



Letter

Gastroesophageal hymenoptera stings add to causes of idiopathic anaphylaxis

Identification of the elicitor of an allergic reaction is crucial to permit an appropriate risk assessment and future avoidance strategies. However, in some cases it is difficult to detect the relevant trigger of anaphylaxis. Hidden or previously unconsidered allergens have to be ruled out carefully before a diagnosis of idiopathic anaphylaxis is made.¹ Hymenoptera stings are not routinely considered to be a cause of unexplained anaphylaxis because they are perceived as markedly painful and can straightforwardly be recalled by the affected person.

A 27-year-old woman unexpectedly developed generalized wheals and facial angioedema approximately 20 minutes after drinking orange juice from an opaque bottle that had been left open and unattended during summertime. She subsequently experienced difficulties in swallowing, arterial hypotension, nausea, and vomiting. When examining her vomit, she found a dead yellow-jacket she had not been aware of swallowing or of being stung by. She remained conscious and did not experience respiratory distress. Her clinical situation improved immediately after emergency treatment by the local physician on call. She was known to have controlled asthma due to dust mite allergy but was otherwise healthy and had previously tolerated a number of honeybee and yellowjacket stings, the last of which dated back several years. This was her first episode of anaphylaxis.

Allergologic workup was performed 5 months after the anaphylactic episode according to international guidelines.² The results of intradermal skin tests with *Vespula* venom (ALK-Abelló, Wedel, Germany) were positive at 0.01 $\mu\text{g/mL}$, and the level of allergen specific IgE to both *Vespula* venom (7.91 kU/L) and its recombinant major allergen rVes v 5 (26.8 kU/L) was found to be significantly elevated using the ImmunoCAP method (Phadia, Uppsala, Sweden). The serum total IgE level was 216 kU/L (reference range, <100 kU/L), and the baseline serum tryptase level was within the reference range (2.73 $\mu\text{g/L}$; reference range, <11.4 $\mu\text{g/L}$). Sensitization to honeybee venom was ruled out by negative skin and serologic IgE test results. There was no evidence of food allergy, and orange juice was repeatedly consumed without any symptoms after the anaphylactic episode. After diagnosis of

Vespula venom allergy, venom immunotherapy was recommended, and our patient was instructed to carry an emergency kit for self-administration.

How can a mucosal sting pass unnoticed by a healthy 27-year-old? Whereas the oral cavity and upper esophagus possess somatic mucosal innervation, visceral afferent activity from the distal esophagus and stomach does not reach higher brain centers and may not be consciously perceived.³ After its ingestion within a bolus of liquid, the insect was presumably flushed down at least to the midesophagus before getting a chance to sting. As a result, systemic anaphylaxis developed without any perception of being stung. Proximal esophageal Hymenoptera stings have occasionally been reported as a cause of local pain and swelling.^{4,5} There are currently no reports of painless deep esophageal or gastric Hymenoptera stings, which are likely to pass unnoticed if not in the context of a systemic anaphylactic reaction and may easily be ignored even if anaphylaxis occurs. Without discovery of a vomited yellowjacket, the cause of anaphylaxis would have remained obscure in this patient, and a misdiagnosis of idiopathic anaphylaxis might have been made. After exclusion of food allergy, esophageal insect stings should be considered when an unexplained anaphylactic episode occurs after open-air consumption of food or drinks during insect season.

Johanna Stoevesandt, MD

Natalie Grundmeier, MD

Axel Trautmann, MD

Department of Dermatology, Venereology, and Allergology

University of Würzburg

Würzburg, Germany

Stoevesandt_J@klinik.uni-wuerzburg.de

References

- [1] Simons FE. Anaphylaxis. *J Allergy Clin Immunol*. 2010;125(2 suppl 2):S161–S181.
- [2] Golden DB, Moffitt J, Nicklas RA, et al. Stinging insect hypersensitivity: a practice parameter update 2011. *J Allergy Clin Immunol*. 2011;127:852–854, e1–e23.
- [3] Brock C, Arendt-Nielsen L, Wilder-Smith O, Drewes AM. Sensory testing of the human gastrointestinal tract. *World J Gastroenterol*. 2009;15:151–159.
- [4] Farivar M. Bee sting of the esophagus. *N Engl J Med*. 1981;305:1020.
- [5] Kessler P, Schoenemann J. Unusual summertime foreign body in the esophagus. *Endoscopy*. 1999;31:S24.

Disclosures: Authors have nothing to disclose.