Allergologia et immunopathologia
Sociedad Española de Inmunología Clínica, Alergología y Asma Pediátrica
www.all-imm.com

LETTER TO THE EDITOR/CORRESPONDENCE

OPEN ACCESS

# Phaseolus vulgaris anaphylaxis

**Hacer Efnan Melek Arsoy[a], Öner Özdemir[b]***

[a]*Department of Pediatrics, Sakarya University Medical Faculty, Sakarya Training and Research Hospital, Adapazarı, Sakarya, Türkiye*
[b]*Division of Allergy and Immunology, Department of Pediatrics, Research and Training Hospital of Sakarya, Sakarya University, Medical Faculty, Adapazarı, Sakarya, Türkiye*

Received 21 February 2025; Accepted 1 March 2025
Available online 1 May 2025

**KEYWORDS**
bean;
anaphylaxis;
oral allergy syndrome;
food allergy;
hypersensitivity

Dear Editor,
I have read the article titled "Anaphylaxis due to green beans (Phaseolus vulgaris): a new phenotype?" by Rivero et al. with great interest.[1] However, there are a few questions that have arisen in my mind as a result of the information on food allergy and related issues provided in this case report. Clarification of these questions would help to better understand this case report.

First, the most common causes of anaphylaxis are incorrectly listed in the etiology mentioned in the abstract and in the text of the article. Insect venom allergies are no more common than drug allergies in Spain as in the rest of the world.[2] Even the references cited in the text list food, drugs, and stinging insects as the top three causes of anaphylaxis, with insect venom allergy ranking third.[3]

Similarly, the fact that the most common causes of food allergy were mentioned without giving the name of the country caused confusion, because legume allergy is not seen in other countries as frequently as it is seen in Spain. Unlike the rest of the world, legume allergy is the fifth most common cause of food allergy in Spanish children.[4] As for other countries, this order is cow's milk, eggs, peanuts/tree nuts, soy, fish/shellfish, and wheat.[5]

Second, the SDS-PAGE/IgE (sodium dodecyl sulfate-polyacrylamide gel electrophoresis/immunoglobulin E)-western blot analysis showed that some proteins of 25-75 kDa were allergenic in raw beans but not detected in cooked beans and a different protein of 10 kDa appeared after cooking in the case.[1] Does this suggest that cooking can make some foods allergenic? This is not discussed in this article.[1]

Different food processing activities, for example, thermal denaturation, acidification, and fermentation, might extinguish allergens, cause conformational changes, or give rise to new sensitizing epitopes, all of which might augment the allergenicity of the food proteins.[6]

***Corresponding author**: Öner Özdemir, MD, Division of Allergy and Immunology, Department of Pediatrics, Faculty of Medicine, Sakarya University, Research and Training Hospital of Sakarya. Adnan Menderes Cad., Sağlık Sok., Adapazarı, Sakarya, Türkiye. *Email address*: onerozdemir@sakarya.edu.tr

https://doi.org/10.15586/aei.v53i3.1341

Third, despite 4 years of immunotherapy, her specific IgE value against olive pollen is still above 100 ISU-E (ISAC Standardized Units for IgE).[1] This suggests that this type of pollen, which most frequently cross-reacts with legumes, may result in oral allergy syndrome, also known as pollen-food syndrome, and eventually anaphylaxis.[4]

Because of the known cross-reactivity in this case, these symptoms and anaphylaxis may have developed due to oral allergy syndrome. In fact, the symptoms that the patient has when entering anaphylaxis are very similar to those of oral allergy syndrome, including itching of the tongue and pharynx, chest and neck, diffuse heat and obnubilation, edema of the eyelids, lips, and tongue, and more. Although oral allergy syndrome is mentioned in the article, it is not discussed in this specific case.

As mentioned in the literature, people with oral allergy syndrome may develop anaphylaxis and are at risk for developing anaphylaxis.[7,8] Therefore, the anaphylaxis in this case presented in the article appears to be due to oral allergy syndrome.

Minor point: I think it was overlooked that in an English article,[1] In Figure 1 by Rivero et al., descriptions are given in Spanish because the authors are also Spanish.[1] For example *cacahuete* is Spanish for peanut and *nuez* for walnut.

In conclusion, I would like to thank the authors for this good quality case report of bean allergy and the opportunity to discuss its clinical implications.

## Acknowledgments

None.

## Authors' Consent for Publication

All authors approved the submission.

## Authors Contributions

HE Melek Arsoy and Öner Özdemir wrote this letter.

## Conflicts of Interest

None.

## Funding

None.

## References

1. Rivero EM, Castaño MP, Romero IMD, Martínez MJM, Losa FP. Anaphylaxis due to green beans (Phaseolus vulgaris): A new phenotype? Allergol Immunopathol (Madr) 2025;53(1):8-11. https://doi.org/10.15586/aei.v53i1.1176
2. Poowuttikul P, Seth D. Anaphylaxis in children and adolescents. Pediatr Clin North Am 2019;66(5):995-1005. https://doi.org/10.1016/j.pcl.2019.06.005
3. Bilò MB, Martini M, Tontini C, Corsi A, Antonicelli L. Anaphylaxis. Eur Ann Allergy Clin Immunol 2021;53(1):4-17. https://doi.org/10.23822/EurAnnACI.1764-1489.158
4. Ibáñez MD, Martínez M, Sánchez JJ, Fernández-Caldas E. Reactividad cruzada de las legumbres [Legume cross-reactivity]. Allergol Immunopathol (Madr) 2003;31(3):151-161.
5. Ochfeld EN, Pongracic JA. Food allergy: Diagnosis and treatment. Allergy Asthma Proc 2019;40(6):446-9. https://doi.org/10.2500/aap.2019.40.4268
6. Lopata A. Allergenicity of food and impact of processing. In: J Ahmed, HS Ramaswamy, S Kasapis, JI Boye, eds. Novel food processing: Effects on rheological and functional properties. Electro-Technologies for Food Processing Series. Boca Raton, FL: CRC Press, 2010; 459-478.
7. Ando K, Watanabe D, Tamada Y, Matsumoto Y. Oral allergy syndrome with severe anaphylaxis induced by pistachio. Int J Dermatol 2011;50(5):632-633. https://doi.org/10.1111/j.1365-4632.2009.04406.x
8. Skypala IJ. Can patients with oral allergy syndrome be at risk of anaphylaxis? Curr Opin Allergy Clin Immunol 2020;20(5):459-64. https://doi.org/10.1097/ACI.0000000000000679