

■ S-623 ■

Three physical urticarias in the same patients: Aquagenic urticaria accompanied by both cholinergic and cold urticaria

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A 43-year-old male developed hives when contacted with water. At first, hives appeared in the facial area when washing face. Rash appeared after exercise usually on the chest and back, whose size and shape was pin-point, but those on the axillary area wet with much sweat was very similar to those by water. Last winter, he began to experience hives outside. He felt severe oral and throat itching and sometimes respiratory distress drinking cold water. Physical examination revealed no abnormalities. Complete blood counts, chemistry, thyroid function test, and chest X-ray were all normal. Total serum IgE by Uni-CAPTM (Pharmacia, Sweden) was 223 kIU/mL (Normal <113 kIU/mL). Skin prick test with inhalant and food allergens (Bencard, UK) all yielded negative. Urticaria appeared three to 5 minutes after cold or warm water applied. Another aquagenic stimulation tests with application of sterile gauze saturated with 5 different kinds of solutions, tap water, sterile water, normal saline, 3% saline, and 70% ethanol were done. Three to five minutes after each, hives appeared on the area. Hives appeared on the area three minutes after application of the ice cube in plastic bag. He showed positive reaction to Mecholy test. He was placed on the treadmill at room temperature for 6 minutes, and three minutes after, generalized punctated maculopapular erythematous rash appeared on the face, chest and back, but after 10 minutes, 1-3 cm sized hives appeared on the wet axillary area. Peak level of plasma histamine (Immunotech., France) during every challenge test except Mechoyl test reached much higher than pre-test level, lower than 20 ng/mL, 178 ng/mL with water challenge test in various solutions for aquagenic stimulation, 109 ng/mL with exercise test, and 70 ng/mL with ice cube in the plastic bag. This patient has been on treatment with cyproheptadine and antihistamines such as levocetirizine and azelastine, and showed good response. Aquagenic urticaria improved and he can now drink cold beverage without any difficulties.

■ S-624 ■

14 kD protein in cucumber is a new allergen inducing oral allergy syndrome in mugwort-sensitized pollinosis patient

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Oral allergy syndrome (OAS) is manifested by oral itching, angioedema, and sometimes anaphylaxis when extreme in allergic rhinitis or asthma patients sensitized pollens with ingestion of raw fruits or vegetables. Cucumber (*Cucumis sativus*) member of cucurbitaceae family, which is different from mugwort, member of Asteraceae family, has been reported to induce immediate allergic reactions very infrequently. Here we report cucumber-induced oral allergy syndrome in a patient with mugwort-sensitized allergic rhinitis and common allergen in both, mugwort, 14kD protein. 29 year-old male visited emergency room for angioedema on lip and eyelid, generalized urticaria, and syncope after cucumber several times. He has been diagnosed as allergic rhinitis for his runny nose and sneezing and cough in fall since his late 20s. His peripheral blood eosinophil was 680/mm³. His total serum IgE by Uni-CAPTM (Pharmacia, Sweden) was 950 kIU/mL (<113 kIU/mL). Skin prick test with common inhalant allergens and food showed the strong positive reaction to mugwort. Further skin prick test with raw fruits including cucumber, mango, water melon showed all strong positive reactions to all. But he did not have any symptoms or signs after mango or water melon. SDS-PAGE immunoblotting was done. Mugwort (Allergopharma, Germany) and cucumber, mango were separated in 15% SDS-polyacrylamide gel with 6% stacking gel. And then a part of strip was electroblotted onto nitrocellulose membrane (Amersham, USA), which incubated with patient's and control serum for 4 hours and then incubated with HRP-conjugated goat anti-human IgE antibody (Novus biologicals, USA) for 2 hours. 14 kD single protein was found in cucumber and was a common allergen between cucumber and mugwort.