

Pertinence of requested allergy consultations for suspected food allergy/intolerance. A Junior Members working group of Italian Society of Allergy and Clinical Immunology (SIAIC) multicenter study

Appropriatezza delle richieste di visite allergologiche per sospetta allergia/intolleranza alimentare. Uno studio multicentrico condotto dal gruppo di lavoro dei Junior Members della Società Italiana di Allergologia ed Immunologia Clinica (SIAIC)

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Key words

Food allergy • Pertinence • Junior Members SIAIC

Parole chiave

Allergia alimentare • Appropriatezza • Junior Members SIAIC

Summary

Background. Up to 20% of population perceives their symptoms as caused by food allergy/intolerance, but only in 1-4% of cases a causal role of food allergy can be demonstrated. Therefore there is a huge discrepancy between perception of food allergy and results of the allergological work-up, leading to financial, nutritional, and health consequences. The main aim of this study was to evaluate the prevalence of pertinent requested allergy consultations for suspected food allergy.

Methods. A multicenter study conducted by Junior Members of Italian Society of Allergy and Clinical Immunology (SIAIC). All patients referred to the investigators for suspected food allergy between February-June 2009 were included. Clinical histories have been recorded, and patients underwent to an appropriate allergological work-up. Allergists expressed an opinion about the pertinence of each requested consultation.

Results. 145/272 (53.3%) allergy consultations were considered as "pertinent", 67 (46.2%) of which were concluded with a proved diagnosis of food allergy. 64/127 (50.4%) non-pertinent visits may have been avoided because symptoms were consistent with already known diseases of patients. The pertinence of allergy consultations were more frequently due to cutaneous (urticaria, angioedema, $p < 0.001$), laryngeal ($p = 0.002$), oral-allergy-syndrome ($p < 0.001$) and anaphylaxis ($p = 0.042$)

Riassunto

Introduzione. Fino al 20% della popolazione ritiene i propri sintomi come espressione di allergia/intolleranza alimentare, ma soltanto in 1-4% dei casi è possibile dimostrare una reale allergia alimentare. Esiste quindi un'enorme discrepanza tra la percezione dell'allergia alimentare e i risultati delle indagini diagnostiche allergologiche. Le conseguenze di ciò possono essere rilevanti in termini finanziari, nutrizionali e di salute. Lo scopo principale di questo studio era di valutare la prevalenza dell'appropriatezza delle richieste di visita allergologiche per sospetta allergia alimentare.

Metodi. Uno studio multicentrico condotto dai Junior Members della Società Italiana di Allergologia ed Immunologia Clinica (SIAIC). Sono stati inclusi tutti i pazienti inviati agli investigatori tra febbraio-giugno 2009 per sospetta allergia alimentare. È stata raccolta l'anamnesi ed effettuato un appropriato percorso diagnostico allergologico. Gli allergologi esprimevano un'opinione sull'appropriatezza delle richieste di consulto.

Risultati. 145/272 (53,3%) visite allergologiche erano considerate "appropriate", 67 (46,2%) delle quali si concludevano con una diagnosi di allergia alimentare. 64/127 (50,4%) delle visite non appropriate potevano essere evitate poiché i sintomi erano compatibili con patologie già note. L'appropriatezza era più frequentemente associata a sintomi cutanei (orticaria, angioedema, $p < 0,001$), laringei ($p = 0,002$), da sindrome orale allergica ($p < 0,001$), e di anafilassi

symptoms; non-pertinent visits were preferentially associated to abdominal bloating ($p = 0.002$), gastritis symptoms ($p = 0.026$) and diarrhea ($p = 0.017$).

Discussion. About 45% of food-allergy consultations were considered “non-pertinent”; most of them may have been avoided because symptoms were consistent with already and untreated known diseases. Gastroenteric symptoms were the most frequent reason of non-pertinent consultations, while cutaneous symptoms were often considered as “pertinent”.

Introduction

Adverse reactions to foods are currently recognized as a worldwide problem in westernized nations, and like other atopic disorders seems to be on the increase¹. Although our understanding of food allergies has increased in the past decade, knowledge about the epidemiology and causes of food allergy remains limited². Adverse immune reaction to foods seems to be higher in young children (5%) decreasing slightly with age, affecting about 3-4% of adults. Food allergy rates may vary by age, local diet, and many other factors³. Despite these prevalence rate, approximately 20-25% of the population of Western Countries believes that they suffer from an allergic reaction to foods⁴⁻⁶. In a study conducted in 2001 in Germany, Schafer et al. showed that only 1-4% of perceived food allergies were confirmed as actual food allergies by an appropriate allergy workup⁶. There is so a huge discrepancy between perception of food allergy and the actual prevalence of it. The consequences of this mistaken perception may be considerable in financial, nutritional, and health terms. In addressing suspect food-allergy, the clinician must consider a variety of other adverse reactions to foods: i) pseudo food allergy or false food allergy; ii) food intolerance (eg, cow's milk intolerance due to lactase enzyme deficiency); iii) pharmacological reactions (eg, caffeine in coffee, tyramine in aged cheese); iv) toxins food reaction (eg, histamine in scrombroid fishpoisoning). Additionally, psychological (food aversion and anorexia nervosa) or neurological (eg, auriculotemporal syndrome manifested by a facial flush from tart foods or gustatory rhinitis manifested by rhinorrhea from hot or spicy foods) manifestations can mimic food allergies³. There are several disorders worth mentioning that have been linked to food allergy in the lay press and a large amount of misinformation has been disseminated regarding their link to food allergy. Migraine headaches, behavioral and/or developmental disorders like attention deficit disorder, autism, arthritis, seizures, inflammatory bowel disease, multiple sclerosis, and chronic fatigue syndrome have not been scientifically proven to be related to or associated with food allergy, defined as an immunologically mediated reaction to food. No scientific peer-reviewed studies have definitively implicated food allergy as an etiology for these disorders.

($p = 0,042$); le richieste non appropriate erano preferenzialmente associate a gonfiore addominale ($p = 0,002$), sintomi gastritici ($p = 0,026$) e diarrea (0,017).

Discussione. Circa il 45% delle visite allergologiche per sospetta allergia alimentare erano considerate “non appropriate”, la maggior parte delle quali evitabili poiché i sintomi riferiti erano compatibili con patologie note e non trattate. I sintomi gastroenterici erano più la motivazione più frequente di richieste non appropriate, mentre le richieste per sintomi cutanei erano spesso considerati come appropriate.

The aim of our study was to evaluate the prevalence of pertinent request of allergy consultation for suspected food allergy from Italian general practitioner, and to identify the clinical characteristic of the patients referred to an allergist for suspected food allergy.

Patients and methods

PATIENTS SELECTION

This was a multicenter study designed and conducted by the ‘Junior Members Group’ of the Italian Society of Allergology and Clinical Immunology (SIAIC), between February and June 2009. All consecutive patients referred to 8 different allergy outpatients’ clinics from 5 Italian regions by general practitioner for suspected food allergy/intolerance were included into the study and asked to give an informed consent to be enrolled in the study.

History and clinical data were recorded (see Appendix A for the collecting data form), and all patients underwent an appropriate (as judged by the allergist) work-up for the diagnosis of food allergy/intolerance, according to recent international guidelines⁷.

Based on the presenting clinical picture, participating allergists were asked to state - for each patient - if the general practitioner's request of an allergy consultation for suspected food allergy/intolerance was pertinent.

Results

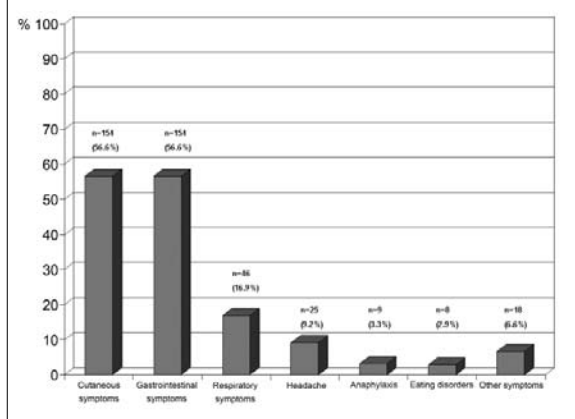
PATIENTS' CHARACTERISTICS

272 patients (207 females – 76.10%, median age 35 years, range 9-80) gave their informed consent and were enrolled in the study. One hundred-twenty five patients (49.9%) already had at least one previous diagnosis of allergic disorder (allergic rhinitis and/or allergic asthma and/or eczema and/or drug allergy).

REFERRED SYMPTOMS

The distribution of referred symptoms for which patients and their general practitioner suspected food allergy (each patient may have referred one or more

Fig. 1. Distribution of referred symptoms by patients with suspected food allergy.



than one symptom) is reported in Figure 1. The most frequent reported symptoms were cutaneous symptoms (urticaria, angioedema, eczema, erythema, pruritus) (154 patients, 56.6%) and gastrointestinal symptoms (abdominal pain, diarrhea, nausea, vomit, abdominal bloating, dyspepsia, constipation) (154 patients, 56.6%), followed by respiratory symptoms (rhinitis, asthma-like symptoms, laryngeal symptoms) (46 patients, 16.9%), headache (25 patients, 9.2%), anaphylaxis (9 patients, 3.3%) and eating disorders (weight gain or loss) (8 patients, 2.9%). Other symptoms, including dysosmia, oral aphthae, fainting, polyuria, fever, palpitation, xerostomia, paresthesias, arrhythmias, were reported by a cumulative 6.6% of patients (18 patients).

PERTINENCE OF ALLERGY CONSULTATIONS

One hundred-forty five (53.3%) allergy consultation have been considered as “pertinent” by allergists, 67 (46.2%) of which have been concluded with a proved diagnosis of food allergy. Sixty-four (50.4%) out of 127 non-pertinent visits have been considered avoidable because symptoms were consistent with already known diseases of patients.

SUSPECTED CAUSATIVE FOODS

One hundred-seventy eight patients (65.4%) referred to suspect at least one possible causative food, while the rest of the patients (94 patients, 34.6%) were not able to identify which foods were temporally related to the referred symptoms.

Patients were more likely to be able to suspect at least one causative food when they already had at least one other allergic disease (89/125 patients, 71.2% vs. 89/147 patients, 60.5%, $p = 0.039$), when they had episodic and not chronic food allergy suspected symptoms (131/171 patients, 76.6% vs. 47/100 patients, 47.0%, $p < 0.0001$), among pertinent allergy consul-

tations (111/145 patients, 76.6% vs. 64/127 patients, 50.4%, $p < 0.0001$) and when a final diagnosis of food allergy have been given (62/67 patients, 92.5% vs. 115/205 patients, 56.1%, $p < 0.0001$).

CHARACTERISTICS OF PERTINENT ALLERGY CONSULTATIONS

The pertinence of allergy consultations were more frequent in patients with at least one other known allergic disease (90/250 patients, 72.0% vs. 58/147 patients, 19.0%, $p < 0.0001$), with cutaneous symptoms (110/154 patients, 71.4% vs. 35/118 patients, 29.7%, $p < 0.0001$) only when symptoms were urticaria and/or angioedema, ($p < 0.001$) (eczema, pruritus and erythema were not statistically associated with pertinent allergy consultations), respiratory symptoms (35/46 patients, 76.1% vs. 110/237 patients, 46.4%, $p = 0.001$) only when laryngeal symptoms were referred ($p = 0.002$) (rhinitis and/or asthma were not statistically associated with pertinent allergy consultations for suspect food-allergy), anaphylaxis (8/9 patients, 88.9% vs. 137/236 patients, 52.1%, $p = 0.042$) and oral-allergy-syndrome (33/37 patients, 89.2% vs. 112/235 patients, 47.7%, $p < 0.0001$), while non-pertinent allergy consultations were preferentially associated to abdominal bloating (42/67 patients, 62.7% vs. 81/205 patients, 39.5%, $p = 0.002$), dyspepsia, nausea and vomit considered together (35/59 patients, 59.3% vs. 88/213 patients, 41.3%, $p = 0.026$) and diarrhea (31/50 patients, 62.0% vs. 92/222 patients, 41.4%, $p = 0.017$).

Discussion

This is, in our knowledge, the first study investigating the pertinence of requested allergy consultation for suspected food-allergy in Italy.

The main result of this study is that about half of the requested allergy consultations for suspected food-allergy were considered as non-pertinent by young specialists involved as investigators. The main reasons which led allergists to consider as non-pertinent for suspected food-allergy this huge proportion of allergy consultations were the chronicity of referred symptoms, the presence of isolated gastrointestinal and atypical symptoms, or symptoms consisting with already known and undertreated non-allergic diseases. On the other hand, symptoms consisting with acute urticaria and/or angioedema, oral allergy syndrome and laryngeal symptoms (perception or objectively evident laryngeal oedema), or clinical picture suggestive of anaphylaxis, particularly when all these conditions were clearly referred by the patient as possibly related to the ingestion of one or more specific foods, were considered properly deserving further allergy investigations.

Another interesting finding is that patients with at least one different previously diagnosed allergic

disease were more likely able to correctly recognize symptoms of suspected food allergy, suggesting that the personal experience and knowledge of allergic diseases in general may help to better interpret other allergy symptoms.

The great discrepancy between the perception of symptoms potentially related to the intake of certain foods by the patient and doctor, and the appropriateness of such suspects according to the specialist's opinion, is in line with what has already been reported in other European countries and North America⁴⁻⁶, but one of the most worrying data, which has not been previously described, is that about half of all non-pertinent requests of consultation was considered preventable if the underlying diseases that cause non allergic symptoms were properly recognized and treated.

There is very little information about the socioeconomic impact, both in terms of direct and indirect medical

costs (including lost days from work or study to carry out medical examinations, the inappropriate elimination diets of suspect foods and their further consequences in terms of patients' health), of non-pertinent suspect of food-allergy⁸⁻¹⁰ but there is no doubt that they can be very high. Therefore, more appropriate recognition of symptoms and characteristics of presentation of food allergies, both from the general practitioner and patient, could lead to a substantial reduction in medical care and to a concomitant reduction of waiting lists for accessing to allergy specialistic consultations.

In conclusion, on the basis of our data, we suggest that Allergy and Clinical Immunology scientific societies should be actively involved in the promotion of a correct and appropriate information on symptoms consisting with food-allergy, in order to help general practitioners and patients to better interpret which ones are really consisting with a suspicion of food allergy.

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- Dr. Filippo Fassio (National secretary and Representative person for Regional Section "Toscana").
- Dr. Felice Rivellesse (Webmaster).
- Dr. Stefano Pizzimenti (Representative person for Regional Section "Piemonte-Liguria-Valle d'Aosta").
- Dr. Marco Caminati (Representative person for Regional Section "Lombardia").
- Dr. Francesco Fassoni (Representative person for Regional Section "Triveneto").
- Dr. Silvia Peveri (Representative person for Regional Section "Emilia Romagna").
- Dr. Maria Costanza Turi (Representative person for Regional Section "Lazio-Abruzzo").
- Dr. Francesca Wanda Rossi (Representative person for Regional Section "Campania").
- Dr. Laura Losappio (Representative person for Regional Section "Apulo-Lucana").
- Dr. Maria Patafi (Representative person for Regional Section "Calabria").
- Dr. Selene Imbesi (Representative person for Regional Section "Sicilia").
- Dr. Gianni Pala (Representative person for Regional Section "Sardegna").

Preliminary data of this study were presented at the following congresses:

- 1° Congresso IFIACI (Trieste, Italy, 2009).
- World Allergy Congress 2009 (Buenos Aires, Argentina, 2009).

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Appendix A. The collecting data form used by the investigators.

STUDIO CLINICO JUNIOR MEMBERS SIAIC

CENTRO: _____ ID: _____

 Richiesta per: ☐ sospetta allergia alimentare
☐ sospetta intolleranza alimentare
Età: _____ Sesso: ☐ M ☐ F Familiarità per atopia? ☐ SI ☐ NO

Note patologie allergiche:

- ☐ Rinite allergica
☐ Asma bronchiale
☐ Dermatite allergica da contatto
☐ Allergia a farmaci (quali: _____)
☐ Sinusite/Poliposi nasale

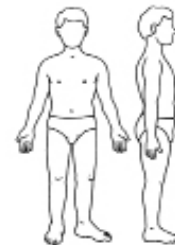
Note patologie non allergiche:

- ☐ Malattie autoimmuni sistemiche (quali: _____)
☐ Diabete mellito (☐ tipo I ☐ tipo II)
☐ Ipertensione arteriosa
☐ Cardiopatia ischemica
☐ Tireopatia
☐ Malattia infiammatoria cronica (☐ RCU ☐ M.Chron)
☐ Altro: _____

 Alimento/i sospettato/i: ☐ _____
☐ Nessuno in particolare

Sintomi:

- | | |
|--|--|
| ☐ Cutanei: | ☐ Orticaria
☐ Angioedema
☐ Dermatite/Eczema
☐ Prurito sine materia
☐ Eritema / Rash eritematoso |
| ☐ Gastrointestinali: | ☐ Sindrome Orale Allergica
☐ Gonfiore/Distensione addominale
☐ Dispepsia/Nausea (o in generale sintomi da gastropatia)
☐ Dolore colico
☐ Diarrea
☐ Stipsi |
| ☐ Respiratori: | ☐ Sintomi asmatiformi / Asma
☐ Rinite
☐ Sensazione di costrizione faringea / Stridore / Soffocamento |
| ☐ Anafilassi | |
| ☐ Obesità ☐ Dimagrimento | |
| ☐ Cefalea | |
| ☐ Altro: _____ | |



Periodicità: ☐ Episodico ☐ Cronico (>3 volte/sett)

Frequenza: n° _____ episodi alla settimana/ al mese/ all'anno

Da quanto tempo lamenta il/i sintomo/i: _____ giorni / settimane / mesi / anni

Dopo quanto tempo dall'assunzione dell'alimento si manifestano i sintomi? _____ min / ore / giorni

I sintomi si manifestano se l'alimento è: ☐ crudo
☐ cotto

L'assunzione dell'alimento si accompagna sempre alla presenza dei sintomi? ☐ SI ☐ NO

I sintomi si presentano anche senza assumere l'alimento (o dieta priva dell'alimento)? ☐ SI ☐ NO

Possibile correlazione temporale tra l'assunzione di farmaci e la comparsa dei sintomi? ☐ SI ☐ NO

se sì, quale/i: _____

Modalità di risoluzione dei sintomi: ☐ spontanea
☐ con ausilio farmacologico (PS, MMG, GM...?): _____

Per i sintomi riferiti si è già rivolto: ☐ a uno o più allergologi
☐ ad altri specialisti
☐ a diagnostiche alternative (quale/i: _____)
☐ a terapie alternative (quale/i: _____)

GIUDIZIO CLINICO DA PARTE DEL MEDICO:

Vera allergia alimentare? ☐ SI ☐ NO

Richiesta del MMG appropriata? ☐ SI ☐ NO

Sintomo/i compatibili con patologia già nota al paziente? ☐ SI ☐ NO

se sì: ☐ da patologia allergica (quale _____)
☐ da patologia non allergica (quale _____)

Diagnosi finale: _____ ☐ accertata
☐ sospetta

NOTE:

SKIN PRICK TEST

Positivi per:

ALLERGENI INALANTI

- ☐ Dermatophadoides farinae
- ☐ Dermatophagoides pteronissinus
- ☐ Epitelio di cane
- ☐ Epitelio di gatto
- ☐ Polline di betulla
- ☐ Polline di nocciolo
- ☐ Polline di graminacee
- ☐ Polline di parietaria
- ☐ Polline di olivo
- ☐ Polline di ambrosia
- ☐ Polline di assenzio
- ☐ Alternaria
- ☐ Altro: _____

ALLERGENI ALIMENTARI

- ☐ Frumento
- ☐ Latte
- ☐ Uova
- ☐ Pomodoro
- ☐ Pesca
- ☐ Mela
- ☐ Nocciola
- ☐ Arachide
- ☐ Soia
- ☐ Noce
- ☐ Gamberi
- ☐ Merluzzo
- ☐ Altro: _____

Non interpretabili per:

- ☐ dermografismo
- ☐ scarsa reattività cutanea

Se non interpretabili, effettuato Dosaggio IgE specifiche risultato positivo per: _____