltrated plaques at injection sites, after administration of heparin and low-molecular-weight heparin (LMWH) preparations. We report one case of erythematous infiltrated plaques at enoxaparin injection sites. This case provides evidence of a delayed-type hypersensitivity reaction. The allergic study demonstrated that a subcutaneous challenge test is the most reliable diagnostic measure.

■ A 73-year-old woman was admitted to our hospital because of increasing thoracic pain and dyspnea after a fall, and she was diagnosed as



FIGURE 1 Erythematous infiltrated plaques on abdomen of patient.

having thoracic traumatism on admission. To prevent thrombosis, she was initially treated with enoxaparin (Clexane®) 40 mg once a day, injected subcutaneously in the abdominal wall for 10 days. Thirteen days after admission, 3–6 cm of well-defined, pruritic, erythematous infiltrated plaques developed at previous enoxaparin injection sites; some of them showed partial ecchymosis (Fig. 1). The platelet count was always normal. The patient refused to undergo biopsy. After treatment with antihistamines and topic corticosteroids, the lesions disappeared in 15 days.

The results of patch tests with the standard contact antigen panel of the International Contact Dermatitis Research Group (ICDRG) were negative. Patch tests with sodium heparin, calcium enoxaparin, and calcium nadroparin (as is) were negative.

Subcutaneous challenge test with 7500 UI calcium heparin induced an erythematous infiltrated plaque at the injection site at 96 h. After previous warning of the risk of these tests and consent having been obtained for them to be done, intravenous challenge tests with sodium heparin at 1000 and 5000 UI were negative. Erythematous infiltrated plaques to enoxaparin were diagnosed.

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*A case of erythematous infiltrated plaques at enoxaparin injection sites.*

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■ Erythematous infiltrated plaques appear to be a common but neglected cutaneous reaction to heparin. The reported cases of this reaction are shown in Table 1. The underlying pathophysiologic mechanism is unknown; but two possibilities, a mild

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