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Immunochemical characterization of venom of *Apis dorsata* Fabricius (*Bambara*) in Sri Lanka (Hymenoptera; Apidae)

Gunasekara DLPE[1], De Silva NR[2], Handunnetti SM[1], Dias RKS[4], Witharana EWRA[5], Dasanayake WMDK[2], Premawansa S[3]

[1]Institute of Biochemistry, Molecular Biology and Biotechnology (IBMBB), University of Colombo, [2]Department of Immunology, Medical Research Institute, Colombo 08, [3]Department of Zoology, Faculty of Science, University of Colombo, [4]Depatment of Zoology and Environmental Management, Faculty of Science, University of Kelaniya, [5]Base Hospital, Deniyaya

The increasing frequency of reported anaphylaxis in patients due to *Apis dorsata* stings and lack of immunochemical knowledge of the venom of *A. dorsata* in Sri Lanka essentially demand the immunochemical characterization of its venom. This preliminary study aims to characterize the venom profile of *A. dorsata* workers and determine cross reactivity of the serum IgE in patients who were stung by *A. dorsata,* with *A. mellifera* (Western honey bee) venom. A novel method, electrical stimulation of woker bees, was carried out for the first time in Sri Lanka enabling the extraction of venom without killing the bees and with fewer contaminations. Eighteen out of 21 protein bands resulted from SDS-PAGE were analogous to molecular weights of proteins identified for *A. mellifera* venom. Western blot with 16 patients' sera (9 anaphylaxis, 7 mild anaphylaxis) resulted in 3 bands, a doublet of 30 kDa and 31 kDa, possibly phospholipase A_2 identified with all patients' sera and a 3rd band of 40 kDa, possibly hyaluronidase identified in 4 patients who had severe reactions. Similar Western blot pattern was seen with patients' sera using *A. mellifera* venom. Intensity of resulting bands increased with the severity of allergic status in the patient. Phadia immunocap resulted in geometric mean value of 2.465*/4.884 KU_A/L of venom specific IgE level in 16 patients. High levels of venom specific IgE in the patients' sera were shown in more severe patients. This data suggest the presence of IgE against *A. dorsata* that cross react with *A. mellifera* venom components which indicate the possibility of using *A. mellifera* venom for immunotherapy for protection against *A. dorsata* stings and use of Phadia immunocap as an *in vitro* diagnostic method for *A. dorsata* bee venom allergy in Sri Lanka.

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