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TPS 17

EPIDEMIOLOGY OF FOOD ALLERGY I

TP0911 | Substantial variation in food allergy prevalence and causative foods in adults across Europe

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Background: Prevalence of self-reported food allergy ranges from 1% to 19% for foods frequently consumed and commonly implicated across Europe. Data on prevalence of clinically manifest food allergy are lacking, especially in adults, and incomparable study protocols hamper accurate evaluation of intracontinental differences. The aim of this study was to determine the prevalence of food allergy, defined as symptoms plus sIgE-sensitisation, to 24 relevant foods in adults across Europe, using a standardised protocol.

Method: In the EuroPrevall project, a pan European study investigating the prevalence of food allergy, a screening questionnaire was sent to a random sample of the general adult population in eight European centres. All responders reporting symptoms to one of 24 pre-selected commonly implicated foods and a control group consisting of a random sample of responders who did not report symptoms to any of the selected foods, were invited for broader

evaluation, comprising an extensive questionnaire on reactions to the 24 selected foods, and measurement of sIgE against these foods. Multiple imputation was performed to estimate missing symptom and serology information for non-responders.

Results: Overall prevalence of food allergy was highest in Zurich at 5.6%, followed by 3.3% in Madrid, 2.8% in Lodz, 2.1% in Utrecht, 1.4% in Reykjavik and 0.3% in Athens. In Zurich, Lodz and Utrecht, the highest prevalence was found for hazelnut (respectively 2.6%, 1.3% and 0.9%), peach (respectively 2.0%, 0.5% and 0.6%) and apple (respectively 1.9%, 0.8% and 0.9%). Peach was also one of the top three causative foods in Madrid (1.6%), along with melon (1.0%) and shrimp (0.8%); and in Athens (0.1%), along with walnut (0.3%) and sunflower seed (0.1%). In Reykjavik, the highest prevalence estimates were found for banana (0.5%), carrot (0.4%) and shrimp (0.4%).

Conclusion: Food allergy shows substantial geographical variation in prevalence and causative foods in adults across Europe. Although food allergy defined as symptoms plus sIgE-sensitisation was less common than self-reported FA, prevalence still reached 6% in parts of Europe. Plant foods dominated as most common causative foods, with the exception of shrimp in Spain and Iceland, suggesting that prevalence is likely related to pollen exposure and possibly consumption.

TP0912 | Characteristics of food allergy in children: National multicenter study

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Background: Food allergies impose a significant burden on the life of the child and the family. In this study, to determine the demographic characteristics of food allergies, we investigated the characteristics of patients with food allergies in different regions of Pediatric Allergy-Immunology departments in Turkey.

Method: Turkey's National Study of Allergy and Clinical Immunology Society has conducted a Study Group on Food Allergies. 25 centers participated in this multicenter, cross-sectional and descriptive study.

Results: A total of 1248 children were included in the study (62.0% boy, 38.0% girl) consisting IgE-mediated, non-IgE mediated and mixed-type cases of food allergy in a percentage of 71.8%, 16.1% and 12.1%, respectively.

In the IgE-mediated group, the age of onset and diagnosis were 8.26 ± 16.98 months and 13.73 ± 24.58 months, respectively, and 64.7% of the cases were male. The most common types of food allergy were egg white, cow's milk, egg yolk and hazelnut. The most common initial symptoms were urticaria-angioedema, eczema and anaphylaxis. There was no relationship with the family history of atopy.

In the non-IgE mediated group, the age of onset and diagnosis were 4.51 ± 11.21 months and 7.16 ± 12.82 months, respectively, and 54.2% of the cases were male. Milk, eggs, beef and wheat were generally responsible for this type of atopy mostly admitting with proctocolitis.

In boys and in children whose parents have low level of education, the commonest type of food allergy was IgE-mediated ($P < 0.01$ for each). Non-IgE-mediated food allergy found to be significantly more frequent in girls and in the families with good income ($P < 0.01$ for each).

Conclusion: In this study, clinical characteristics and risk factors and phenotypes of food allergies in Turkey were investigated.

TP0913 | Clinical features of 4458 food allergic children from 5 year's registry

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Background: The purpose of this study is to clarify clinical features of food allergy (FA) among Japanese children by using database registry at our department.

Method: We have previously established the database registry system on immediate type of food allergy (FA) patients from 2008. The system can integrate the sequential information on medical history, Ag-IgE, SPT and oral food challenge (OFC). We have analyzed the 5 year's database from 2010 to 2014. The database included total of 4458 patients. The median age of FA diagnosis was 7 months old and that of 1st immediate allergic reaction 10 months old. The numbers of patients with the history of immediate type of allergic reactions and anaphylaxis (An) by their past history or OFC were 3.906 (88%) and 1.756 (39%), respectively.

Results: There were 10 703 registered food allergens. The number of allergens with immediate type reactions was 6356 (59%). OFC was performed 7205 times and 2535 of them were positive. Concerning itemized food allergens, Hen's egg (HE), cow's milk (CM), peanut (PN) and wheat (W) were major allergens and that ratios of HE/CM/PN/W per registered whole allergens were 27%, 17%, 10% and 10%, respectively. The ratio of An per immediate histories, CM, PN, W and buckwheat (BW) were significantly higher and the ratios of CM/PN/W/BW were 51%, 49%, 46% and 44%, respectively ($P < 0.05$). The ratio of past history of using adrenaline injection per immediate histories about CM, PN, W and BW were 16%, 15%, 12% and 12%, respectively ($P < 0.05$). There were 2978 food allergens which had acquired tolerance during the 5 years. Ways to acquire tolerance were by dietary instruction without OFC (33%), dietary instruction based on OFC results (60%), and judgement of sustained unresponsiveness after oral immunotherapy (7%), respectively.

Conclusion: By using the large database, we could obtain the real clinical features of immediate type FA (mostly challenge proven), incidence of An and rates of tolerance acquisition during the 5 years. Furthermore, prevalent severe allergic reactions can be recognized in CM, PN, W and BW in Japan.

TP0914 | Profilin sensitization – a review of 5 years follow up in an allergy department

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Background: Profilin is a minor allergen ubiquitously spread in pollen and plant food species. It can show cross reactivity between