



## Allergologia et immunopathologia

Sociedad Española de Inmunología Clínica,  
Alergología y Asma Pediátrica

[www.elsevier.es/ai](http://www.elsevier.es/ai)



### ORIGINAL ARTICLE

## Food allergy in Catalonia: Clinical manifestations and its association with airborne allergens

J. Sánchez-López<sup>a</sup>, V. Gázquez<sup>b</sup>, N. Rubira<sup>c</sup>, L. Valdesoiro<sup>d</sup>, M. Guilarte<sup>e</sup>,  
A. Garcia-Moral<sup>a</sup>, N. Depreux<sup>f</sup>, L. Soto-Retes<sup>g</sup>, M. De Molina<sup>h</sup>, O. Luengo<sup>i</sup>, R. Lleonart<sup>i</sup>,  
M. Basagaña<sup>f,\*</sup>

<sup>a</sup> Unitat d'Al·lèrgia, Institut Clínic del Tòrax (ICT), Hospital Clínic, Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), Universitat de Barcelona, Barcelona, Spain

<sup>b</sup> Allergy Department, Hospital Universitari Joan XXIII, IISPV, Universitat Rovira i Virgili, Tarragona, Spain

<sup>c</sup> Allergy Department, Hospital Platón, Barcelona, Spain

<sup>d</sup> Pediatric Allergy Department, Corporació Sanitària Parc Taulí, Sabadell, Spain

<sup>e</sup> Allergy Section, Medicine Department, Hospital Vall d'Hebron, Universitat Autònoma de Barcelona, Barcelona, Spain

<sup>f</sup> Allergy Unit, Hospital Universitari Germans Trias i Pujol, Universitat Autònoma de Barcelona, Badalona, Spain

<sup>g</sup> Servei de Pneumologia i Al·lèrgia, Hospital de la Santa Creu i Sant Pau, Universitat Autònoma de Barcelona, Barcelona, Spain

<sup>h</sup> Allergy Unit, Hospital General de l'Hospitalet, Consorci Sanitari Integral, L'Hospitalet de Llobregat, Spain

<sup>i</sup> Allergy Unit, Medicine Department, IDIBELL, Hospital Universitari de Bellvitge, L'Hospitalet de Llobregat, Spain

Received 28 January 2016; accepted 13 June 2016

### KEYWORDS

Allergy diagnosis;  
Cross-sectional study;  
Food allergy;  
Food epidemiology;  
Online database

### Abstract

**Background:** Food allergy affects around 6% of the European population and its prevalence worldwide has been increasing in the last decades, but studies focused on investigating food allergy epidemiology in Europe are lacking.

**Objective:** The Cibus project was created to register the main culprit foods and their clinical manifestations in food allergic patients in Catalonia.

**Methods:** A specific online database was designed. Allergists from eight different Catalan hospitals registered the new diagnoses of food allergy.

**Results:** 618 food allergic patients were included. Egg and milk were the main elicitors in the early ages, while fruits and nuts were the most frequent in patients >14 years old. Fish was more frequent in children, while seafood and *Anisakis* allergy were more frequent in the >14-year-old group. Overall, peach was the most prevalent food eliciting an allergic reaction (10%). Food allergy diagnosis was reached using compatible clinical history and positive skin prick test to the involved food in 98% of cases. Globally, urticaria was the most frequently reported manifestation in our population (48.2%), followed by oral allergy syndrome (25.6%) and anaphylaxis (24.8%).

**Conclusions:** The Cibus project gives a full overview of the profile of food allergic patients in Catalonia and reinforces the predominance of plant food allergies in the Mediterranean area.

© 2016 SEICAP. Published by Elsevier España, S.L.U. All rights reserved.

\* Corresponding author.

E-mail address: [maria.basagana.torrento@gmail.com](mailto:maria.basagana.torrento@gmail.com) (M. Basagaña).

<http://dx.doi.org/10.1016/j.aller.2016.06.004>

0301-0546/© 2016 SEICAP. Published by Elsevier España, S.L.U. All rights reserved.

## Introduction

Food allergy affects around 6% of the European population<sup>1</sup> and regarding some recent studies, its prevalence worldwide has increased in the last decades.<sup>2,3</sup> It has a great impact upon the patient's quality of life<sup>4,5</sup> and represents a high economic burden to public health systems.<sup>6</sup>

Some risk factors have been identified, such as vitamin D deficiency, increased hygiene, or the age of exposure to foods, but the implication of other environmental factors still remains unclear.<sup>7</sup> What seems evident is that the profile of food allergy appears to be different depending on the age and the geographical location, probably due to aeroallergen exposure and food habits.<sup>8</sup>

The main elicitors of food allergy worldwide are suggested to be cow's milk, egg, wheat, soy, peanut, tree nuts, fish, and shellfish<sup>1,9</sup> but we must take into account that studies focused on investigating food allergy epidemiology in Europe are lacking and there is limited information on the prevalence and distribution of sensitisation to foods. Recent studies and reviews of the literature have provided very heterogeneous results.<sup>10-12</sup>

The number of consultations in Allergy Units in Catalonia for food allergy has increased over the last years. According to data obtained from *Alergológica-1992 and 2005*, the consultations in Allergy Units in Catalonia and Balearic Islands for food allergy increased from 3.6% in 1992 to 6.05% in 2005.<sup>13,14</sup> Thus, the "Cibus project" (Cibus is the Latin word for "food") was created to register the main culprit foods in our region and their clinical manifestations in order to outline the characteristics of our population.

## Material and methods

### Study design

A cross-sectional study was carried out in eight allergy outpatient clinics in Catalonia, Spain. Approval from the corresponding Ethics Committees was obtained. The recruitment period was from March 2008 to March 2010.

Patients included were those newly diagnosed of food allergy who agreed and signed the informed consent document (in the case of children the consent was obtained from their representatives). A website was created to report the data. Data collection included demographics, familiar and personal history of atopy (defined as having specific IgE (sIgE) to any common antigen as well as respiratory and/or skin disorders associated with IgE-mediated allergy), presence of other allergic diseases, food allergy manifestations, skin prick test (SPT) to food and respiratory allergens and results of sIgE measurements and/or oral food challenge (OFC) when available.

### Diagnosis of food allergy

Food allergy diagnosis was established based on a detailed clinical history and a positive SPT and/or sIgE to the food/foods involved in the reaction/s. Clinical symptoms of the reported food allergies were classified as: oral allergy syndrome (OAS, defined as local

itching and/or angio-oedema of lips, tongue, palate and/or throat), urticaria and/or angio-oedema, anaphylaxis, dermatitis/eczema and/or gastrointestinal symptoms (GIS, including functional dyspepsia, crampy abdominal pain, nausea, vomiting and/or diarrhoea) occurring minutes to few hours after the food intake. Patients showing positive SPT and/or elevated food sIgE in the absence of any reported adverse reaction to that food were considered asymptomatic sensitisations.

### Food allergy classification

For ease of interpretation of the results, foods reported were grouped as follows: egg, milk, wheat, other cereals (rice, oatmeal, rye, barley, maize), seeds (sesame, mustard, sunflower), legumes (lentil, chickpea, bean, soybean, pea, lupine), peanut, tree nuts (almond, hazelnut, walnut, chestnut, pinion, pistachio), vegetables (celery, onion, asparagus, green bean, lettuce, tomato, carrot, zucchini, spinach), fruits (peach, apple, pear, cherry, plum, pineapple, strawberry, fig, kiwi, avocado, banana, grape, melon, watermelon, orange, tangerine), meat (pork, beef, chicken), *Anisakis*, fish (hake, monkfish, sole, megrim, cod, tuna, salmon, sardine) and seafood (shrimp, mussel, clam, oyster, cuttlefish, squid).

### In vivo and in vitro tests

Skin prick tests to standard panels of commercial airborne and food allergens were carried out. The standard airborne allergens panel included *Dermatophagoides pteronyssinus*, *Dermatophagoides farinae*, *Alternaria alternata*, *Cladosporium herbarum*, *Platanus acerifolia*, *Artemisia vulgaris*, *Lolium perenne* (Laboratorios LETI, Barcelona, Spain), dog and cat dander, *Cupressus arizonica*, *Olea europea*, *Parietaria Judaica* (Bial-Aristegui, Bilbao, Spain), *Penicillium sp* (Stallergenes, Antony, France). The standard food panel included milk, egg, peanut, hazelnut, walnut, soy, maize, wheat, shrimp, lettuce, tomato, green bean, kiwi, pineapple, banana, peach, mustard, hake, tuna (Laboratorios LETI) and *Anisakis simplex* (ALK-Abelló, Madrid, Spain). When food allergy was suspected to a food not included in the standard series, commercial extracts and/or fresh foods were used for skin testing. Fresh foods were tested by the prick-prick technique (P×P). All SPT were carried out on the volar side of the forearm using disposable prick lancets. SPT with saline and histamine 10 mg/mL were used as negative and positive control. A mean wheal diameter of 3 mm or greater obtained 15 minutes after puncture was considered a positive response.<sup>15</sup>

Food hypersensitivity was confirmed by sIgE measurements (UniCAP, Thermofisher, Uppsala, Sweden) in some centres. In these cases, sIgE levels >0.35 kU/L were regarded as positive.

### Statistical analysis

SPSS software (version 18.0; SPSS, Chicago, IL, USA) was used for statistical analysis. For qualitative variables the frequency (percent) and its 95% confidence interval (95%

Download English Version:

<https://daneshyari.com/en/article/8736108>

Download Persian Version:

<https://daneshyari.com/article/8736108>

[Daneshyari.com](https://daneshyari.com)