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Review and Feature Article

Stinging Insect Allergy: State of the Art 2015

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CME Exam: Stinging Insect Allergy: State of the Art 2015

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Stinging insect allergy is responsible for more than 10% of all cases of anaphylaxis. The potential culprit insects are diverse and vary with geography. The incidence of insect allergy is declining in some areas and increasing in others, possibly due to effects of climate change, introduction of species into new areas, outdoor recreational activities, and movement of human populations that brings insects into contact with a greater number of people. Flying Hymenoptera and imported fire ant stings are responsible for the majority of patients evaluated for insect anaphylaxis. The most efficient means of identifying allergy to insects is skin testing although falsely positive and negative results occur. The limitations of testing coupled with the natural temporal variability of allergic sensitivity complicate the interpretation of test results. The clinical history is of paramount importance to be certain that the test results are relevant; therefore, screening or testing before a history of a sting reaction is not advisable. Mast cell disorders are associated with severe anaphylaxis from insect stings and should be considered in affected subjects. Insect immunotherapy, using venoms for most insects and whole-body extracts for imported fire ants, is proven effective in reducing the likelihood of anaphylaxis due to subsequent stings from 40%–60% to less than 5%. Future clinical application of component testing or *in vitro* cellular tests, such as the basophil activation test, may improve optimal choices for immunotherapy.

Key words

Insect; Allergy; Stinging; Venom; Anaphylaxis; Systemic; Immunotherapy

Abbreviations used

IFA, Imported fire ant; VIT, Venom immunotherapy

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Article outline

Key words

Abbreviations used

Phylogeny

Venom Characteristics

Clinical Assessment: History

Clinical Assessment: Testing

Treatment

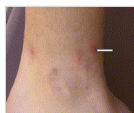
Summary

References

Figures and tables

Conflicts of interest: D. K. Ledford has received travel support from the American Academy of Allergy, Asthma & Immunology, as a member of the Joint Council of Allergy Asthma and Immunology; has received consultancy fees from Genentech and GlaxoSmithKline; is employed by the Veterans Administration, University of South Florida Morsani College of Medicine, and the Academic Allergy Asthma and Immunology Associates of Tampa Bay; has provided expert testimony from Shook Hardy Bacon, Saieva and Stine, Richard Benjamin Wilks, Fowler White Burnett, and Burr Murman & Tonelli; has received research support from Chugai Data Safety, as a board member, Forest Pharmaceuticals, Merck, Circassia, Teva, and Genentech; has received lecture fees from Meda Pharmaceuticals, Genentech, Novartis, Merck, AstraZeneca, and Teva; has received payment for manuscript preparation from Genentech; has a patent through

[Table I](#)
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University of South Florida; receives royalties from UpToDate, Springer, and Informa; and has received payment for developing educational presentations from Novartis and Current Views in Allergy Asthma and Immunology, Regents University. M. S. Tankersley declares that he has no relevant conflicts.

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