

Suboptimal management of acute food-allergic reactions by patients, emergency departments and general practitioners

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Key words: adults; emergency department; epinephrine; food allergy; general practitioner.

Food allergy is one of the leading causes of anaphylaxis in patients presenting to emergency departments (EDs) (1–3). However, it is unknown what percentage of patients actually seeks emergency care (EC) for a food-allergic reaction, whether those that seek help choose an ED or general practitioner (GP), and whether clinical characteristics and management of food allergy vary between patients who do and do not seek EC.

A standardized questionnaire, consisting of 29 questions concerning demographic characteristics and food allergy, was sent to all adults ($n = 507$) referred between 2003 and 2006 with suspected food allergy. Objective was to evaluate the percentage of patients who sought EC (from GP or ED) and possible association with severity of symptoms, age, gender, specific food, or prescription of emergency medication. For each variable the percentage of patients who did or did not seek EC was calculated. Chi-squared tests and where appropriate Fisher's exact tests were used to test differences.

Seventy-eight percent (396/507) completed the questionnaire. Median age was

37 years, 70% was female. Ninety percent had suggestive symptoms of a food allergy within 1 h after eating the culprit food. A considerable portion (43%) had previously sought EC from a GP, ED, or both. Remarkably, a GP was visited equally frequent as an ED (16% vs 17%, respectively). The type of care (GP or ED) that was chosen was not related to the severity of symptoms ($P = 0.80$). This all indicates an important role for the GP. This result may be related to the health care system in the Netherlands, which favors first contacting the GP even in urgent situations.

Differences between patients who did and did not seek EC are shown in Table 1. Gender was not associated with seeking EC, whereas patients > 50 years

sought EC significantly more frequently than younger patients.

There was no relation to the severity of symptoms ($P = 0.13$, Table 1). As many as 44% of patients with only mild symptoms (oral allergy symptoms; OAS) requested EC, whereas only 48% of the patients with severe symptoms (respiratory or cardiovascular) did. So, 52% of patients with a severe allergic reaction did not seek EC. This is a highly unfavorable situation, because this group has the highest risk of morbidity and even fatality.

Patients with reactions to peanut or tree nuts more commonly sought EC than patients who experienced their most severe symptoms after ingesting fruit (58% vs 58% vs 24%, $P < 0.001$,

Suboptimal food allergy management by patients and doctors.

Table 1. Difference in characteristics of patients who did or did not receive medical help after an adverse reaction to food

	Medical help GP and/or ED (%)	No medical help (%)	P-value
Gender			0.85
Male ($n = 116$)	50 (43.1)	66 (56.9)	
Female ($n = 278$)	117 (42.1)	161 (57.9)	
Age (years)			0.005
≤ 25 ($n = 103$)	44 (42.7)	59 (57.3)	
26–50 ($n = 226$)	84 (37.2)	142 (62.8)	
≥ 51 ($n = 65$)	39 (60.0)	26 (40.0)	
Severity of symptoms			0.13
Mild ($n = 160$)	71 (44.4)	89 (55.6)	
Moderate ($n = 126$)	45 (35.7)	81 (64.3)	
Severe ($n = 110$)	53 (48.2)	57 (51.8)	
Type of food			< 0.001
Peanut ($n = 36$)	21 (58.3)	15 (41.7)	
Nuts ($n = 26$)	15 (57.7)	11 (42.3)	
Fruit ($n = 71$)	17 (23.9)	54 (76.1)	
Possession emergency medication			
Epinephrine ($n = 87$)	72 (43.1)	15 (6.8)	< 0.001
Antihistamines ($n = 207$)	111 (66.5)	96 (43.2)	< 0.001
Systemic steroids ($n = 56$)	40 (24.0)	16 (7.2)	< 0.001

GP, general practitioner; ED, emergency department.

Mild: only oral allergy symptoms; Moderate: rhinitis, conjunctivitis, skin, or gastro-intestinal symptoms; Severe: respiratory or cardiovascular symptoms.

Table 1). This might reflect a greater awareness of potential risks with regard to these specific allergies.

Patients who had previously sought EC were more frequently prescribed self-injectable epinephrine, antihistamines and systemic steroids than those who had not (all $P < 0.001$, Table 1). Of all patients (those who did, as well as those who did not seek help) with only mild symptoms (i.e. OAS) 26% were prescribed self-injectable epinephrine as compared with 26% in patients with severe symptoms (respiratory or cardiovascular). Prescription of self-injectable epinephrine was not related to the severity of symptoms, but to whether or not EC was sought. Our findings indicate overprescription of epinephrine in mild cases and underprescription in severe patients. Underprescription of self-injectable epinephrine has been reported earlier: it was prescribed to no more than 0–38% of severe food-allergic patients (3–5).

In conclusion, although a significant portion of food-allergic patients seek EC,

more than half of the patients with severe food-allergic reactions do not. General practitioners were visited as frequent as EDs. Recommended guidelines for prescription of epinephrine were not followed by GPs and EDs. Therefore, there is a need for improved education of food-allergic patients, GPs, and EDs regarding the management of food-allergic reactions.

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Accepted for publication 15 January 2009
Allergy 2009
© 2009 John Wiley & Sons A/S
DOI: 10.1111/j.1398-9995.2009.02001.x

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