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Adults Food Allergies in Mediterranean Region of Turkey

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Abstract

Background: Determination of the prevalence of food-related anaphylaxis is hindered by definitions of diagnosis, acquisition of cases through various methodologies, and many of the limitations.

Method: The study was conducted in Antalya between 5th of 2011 January and 29th of September 2011. During the study 173 adult patients (116 female (67.1%), 57 male (32.9%)) were included.

Results: Among patients 24.3% belonged to 20-29 years age group, and 39% had University degree graduate. The total duration of the food allergy was 7.12 ± 3.39 years. The total IgE level was 183.6 ± 79.5 Ku/l. The eosinophilic cationic protein (ECP) level was 33.6 ± 19.5 ng/mL (normal range: 6-24 ng/mL). The most common allergen was orange, banana, apple and kakao. 17.9% of the cases were active smokers.

Conclusion: Our clinical experience shows that food allergy is common in patients with severe persistan allergic asthma when compared with normal population. One of them is due to sesame, one was kiwi, the another one was due to peanut. Regular education program on anaphylaxis to our patients and healthcare workers is maintained.

Keywords: Skin prick test; Food allergy; Mediterenian region; Anaphylaxis; Total IgE; Eosinophilic cationic protein

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Determination of the prevalence of food-related anaphylaxis is hindered by definitions of diagnosis, acquisition of cases through various methodologies, and many of the limitations. Food generally appears to be the most common trigger of anaphylaxis in the community, and arguments have been made that anaphylaxis has increased [1]. For adults, shellfish was the most common trigger, whereas egg, fruits, peanuts, and tree nuts were more common triggers for young children. In a review by de Silva et al. [2] of 117 pediatric patients presenting with anaphylaxis to 1 hospital in Australia, food was responsible for 85% of reactions, and peanut (18%), cashew (13%), and milk (11%) were the most common triggers. Clark et al. [3] reviewed data from 2 US emergency department–based cohort studies and the US National Hospital Ambulatory Medical Care Survey and estimated 203,000 emergency department visits per year (for 2001-2005; 38% pediatric), classifying approximately 90,000 as probable anaphylaxis. In Our Clinic three anaphylaxis determinet. One of them is due to a sesame, one was kiwi, the another one was due to peanut. Regular education program on anaphylaxis to our patients and healthcare workers is maintained [4].

The study was conducted in Antalya between 5th of 2011 January and 29th of September 2011. A questionnaire made by the investigators taking the latest literature data into consideration were used during the study. These data were oriented to determine the socio-demographic characteristics and included the age, gender, diseases that they had, start of the symptoms, duration of the allergic symptoms and allergens that exacerbating the disease, smoking status. The total and specific IgE levels were made by fluoroenzyme immunoassay (Immuno CAP-FEIA) method via use of ImmunoCAP (Phar-macia, Uppsala, Sweden) kit. The values above 100 kU/L and 0.35 kU/L for the total and specific IgE levels were considered abnormal; respectively. For dermal prick tests Alyostal ST-IR (Stallergenes S.A. - France) standard food allergen extracts were used. The anti-histaminic drugs were stopped 5 days and the H2 receptor blocker drugs were stopped 24 hours and the anti-depressants were stopped 20 days before the prick test.

During the study 173 adult patients (116 female (67.1%), 57 male (32,9%) were included. Among patients 24.3% belonged to 20-29

	Number of patients	Percentage %
Sex		
Male	57	32.9
Female	116	67.1
Age		
10-19	24	13.9
20-29	42	24.3
30-39	41	23.7
40-49	42	24.3
50-59	16	9.2
60+	8	4.6
Clinical Visit Numbers Per Month		
January	43	24.9
February	66	38.2
March	8	4.6
April	13	7.5
May	13	7.5
June	9	5.2
July	5	2.9
August	3	1.7
September	6	3.5
October	0	0
November	3	1.7
December	4	2.3

Table 1: Demographics for the patient group (n=173).

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Test	X ± SD (mm)	Minimum maximum size (mm)	Positive result	
			Number of patients	Percentage of patients
Positive control	11.15 ± 3.79	1-24	150	99.6
Negative control	0.17 ± 1.03	2-10	23	2.6
Orange	3.95 ± 3.25	3-12	110	63.6
Peach	2.10 ± 3.15	3-10	56	32.3
Banana	3.08 ± 3.23	3-10	88	50.9
Apple	3.08 ± 3.11	4-9	90	52.0
Carrot	2.65 ± 3.11	3-10	77	44.5
Potato	1.90 ± 2.83	4-8	56	32.4
Cacao	3.12 ± 2.97	3-9	95	54.9
Walnut	2.85 ± 3.16	4-9	82	47.4
Haselnut	2.88 ± 3.12	3-9	85	49.1
Cow milk	2.00 ± 2.87	3-9	60	34.7
Chicken	2.02 ± 2.86	3-9	61	35.3
Barleymeal	1.57 ± 2.66	4-9	47	27.2
Fish	1.57 ± 2.60	4-9	49	28.3
Tomato	1.84 ± 2.95	3-10	52	30.0
Onion	0.82 ± 2.28	4-9	21	12.1
Cumin	0.95 ± 2.42	4-10	25	14.4
Olive	1.88 ± 3.16	3-9	48	27.7
Strawberry	1.78 ± 3.09	3-11	47	27.2
Lemonade	1.71 ± 2.84	2-9	49	28.3
Rice	1.39 ± 2.73	3-10	38	21.9
Coffe	1.58 ± 2.87	3-8	43	24.8
Soya	1.20 ± 2.58	2-9	33	19.1
Black Pepper	1.02 ± 2.43	3-9	28	16.2
Bean	0.94 ± 2.41	4-10	25	14.4
Wheat	1.11 ± 2.53	3-10	30	17.3
Kiwi	1.15 ± 2.61	3-10	31	17.9
Corn	0.71 ± 1.99	3-8	21	12.1
Peanut	1.06 ± 2.38	3-9	31	17.9
Egg	0.88 ± 2.12	4-8	27	17.3
Tea	0.65 ± 1.98	5-9	18	0.9
Almonds	0.78 ± 2.08	3-8	23	13.3
Red pepper	076 ± 2.13	3-9	21	12.1

Table 2: Skin prick test results for patients (n=173) and % positivity to different allergens.

years age group, and 39% had University degree graduate. Patients demographics findings were given at table 1. The total duration of the food allergy was 7.12 ± 3.39 years. The total IgE level was 183.6 ± 79.5 Ku/l. The eosinophilic cationic protein (ECP) level was 33.6 ± 19.5 ng/mL (normal range: 6-24 ng/mL). The most common symptoms were urticaria, skin rash, dispnea, gastrointestinal system (diarrhea) and anaphylaxis history. The most common allergen was orange, banana, apple and kakao. 17.9% of the cases were active smokers. Interestingly, while skin prick tests (SPTs) were performed mostly in May and June (combined ~30%) [5] in allergic rhinitis and allergic asthma patients, SPTs were performed mostly in January and February (combined ~63.1%) in food allergic patients. One of the reasons was orange consuming in January and February. SPTs findings were given at table 2.

Oral food challenges are accurate and sensitive, but they put patients at risk for allergic reactions. SPTs and measurement of spesific IgE antibodies are safer than food challenge but have poor specificity and do not always correlate with clinical reactivity. Standardization of food challenge procedures and interpretation should be promoted. New approaches to improve the diagnosis of clinical allergy without the need for a food challenge are needed [6,7]. This study revealed that, food challenge test with orange, kiwi, tomato, strawberry were spesific than other food allergens.

Strict avoidance of allergens is not curative and leaves patients at risk for accidental exposure. As such, several new therapeutic approaches are being tested in clinical trials [8]. Treatment with omalizumab or prebiotics/probiotics either alone or in combination with other forms of immunotherapy might increase the threshold doses needed to stimulate an allergic reaction and provide enhanced safety profiles for patients. Our clinical experience show that food allergy is common in patients with severe persistent allergic asthma when compared with normal population [8-11].

Authors' Contributions

Conceived and designed the study: ADY. Clinical follow-up: ADY. Analyzed the data: ADY and HHP. Coordination: HHP Wrote the paper: ADY Drafted the figures: ADY. All authors read and approved the final manuscript.

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