

839 Sensitization to Food and Spt Wheal Magnitud Among Children Attending to an Allergy Service in a Major Mexican City Near the United States

Adrian Yong Rodriguez, MD¹, Sandra N. Gonzalez-Diaz, MD, PhD, FAAAAI², Alejandra Macias-Weinmann, MD², Alfredo Arias-Cruz, MD², Samuel Palma Gomez, MD³, Rafael Perez-Vanzini, MD³, Julio J. Gutierrez-Mujica, MD³; ¹Allergy and Clinical Immunology Regional Center, University Hospital Monterrey, Monterrey, Mexico, ²Allergy and Clinical Immunology Regional Center, Monterrey University Hospital, Monterrey, Mexico, ³Allergy and Clinical Immunology Regional Center Monterrey University Hospital, Monterrey, Mexico.

RATIONALE: Up to 60% of the children may have sensitization to a food, several authors have proposed that a SPT greater than 6 mm has a positive predictive value of 95% for food allergy, sensitization can change from one region to another. In this study we wanted to analyze how different is the sensitization in children attending to an allergy service in a major Mexican city close to the United States in comparison to the sensitization reported in US children.

METHODS: Food SPT reports done to children under 16 years of age, from January 2012 to April 2014 were analyzed, a panel of 54 commercial food extracts was used. The frequency of sensitization was evaluated as the size of the wheal >6mm or ≤6mm.

RESULTS: SPT reports from 120 patients were analyzed. Sixty seven children had at least one positive SPT to a food. Only 13% had at least one SPT with a wheal > 6 mm. Food sensitization was more common in children younger than 6 years of age. However, wheals greater than 6mm were more frequently seen in children under 3 years of age. Vegetables and fruits were the most common foods sensitization, while egg, dairy, fish and beans had a wheal greater than 6 mm.

CONCLUSIONS: Sensitization is frequent but SPT with wheal >6mm are not, as it is seen in US children peanut is not a among the main cause of allergy in children in Monterrey Mexico.

840 Specific IgE Value and Skin Prick Test of Sesame Allergy in Children: Role of Peanut and Tree Nut Cross-Reactivity

Karen S. Tuano, MD¹, Carla M. Davis, MD²; ¹Baylor College of Medicine, Houston, TX, ²Baylor College of Medicine and Texas Children's Hospital, Section of Immunology, Allergy and Rheumatology, Houston, TX.

RATIONALE: To describe specific IgE and skin prick test (SPT) of children with sesame allergy and cross-reactivity with peanuts and tree nuts.

METHODS: Chart review of patients with sesame IgE seen in Texas Children's Hospital Allergy/Immunology clinic from January 1, 2010-March 31, 2014, was performed. Diagnosis of sesame, peanut and tree nut allergy was based on a convincing clinical history with elevated specific IgE and/or +SPT. Mann-Whitney U test was used for analysis.

RESULTS: Of 1645 patients, 126 had sesame IgE and 13 had documented sesame sensitization [mean 16.3(1.01-64.1)kU/L]. Nine had sesame allergy with symptoms after ingestion (urticaria/respiratory symptoms) and elevated sesame IgE [mean 12.0(1.01-26.4)kU/L]. Five of 7 had +sesame SPT (mean 17.2 mm wheal). Of 13 patients with sensitization, 69%(n=9) had peanut allergy [mean peanut IgE 63.7(1.3->100)kU/L] and 77%(n=10) had tree nut allergy/sensitization (walnut, cashew, pistachio, hazelnut, pecan almond and Brazil nut). The 9 patients with peanut/tree nut allergy had higher sesame IgE compared to those without nut allergy but this was not significant (sesame IgE mean, 19.8 kU/L vs. 9.4 kU/L; p=0.28). Three sesame allergic patients' sesame IgE decreased over time [mean difference, 11.78(4.4-24.5)kU/L; mean duration, 40(30-49) months], with one passing oral food challenge (OFC). One passed sesame/peanut OFC 48 months from diagnosis after -SPT to sesame/peanut. Six peanut allergic patients had elevated sesame IgE [mean 1.75(0.52-5.52)kU/L] but tolerated sesame.

CONCLUSIONS: True sesame allergy occurred in 0.5% of this population. Three-fourths of sesame allergic children have peanut/tree nut allergy. Sesame IgE in children may decrease over time with development of tolerance.

841 Oral Immunotherapy for Fish Allergy Using a Hypoallergenic Decomposed Fish Meat

Y. Nakajima¹, Y. Kondo², Y. Mori³, S. Otaka⁴, Y. Okubo⁵, K. Tanaka⁴, K. Yamawaki⁶, C. Inuo⁷, N. Hirata⁸, S. Suzuki⁴, I. Tsuge⁷, T. Kondo⁹, K. Osajima¹⁰, Y. Itagaki¹¹, A. Urisu¹²; ¹Department of Pediatrics, Second Teaching Hospital, Fujita Health University, Nagoya, Japan, ²Department of Pediatrics, The Second Teaching Hospital, Fujita Health University, Nagoya, Japan, ³Department of Pediatrics, School of Medicine Fujita Health University, Toyoake, Japan, ⁴Department of Pediatrics, The Second Teaching Hospital, Fujita Health University, Japan, ⁵Department of Pediatrics, School of Medicine, Fujita Health University, Japan, ⁶Department of Pediatrics, School of Medicine, Fujita Health University, Toyoake, Japan, ⁷Department of Pediatrics, School of Medicine, Fujita Health University, Toyoake, Japan, ⁸Department of Pediatrics, The Second Teaching Hospital, Fujita Health University, ⁹Senmi Eikisu Co.,Ltd, Japan, ¹⁰Senmi Eikisu Co.,Ltd, ¹¹Department of Health and Nutrition, Faculty of Human Science, Hokkaido Bunkyo University, Japan, ¹²Fujita Health University, Nagoya, Japan.

RATIONALE: Patients with allergy to one fish species tend to be allergic to others because a parvalbumin which is a fish major allergen has cross-reactivity. The only strategy to patients with multiple fish allergies is to avoid all fish. We start oral immunotherapy for fish allergy using a hypoallergenic decomposed fish meat.

METHODS: We decomposed salmon meat with a protease which has already used for food processing. Patients with multi-fish-allergy diagnosed by oral food challenge (OFC) tests consume 1 gram of the decomposed salmon meat every day. We confirmed threshold amount for salmon by OFC test every four months. We measured fish IgEs during this study.

RESULTS: Five patients enrolled in this pilot study. Four patients who got hives when they ate a small amount of salmon meat (less than 2 gram) could eat 20 gram salmon meat after five to eleven months. Three patients of them became able to eat not only salmon but also horse mackerel. One patient could eat ten times of salmon meat after two months. There is no adverse reaction throughout this study. The specific fish IgEs tended to decrease by this treatment.

CONCLUSIONS: Oral immunotherapy for fish allergy using a hypoallergenic decomposed fish meat is effective and safe. And this method might be also effective to other fish species.