

عنوان مقاله:

Study of Human IgG and IgE Antibodies Against Bee (*Apis mellifera*) Venom

محل انتشار:

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نویسندگان:

Sedigheh Nabian - *Section of Honey Bee, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran*

Mohammad Taheri - *Rastegar Reference Laboratory, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran*

Mina Babai - *Graduated from the Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran*

Parastoo Yousefi - *Rastegar Reference Laboratory, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran*

Abbas Gerami Sadeghian - *Section of Parasitology, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran*

Zahra Asadollahi - *Section of Parasitology, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran*

Ramin Mazaheri Nezhad Fard - *Division of Food Microbiology, Department of Pathobiology, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran*

خلاصه مقاله:

BACKGROUND: Bee venom contains various biomolecules, such as enzymes, peptides, and amines. The immune system produces IgG antibodies against bee venom proteins. However, IgE antibodies may also be developed in allergic individuals. **OBJECTIVES:** In this study, immune responses, including IgG and IgE reactions to bee venom were assessed in various individuals, using the immunoblotting technique. **METHODS:** Serum samples were collected from 20 people of three major groups, namely beekeepers, allergic individuals, and normal people. Venom samples of honey bees and wild bees were collected from the suburbs of Tehran, Iran. Furthermore, commercial honey bee venom samples extracted from *Apis mellifera* and samples of wild bees extracted from *Polistes* and *Vespula* were purchased from France. Immunoblotting was carried out using the sera of subjects and anti-human IgG and IgE coupled to horseradish peroxidase. **RESULTS:** The results of sodium dodecyl sulfate-polyacrylamide gel electrophoresis showed similar protein bands in Iranian and European honey bee venoms, including α -glucosidase (170 kDa), Api m (100 kDa), acid phosphatase (49 kDa), hyaluronidase (43 kDa), phospholipase A2 (17 kDa), and melittin (2 kDa). In wild bees, two bands were found with the molecular weights of 35 and 25 kDa belonging to antigen 5 and phospholipase A1, respectively. These were not observed in honey bee venoms. Immunoblot analysis revealed that all the mentioned proteins were immunogenic and allergenic in different individuals. Hyaluronidase, as well as phospholipases A1 and A2, were the major allergens in most individuals, while IgE reaction to melittin was only reported in one person. **CONCLUSIONS:** In conclusion, studies on antibodies against bee venoms can be useful in immunotherapy. Different people indicated distinct allergenic patterns. Therefore, further similar assays are recommended before, during, and after immunotherapy.

کلمات کلیدی:

Apis mellifera, Bee venom, IgG, IgE, Polistes, Vespula

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