

Case Report

Suicide Attempt by Anaphylaxis – Case Report

João Marcelino^{1*}, Manuel Branco Ferreira^{1,2}, Fátima Cabral Duarte¹, Marta Neto¹, Ana Célia Costa¹

¹Immunoallergy Department, Santa Maria Hospital, Centro Hospitalar Lisboa Norte, Portugal

²University Center of Immunoallergy, Medicine Faculty of Lisbon, Lisbon, Portugal

***Corresponding Author:** João Marcelino, Immunoallergy Department, Santa Maria Hospital, Centro Hospitalar Lisboa Norte, Portugal, E-mail: jlam_1987@sapo.pt

Received: 06 December 2018; **Accepted:** 23 December 2018; **Published:** 28 December 2018

Abstract

This case represents a rarely described association of anaphylaxis as form of achieving self-harm. It highlights the importance of a careful follow-up of patients with severe allergies and severe depressive symptoms.

Keywords: Anaphylaxis; Suicide; Death; Depression; Food allergy

1. Introduction

Anaphylaxis is a severe, potentially life-threatening, systemic hypersensitivity reaction and is a medical emergency [1,2]. Trigger identification, patient education and establishing emergency action plans are essential steps in the management of this condition [1,2].

The lifetime prevalence of anaphylaxis is between 0.02-5.1% of the general population and its incidence is between 6.7-112 cases per 100000 people per year [3]. However, despite its severity, anaphylaxis is seldom fatal. Death by anaphylaxis has an incidence of 0.12-1.06 deaths per 1000000 cases per year [3].

Several triggers can induce anaphylaxis, and the relative frequency of each causal trigger presents geographical differences [1]. Food accounts for 0.4-39.9% of the cases [4]. They are the most common triggers in children, teens, and young adults [1]. A Portuguese study on the triggers of anaphylaxis, reported that foods were responsible for 7% of all anaphylactic reactions (43% in children and 4% in adults) [5]. In the adult population, the most frequent food triggers were: shellfish (31%), fresh fruits (14%), nuts (14%) and fish (6%) [5].

The high frequency of fruits as a trigger is unsurprising. Fresh fruits (specifically in the context of a LTP allergy) are a very frequent allergy in the Mediterranean [6]. They are the most frequent foods associated with food allergy in this region[6]. The prevalence of sensitization to *Pru p 3* in Spain is 11% of the adult population and 22% of children; with approximately half of them showing clinical symptoms [6].

2. Case History

We report a case of a 39-year-old woman, who developed anaphylaxis after ingestion of a peach juice.

Neuro-psychiatric History: Beginning in 2010, the patient presented with anhedonia, sadness, insomnia, anorexia and weight loss (7 Kg within 2 weeks). She was hospitalized and diagnosed with severe depression, borderline personality disorder and multiple sclerosis. Between 2014 and 2016, she exhibited fast deterioration. She had 10 emergency department visits for suicidal thoughts and/or tendencies and 5 hospitalizations in a psychiatric department for stabilization and therapeutic adjustment.

Allergological History: In 2000, 15 minutes after eating a fresh peach, the patient developed generalized urticaria, generalized pruritus, and face, hand and feet angioedema. In the Emergency Department she was treated with iv corticosteroids and iv anti-histamines with a complete resolution of symptoms. During the following three years, similar episodes occurred whenever the patient ate peaches, plums, cherries and peanuts. She was then referred to an Immunoallergy appointment. During the first two consults, a sensitization profile compatible with a LTP Syndrome was identified (Tables 1 and 2). An appropriate dietary plan was provided, and emergency medication was prescribed.

Allergen	Papule diameter	Allergen	Papule diameter
Saline	0 mm	Tree mix (‡)	0 mm
Histamine	8 mm	Dog	0 mm
<i>D. pteronyssinus</i>	0 mm	Cat	0 mm
<i>D. farinae</i>	0 mm	<i>Alternaria spp.</i>	0 mm
Grass mix (*)	0 mm	<i>Aspergillus spp.</i>	0 mm
<i>Parietaria spp.</i>	0 mm	Plum	6 mm
<i>Artemisia spp.</i>	0 mm	Cherry	4 mm
Olive tree	0 mm	Apple	4 mm
Plane tree	0 mm	Peach	8 mm
Grass mix II (†)	0 mm	Strawberry	3 mm

Table 1: Skin prick tests results. (*) – Agrostis spp, Anthoxanthem spp, Dactylis glomerata, Festuca spp, Phleum pratense; (†) – Artemisia vulgaris, Chanepodium spp, Plantago spp, salsola spp, Taraxacum spp; (‡) – Cipressus spp, Platanus spp, Quercus spp, Populus spp.

Allergen	SIgE	Allergen	SIgE
Peach	4.6 Ku/L	Peanut	0.4 Ku/L
Strawberry	0.6 Ku/L	Nut	0 Ku/L
Apricot	0 Ku/L	Hazelnut	1.3 Ku/L
Cherry	2 Ku/L	Almond	0 Ku/L
Plum	3 Ku/L	Cashew	0 Ku/L
Apple	2.9 Ku/L	Pistachio	0 Ku/L

Table 2: Specific IgE (SIgE) results

However, the patient abandoned the follow-up after the 2 consults.

Current Episode: After her last discharge from the Psychiatric Department, the patient stopped taking her medication and had progressive worsening. She began verbalizing suicidal thoughts to her family, and eventually ingested a commercial peach juice she knew would elicit an allergic reaction. Minutes after the ingestion, she developed generalized urticaria, face, hand, and feet angioedema and wheezing. She was taken to the Emergency Department where the attending physician detected bronchospasm and a peripheral oxygen saturation below 90%. At this time, the patient also confirmed to the physician that she had taken the peach juice to attempt suicide. The patient was medicated with im epinephrine 0.5mg; iv methylprednisolone 40mg, hydrocortisone 200mg, clemastine 2mg; and inhaled beclometasone 500mcg, salbutamol 400mcg and ipratropium bromide 160mcg. After stabilization, the patient was hospitalized in our Immunoallergology Department. She required iv and inhaled therapy for the following three days, during which fluctuant respiratory symptoms and desaturation still occurred. On the fifth day, she was stable and transferred to the Psychiatric Department for follow-up.

3. Discussion

Food anaphylaxis is a common cause of anaphylaxis [1,3,4]. Identification of the trigger is essential to prevent further re-exposure [1]. Published evidence frequently mentions accidental exposures: accidental ingestion, contamination, the presence of occult allergens and labelling errors [2,7-10]. Intentional contact with the allergen as a form of achieving self-harm is rarely reported.

A review of published data suggests the use of anaphylaxis as a means of achieving self-harm is extremely rare. Few reports exist describing the use of drugs or food in this manner [11-15].

Focusing on foods, Ellis and colleagues [16] described the case of a 24-year-old man with peanut allergy and severe depression for which he was hospitalized in a Psychiatric Department. While hospitalized, he prepared and ingested a peanut butter sandwich to attempt suicide.

A second case is reported by Sterzik and colleagues [17]: a 31-year-old man with a fish allergy, severe depression and reports of expressing to other people a desire to buy fish to commit suicide. He was found dead with two partially eaten canned fish containers next to him. The autopsy revealed anaphylaxis as the likely cause of death. Finally, a third paper, by Ross and colleagues, describes a 24-year-old woman who ingested peanut butter to attempt suicide [14].

Our report, in line with the ones just mentioned, details a patient with depression, suicidal tendencies and an understanding of the severity of her food allergy. Patients with severe allergies and concomitant severe depression pose a difficult dilemma. The guidelines recommend patients with severe allergic reactions be educated about their allergy, the severity, and elaboration of a written emergency plan [1]. In an unwanted way, this also educates the patient on an “easy way” to commit suicide. Nowadays, the easy access to different foods makes it impossible to prevent patients from finding the culprit food.

Defining an approach to these patients is challenging. They should have a very careful follow-up, both by allergologists and psychiatrists. They should both determine how best to educate the patient about their allergy. Clinicians need to assess whether these patients with severe allergies and suicidal tendencies contemplate provoking anaphylaxis as a means of self-harm. A careful follow-up by a psychiatrist and attention to warning signs is essential.

Another important point is that the true prevalence of these cases is not known. Similarly to anaphylactic reactions in general, they may be underreported (i.e. may be reported to be accidental by the patient in an effort to avoid psychiatric hospitalization and stigma). For this reason, it is important to report these cases.

Author Contribution

João Marcelino: reviewed medical records, provided medical care and drafted the manuscript. Manuel Ferreira: provided medical care and reviewed the manuscript. Fátima Duarte: provided medical care and reviewed the manuscript. Marta Neto: provided medical care and reviewed the manuscript. Ana Costa: reviewed the manuscript.

Conflicts of Interest

None declared.

References

1. World Allergy Organization Guidelines for the Assessment and Management of Anaphylaxis. *World Allergy Organ J* 4 (2014): 13–37.

2. Boden SR, Wesley Burks A. Anaphylaxis: a history with emphasis on food allergy. *Immunol Rev* 242 (2011): 247-257
3. Tejedor-Alonso M A, Moro-Moro M, Múgica-García MV. Epidemiology of anaphylaxis: Contributions from the last 10 Years. *J Investig Allergol Clin Immunol* 25 (2015): 163-175.
4. Panesar SS, Javad S, de Silva D, Nwaru BI, Hickstein L, Muraro A, et al. The epidemiology of anaphylaxis in Europe: a systematic review. *Allergy* 68 (2013): 1353-1361.
5. Mota I, Pereira AM, Pereira C, Tomaz E, Ferreira MB, Sabino F, et al. [Approach and Registry of Anaphylaxis in Portugal]. *Acta Med Port* 28 (2015): 786-796.
6. Matricardi PM, et al. EAACI Molecular Allergology User's Guide. *Pediatr Allergy Immunol* 2016.
7. Añibarro B, Seoane FJ, Múgica MV. Involvement of hidden allergens in food allergic reactions. *J Investig Allergol Clin Immunol* 17 (2007): 168-172.
8. Nanagas VC, Baldwin JL, Karamched KR. Hidden Causes of Anaphylaxis. *Curr Allergy Asthma Rep* 17 (2017): 44.
9. Comité Nacional de Alergia. [Food allergy in children: recommendations for diagnosis and treatment]. *Arch Argent Pediatr* 116 (2018): s1-s9.
10. Armentia A, Pineda F, Martín B, San Miguel A, Martín Gil FJ, Puente Y, et al. Anaphylaxis caused by hidden soybean allergens in pillows. *J Allergy Clin Immunol* 131 (2013): 228-230.
11. Xu YS, Kastner M, Harada L, Xu A, Salter J, Wasserman S. Anaphylaxis-related deaths in Ontario: a retrospective review of cases from 1986 to 2011. *Allergy Asthma Clin Immunol* 10 (2014): 38.
12. Templeton BB: Suicide by anaphylaxis attempted with penicillin. *J Am Med Assoc* 192 (1965): 264.
13. Oliva A, De Giorgio F, Arena V, Fucci N, Pascali VL, Navarra P. Death due to anaphylactic shock secondary to intravenous self-injection of Toradol: a case report and review of the literature. *Clin Toxicol (Phila)* 45 (2007): 709-713.
14. Ross LM, Dunn TM, Lozano A. Suicide attempt by anaphylaxis. *Psychosomatics* 57 (2016): 226-227.
15. Kőlves K, Barker E, De Leo D. Allergies and suicidal behaviors: a systematic literature review. *Allergy Asthma Proc* 36 (2015): 433-438.
16. Ellis AK. Deliberate ingestion of peanut as a suicide attempt. *Can J Psychiatry* 49 (2004): 708.
17. Sterzik V, Drendel V, Will M, Bohnert M. Suicide of a man with known allergy to fish protein by ingesting tinned fish. *Forensic Sci Int* 2012: 221.

Citation: João Marcelino, Manuel Branco Ferreira, Fátima Cabral Duarte, Marta Neto, Ana Célia Costa. Suicide Attempt by Anaphylaxis – Case Report. *Archives of Microbiology & Immunology* 2 (2018): 053-057.



This article is an open access article distributed under the terms and conditions of the [Creative Commons Attribution \(CC-BY\) license 4.0](https://creativecommons.org/licenses/by/4.0/)