Indigenous Allergens in Saudi Arabia: Efficacy of Diagnostic Kits

Abstract Text

Background: In order to diagnose allergic patients with more relevant allergenic species which they are directly exposed to, indigenous species were collected and prepared commercially along with other allergens under a collaborative project with M/s Immunotek, Madrid, Spain. These allergens were tested in allergic patients in the region to evaluate the efficacy and reactivity.

Method: A total of 30 allergenic extracts with 50% indigenous species were included in the Diagnostic Panel. These allergenic species were selected after comprehensive aerobiological studies in many parts of the country and their growth and availability in the region. Glycerinated extracts were prepared by Inmunotek under a brand name of Allergotek. Standard prick tests with histamine and saline controls were conducted on 541 allergic individuals in the Middle East and Africa. The method is considered to be convenient and economical providing nature of sensitizing allergen(s) and an opportunity for a possible successful immunotherapy.

Results: A total positive reactions for all allergens (Mild, Moderate and Severe) were recorded; Jeddah 1123 (n=194) Riyadh 731 (n=108), Dammam 478 (n=103, Khamesh 244 (n=40), Hofuf 163 (n=40) UAE 53 (n=6) and Sudan 397 (n=50). An overall reactivity pattern of 41% (1273 positives) was recorded with outdoor allergens and 59% (1916 positives) with indoor allergens. Maximum combined reactivity with pollen allergens for all sites were recorded with *Cynodon dactylon (11.8%), Chenopodium murale (10.8%), Phoenix dactylifera (10%) Salsola imbricata (9.2%) Prosopis juliflora (8.9%)* and *Lolium perenne (8%).*The maximum indoor allergens reactivity was recorded *with D. farinae (15.7%), D. pteronyssinus (15.7%), Felis domesticus (12.5%) Periplaneta americana (10.4%), Blatella germanica (9.7%)* and *Blatta orietalis (8.4%).*

Conclusions: The results of this efficacy trial of indigenous allergens revealed that majority of these allergens were effective with moderate to severe reactions. Asthmatic and allergic individuals were found to be comparatively more sensitive to indoor allergenic species than the outdoor allergens. While the cultural habits and climate appear to have played a role, socioeconomic conditions did not influence the overall sensitization pattern. It is further suggested that, if possible, regional species and/ or allergenic material should be included in the diagnostic test panel.

Abstract Authors
Hasnain, S.M., King Faisal Specialist Hospital and Research Centre, Biological and Medical Research, Riyadh, Saudi Arabia (Presenting); **Al-Frayh, A.R., College of Medicine King Saud University, Pediatric Department, Riyadh, Saudi Arabia;** Subiza, J.L., Immunotek Madrid, Allergy and Immunology Department, Madrid, Spain; Al Sedairy, S.T., King Faisal Specialist Hospital and Research Centre, Biological and Medical Research, Riyadh, Saudi Arabia.

World Allergy Organization Congress, December 2-6, 2007 Bangkok, Thailand
Accepted for Publication.