Einheit für klinische Allergologie (EKA)

Highlights / Publications:

(A) Blank S, Pehlivanli S, Methe H, Schmidt-Weber CB, **Biedermann T**, Horny HP, Kristensen T, Amar Y, Köberle M, Brockow K, Stömmer PE. Fatal anaphylaxis following a hornet sting in a yellow jacket venom-sensitized patient with undetected monoclonal mast cell activation syndrome and without previous history of a systemic sting reaction. J Allergy Clin Immunol Pract. 2019 Jul 3. pii: S2213-2198(19)30593-8.

(B) **Zink A,** Schuster B, Winkler J, Eyerich K, Darsow U, Brockow K, Eberlein B, **Biedermann T**. Allergy and sensitization to Hymenoptera venoms in unreferred adults with a high risk of sting exposure. World Allergy Organ J. 2019; 12: 100039

Work (B) was awarded with the prize “Spezifische Immuntherapie” by the Deutsche Gesellschaft für Allergologie und klinische Immunologie (DGAKI)

PSP Element:
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Keywords:
allergies; anaphylaxis; environmental factors; prevalence; unmet need

Central statement of the highlight in one sentence:
Combining laboratory research with clinics and epidemiology

Text of the highlight:
Hymenoptera venom allergy can be fatal and thus requires a meticulous follow-up and risk assessment for future severe sting reactions, especially in highly exposed individuals. It is therefore essential to understand the prevalence of Hymenoptera venom sensitization and allergies as well as associated IgE sensitization profiles in individuals with a high risk of hymenoptera sting. Both manuscripts assess several laboratory values including tryptase, total IgE and IgE to honey bee and wasp venom as well as their recombinant allergens. The epidemiologic paper further gives Odd Ratios for sensitization and anaphylaxis for different allergens. Of 257 participants, 50.2% showed a sensitization to honey bee venom (i1), and 58.4% showed sensitization to wasp venom (i3). A total of 98.4% of participants claimed to have been stung at least once. Anaphylaxis was reported in 18.7%, and a local sting reaction was reported in 18.3%. The highest sensitization rates were found for whole venom extracts, sensitization to any of the available recombinant allergens exceeded sIgE levels to honeybee venom (i1) in 28.5% and to wasp venom (i3) in 52.9% of participants. Participants with a history of more than 5 stings showed a higher risk for anaphylaxis. This highlights that sensitization to Hymenoptera venom and their recombinant allergens are present in the majority of the investigated individuals with outdoor activities. Furthermore, sensitization to distinct recombinant allergens does not necessarily affect the severity of sting reactions including anaphylaxis. A meticulous medical history of the number of previous stings as well as systemic reactions remains essential, as shown in the fatal anaphylaxis case described in the publication (A) above.

Taking account of the HMGU mission:
Combining individualized clinical and laboratory assessment with epidemiology to understand the pathogenesis allergic diseases in order to lower the burden of allergies.

The internal HMGU co-operation partners with whom the highlight was compiled, if appropriate:
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