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Oral allergy syndrome with severe anaphylaxis induced by pistachio

Oral allergy syndrome (OAS) is a complex of symptoms induced by exposure of the oral and pharyngeal mucosa to food allergens including peanut, tree nuts, and various fruits. Among these, immediate allergic reaction by pistachio nuts is quite rare. In this study, we report a case of OAS induced by pistachio nuts that occurred in a 69-year-old Japanese woman associated with severe anaphylaxis.

A 69-year-old woman presented to our hospital with oropharyngeal irritation and facial angioedema occurring within 10 minutes after eating pistachio. Wheal was also accompanied with abdominal pain, diarrhea, vomiting, breathing difficulty, and stridor. She did not have the history of pollinosis. On physical examination, her consciousness was clear. Her blood pressure was 100/80 mmHg, pulse was 80–90/min, and breathing was 15/min. Laboratory examinations were normal, without elevated levels of white blood cell count (12 600/ml). Total immunoglobulin E (IgE) level was slightly high (271 U/ml; normal, <170 U/ml), but specific CAP-RAST IgE antibody against pistachio, coconut, peanut, almond, chestnut, cashew nut, and mango was all negative. Prick tests were performed with extracts of pistachio, cashew nut, peanut, chestnut, and mango. Among these, pistachio, cashew nut, and mango provoked positive reaction (>1/2 wheal diameter of histamine), but peanut and chestnut were negative (Table 1).

Table 1 Summary of the prick tests

Materials	Scores (Wheal)
Pistachio	3+ (6 × 6 mm)
Cashew nut	2+ (4 × 4 mm)
Mango	2+ (4 × 4 mm)
Walnut	– (0 × 0 mm)
Peanut	– (0 × 0 mm)
Histamine	5 × 4 mm
Saline	0 × 0 mm

Positive reactions were not seen with these extracts in three healthy controls. From these findings, the diagnosis of OAS induced by pistachio was made. After avoiding eating foods containing pistachio and cashew nut, she became well and did not have any symptom of OAS for eight months.

Food-induced anaphylaxis is characterized by a sudden onset of symptoms within minutes to hours after feeding a causal food. Nuts are a well-defined cause of food allergy, which affects approximately 1–2% of the general population in the USA¹ but much less in Japan.²

Pistachio nut belongs to the botanical family of Anacardiaceae, and some members of this family, including cashew nut and mango, have been reported to cause immediate allergic reactions. According to the previous report, the CAP-inhibition studies revealed significant cross-reactivity between pistachio and cashew nut, and between pistachio nut and other dried fruits belonging to taxonomically unrelated botanical families.³ In another immunoblotting study, serum from cross-reactive patients recognized several pistachio and cashew allergens with a molecular weight ranging from <14.2 to 70 kDa, which might be representative of cross-antigens.⁴

The reason why pistachio-specific IgE showed negative in the present case was not clear, but in general, IgE-mediated sensitization is frequently not detected by using plant-derived food allergic extracts because of the instability of responsible allergens. For accurate diagnosis of OAS, prick test should be used because it is more sensitive and reproducible than CAP-IgE.

Very few cases of pistachio nut allergy have been reported, including OAS⁵ and food-dependent exercise-induced anaphylaxis.⁶ But in cashew nuts allergy, several symptoms such as urticaria, asthma, rhinitis, OAS, vomiting, and diarrhea have been reported, and in severe cases, the outcome is sometimes fatal.¹ We physicians should be aware of the existence of severe OAS induced by pistachio, such as that in our case, because the cross-reactivity between pistachio and cashew nuts might induce similar clinical symptoms.

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Appearance of comedones at the site of healed herpes zoster: Wolf's isotopic response

Several types of cutaneous lesions have been described to develop within resolved cutaneous herpes zoster lesions. These include granuloma annulare,¹ lymphoma and pseudolymphoma,² sarcoidal granulomas, granulomatous vasculitis,³ acneiform eruption,⁴ acne rosacea,⁵ cutaneous metastases from internal carcinoma, etc.

We report a patient who developed comedones along the area previously affected by herpes zoster infection.

A 55-year-old woman presented with an asymptomatic eruption confined to the left side of her back, mimicking a linear dermatomal lesion (Fig. 1). The medical history was consistent with a previous herpes zoster infection at the same location, manifesting with small blisters, pain, and itching, eight months before the current consultation. She did not receive any oral or topical treatment apart from an antiseptic solution in that episode. There was no other cutaneous or mucosal abnormality. Physical examination revealed erythematous follicular papules with a black substance in the middle, forming two groups or plaques (Fig. 2); these plaques were circumscribed to the area previously involved by herpes zoster.

Cutaneous findings were highly suggestive of open comedones (blackheads); we extracted some of them, which showed compact keratinous material; so we decided not to perform a biopsy because of the benign nature of the disease.

Wolf's isotopic response describes the occurrence of a new skin disorder exactly at the site of another unrelated

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and already healed skin disease.⁶ The available literature fails to explain satisfactorily the formation of acneiform lesions. Previous reports of acne as a sequel to herpes zoster have postulated that the edema and inflammation caused by the virus may predispose to occlusion and rupture of the follicle.⁷ Furthermore, occlusive comedogenic ointments used to treat the infection might have caused the lesions. However, recent neurogenic factors might provide an insight into acne/acneiform eruptions of the isotopic response.⁸ Immunohistochemical studies revealed that substance P (SP) immunoreactive nerve fibers were in



Figure 1 Distribution of lesions along the back of the patient