

Protein contact dermatitis caused by *Anisakis simplex*

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Case Report

A 66-year-old housewife, with no family or personal history of atopy, had had an eczema on the palms, especially on the right hand and wrist, for a year. A few minutes after handling fish, she often suffered a pruriginous erythematous eruption, with worsening of her eczema. She had no symptoms when eating fish.

Patch tests with the GEIDC standard series were negative. Prick tests with the fish (Alergia Leti, Barcelona, Spain) that she usually ate, including anchovy, tuna, cod, sole, sardine and herring, were negative. A prick test with *Anisakis simplex* extract (IPI-International Pharmaceutical Immunology, Madrid, Spain) was positive in 20 min, developing erythema and oedema after 2 days. Specific IgE for *Anisakis Simplex*, determined by the CAP System (Phadebas, Kabi Pharmacia, Uppsala, Sweden), showed a value of 13 KU/l (Grade 3 to the reference standard rate). It was negative for the fish tested. A patch test with *Anisakis simplex* extract was negative. A rub test was performed with 10 mg of *Anisakis simplex* extract on the right wrist for 15 s. A positive immediate reaction (erythema and pruritus) was obtained, and 1 day later, the eczema relapsed.

The patient's hands recovered when she stopped handling fish.

Discussion

The term protein contact dermatitis (PCD) was coined by Hjorth & Roed-Pedersen (1). Bakers, food handlers and veterinarians particularly experience it. PCD caused by fish (2), cephalopods (3) pork (4), lettuce, endive (5), curry, paprika (6), α -amylase (7), wheat, oats (8), bovine amniotic fluid, calf placenta (9), and marine worms used as bait for fishing (*Nereis diversicolor* (10) and *Lumbricereis impatiens* (11)) has been reported.

Anisakis simplex is a nematode belonging to the family Anisakiidae, which is found in marine animals' stomachs and guts. Human anisakiasis is a parasitic infection of the gastrointestinal tract caused by the 3rd-stage larva of *Anisakis simplex*, acquired by eating raw or undercooked seafood or cephalopods. Recently, it has been reported that this parasite may be an important cause of systemic allergic reactions in our area (12). Deep-freezing and cooking at temperatures higher than 60°C for 10 min is protective against infection with live parasites, but not against reactions to their allergens. Allergic reactions may occur after either infection or simply exposure to allergen. Our patient therefore prob-

ably developed chronic hand eczema from repeated exposure to fish infected with *Anisakis simplex*.

Positive immediate skin test, specific IgE antibodies and a positive rub test to *Anisakis simplex* strongly suggest hypersensitivity to this parasite. PCD from *Anisakis simplex* should be suspected in patients with dermatitis after handling fish. To our knowledge, protein contact dermatitis from this parasite has not previously been reported.

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