

who developed anal fissures, rectal bleeding, and proctitis soon after receiving systemic isotretinoin therapy.⁴ Possible mechanism of the development of rectal bleeding and anal fissure caused by isotretinoin is the dryness of the rectal mucosa. Rectal bleeding can be a consequence of tearing following any trauma, such as forceful defecation in xerotic and fissure mucosa.

Anal fissure and rectal bleeding have to be kept in mind as a possible side effect of isotretinoin therapy. Therefore, warning patients about this side effect before starting isotretinoin treatment is likely to enhance patient compliance.

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Anaphylaxis to abalone that was diagnosed by prick test of abalone extracts and immunoblotting for serum immunoglobulin E

Seafood allergy is one of the most common types of food allergies worldwide. Among them, molluscan shellfish allergies have been documented for all classes of mollusks including gastropods (e.g., limpet, abalone), bivalves (e.g., clams, oysters, and mussels), and cephalopods (e.g., squid, octopus).¹ We report a case of anaphylaxis induced by abalone, which was diagnosed by prick test of abalone extracts and caused by a protein with a molecular weight of 100 kDa.

A 21-year-old Japanese man, who had a 10-year history of allergic rhinitis, developed dyspnea, urticaria, nausea, and stomachache 30 minutes after eating abalone. He also had a history of dyspnea, urticaria, nausea, and stomachache after eating several kinds of shellfish for the second time. He did not exercise before the onset of these symptoms. There was no sign of infection or history of medication before the onset of these symptoms.

Radioallergosorbent testing for specific IgE revealed class 5 reactivity for house dust mite, class 3 for scallop and abalone, class 2 for oyster, and class 0 for shrimp, crab, octopus, and tropomyosin. After obtaining informed consent from the patient, we then conducted skin prick testing. Prick tests were performed using histamine dihydrochloride and saline as positive and negative controls, respectively. The results of prick-by-prick test with scallop and abalone were negative. We then made

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References

- 1 Vahlquist A, Kuenzli S, Saurat JH. Retinoids. In: Wolff K, Goldsmith SI, Katz SI, *et al.* *Fitzpatrick's Dermatology in General Medicine*, 7th edn, New York, McGraw-Hill, 2008: 2181–2186.
- 2 Shalita AR. Mucocutaneous and systemic toxicity of retinoids: monitoring and management. *Dermatologica* 1987; 175: 151–157.
- 3 Martin P, Manley PN, Depew WT, Blakeman JM. Isotretinoin-associated proctosigmoiditis. *Gastroenterology* 1987; 93: 606–609.
- 4 Radmanesh M. Anal fissure, rectal bleeding and proctitis as complications of systemic isotretinoin therapy: report of two cases. *J Eur Acad Dermatol Venereol* 2006; 20: 1394.

extracts of abalone and scallop by mincing them fresh and extracting overnight in phosphate-buffered saline. After centrifugation at 1000 g for 15 minutes, we sterilized the extracts by sterile filtration (0.45 µm; Millipore, Billerica, MA, USA). The protein content was 800 µg/ml, as determined by using the bicinchoninic acid method (BCA-protein assay; Pierce, Rockford, IL, USA). The result of skin-prick test to scallop was negative but was positive for abalone (wheal diameter 5 mm, erythema diameter 22 mm). The same prick test was performed on a control group of five adults, with negative results.

Immunoblots were prepared by electrophoresis of the allergen extracts on an 11% sodium dodecyl sulfate-polyacrylamide gel. After electrophoresis, proteins were electroblotted onto polyvinylidene difluoride membrane (Hybond-PVDF; Amersham, Buckinghamshire, UK). The allergen-bound membranes were incubated overnight with 200 µl of serum sample in 3 ml of PBS. Immunoblotting revealed that the patient's serum IgE reacted strongly with a 100-kDa band for extracts of raw abalone, red abalone, and blue mussel. It also reacted with a 38-kDa band for heated abalone, but the 100 kDa bands for the extracts of heated abalone and red abalone were weaker than raw ones (Fig. 1). No binding was observed for a molecular weight of 49 kDa (Hal-m-1). No anaphylaxis occurred after the patient avoided eating abalone.

The major allergen derived from mollusks has been identified as tropomyosin, an essential protein for muscle con-

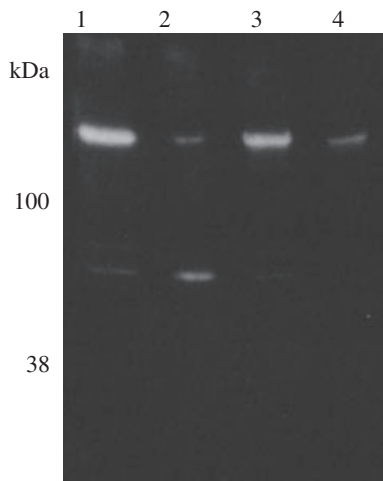


Figure 1 Immunoblot analysis of the patient's serum. Lane 1, raw abalone extract; lane 2, boiled abalone extract; lane 3, raw red abalone extract; lane 4, raw blue mussel extract

traction.^{2,3} Tropomyosin is a 34- to 36-kDa protein that is highly water soluble and heat stable. Cross-reactivity between molluscan and crustacean shellfish species occurs frequently since tropomyosin is the major allergen in both molluscan and crustacean shellfish. Unlike other mollusks, such as oysters, clams, scallops, and mussels, there have been few reports of abalone hypersensitivity.^{4,5} Lopata et al. reported that abalone allergens were heat-stable proteins with molecular weights of 38 and 49 kDa.⁴ However, in our case, the allergen was found to be a 100-kD protein, not 49 kD, and was not heat stable.

When there are no commercial reagents of suspected food allergens for skin testing or challenge test is not available, prick-by-prick tests are commonly performed. However, as in our case, when a negative response is observed in prick-by-prick test, skin test using an extract of the suspected food should be performed.

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Simple quantitative assessment for repigmentation in vitiligo

There is considerable variation in how repigmentation is assessed and scored, and no method is yet a "gold standard" for widespread use. The most basic methods involve subjective assessment by a clinician to grade the degree of repigmentation, commonly using photographs to compare the current lesion with its size in the past. The "rule of nines" developed for calculating percentage

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References

- 1 Taylor SL. Molluscan shellfish allergy. *Adv Food Nutr Res* 2008; **54**: 139-177.
- 2 Sicherer SH. Clinical implications of cross-reactive food allergens. *J Allergy Clin Immunol* 2001; **108**: 881-890.
- 3 Masuda K, Katoh N, Fukuba K, et al. A case of anaphylaxis to fish and shellfish. *J Dermatol* 2002; **35**: 181-182.
- 4 Lopata AL, Zinn C, Potter PC. Characteristics of hypersensitivity reactions and identification of a unique 49 kD IgE-binding protein (Hal-m-1) in abalone (*Haliotis midae*). *J Allergy Clin Immunol* 1997; **100**: 642-648.
- 5 Choi JH, Yoon SH, Suh YJ, et al. Measurement of specific IgE to abalone (*Haliotis discus hannai*) and identification of IgE-binding components. *Korean J Asthma Allergy Clin Immunol* 2003; **23**: 349-357.

surface area burns has been proposed by the Vitiligo European Task Force.¹

Quantitative methods have been used less frequently and are confined to certain research studies. Dawid *et al.*² placed adhesive films on target lesions, and margins of vitiligo were traced with the help of Wood's light and marked. Films were removed, applied to paper, and digitally scanned. Measurements were made by computer analysis of the image. A similar method was used in an