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Assessment of the pattern of aeroallergen sensitization among patients suffering from airway allergy

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Background: Prevalence of airway allergic disorder is increasing worldwide and varies in different geographical locations.

Objective: This study was performed to detect the pattern of aeroallergen sensitization among patients suffering from allergic asthma and allergic rhinitis who are undergoing allergy skin prick test for detection of aeroallergen sensitization at an allergy clinic at King Khalid University Hospital, Riyadh.

Methods: A total of 113 patients suffering from airway allergic disorder undergoing allergy skin prick testing in the Allergy Clinic between December 2012 and March 2014 were included in the study. This group of patients included 63 (55.8%) females and 50 (44.2%) males with the mean age of 37+13 years.

Results: The most frequently occurring sensitizing allergens in descending order were Cat in 54 (47.8%), *Salsola* in 40 (35%), Mesquite in 29 (26%), Bermuda grass in 26 (23%), Cockroach in 23 (20.4%), *Lolium* in 23 (20.4%) and House Dust Mite *Dermatophagoides farinae* (HDMF) in 22 (19%) patients. Skin prick test reactivity against Cat, *z*, Mesquite, Bermuda grass and *Lolium* exhibited a significant overlap and were frequently observed to co-exist in a sizable number of patients with airway allergy. Whereas no gender differences were evident for the pattern of skin reactivity, Cat and *Salsola* allergen reactivity was found to exhibit a seasonal variation.

Conclusion: High level of aeroallergen reactivity detected in the present study emphasizes the need for introduction and implementation of environmental control measures for avoidance of exposure to aeroallergens.

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Diagnosis of food allergy

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The prevalence of allergic diseases worldwide is rising dramatically in both developed and developing countries. These diseases include asthma, rhinitis, anaphylaxis, drugs, food and insect allergy, eccema and urticaria and angioedema. In spite of this increase, services for patients with allergic diseases are fragmented and far from ideal. Despite the obvious importance of allergic diseases, allergy is poorly taught in medical schools and during post-graduate medical education. Allergic disorders are heterogeneous and involve important gene-environmental interactions. Genetic factors that influence the expression of atopy are different from those that influence disease manifestations or its severity in specific organs. Epigenetic influences involving multiple mechanisms that explains a proportion of the gene-environmental interactions and trans-generational effects. Sensitization (IgE antibodies) to foreign proteins in environment is present in up to 40% of the populations. Such sensitization is strongly associated with exposure for proteins derived from pollens, moulds, dust mites and cockroaches. For asthma, rhititis and atopic eczema the association between disease and sensitization is strong, but in food, drug allergy and urticaria the implication of non-IgE mechanisms is present. The appropriate diagnosis strategies starts with a detailed study of patient's history, with a thorough examination of patient's symptoms and medical history and the proper studies have to confirm the diagnosis, determinate its immunological mechanisms and identify the causative allergen. Once the diagnosis has been established and relevant allergens have been identified, it is possible to prescribe targeted therapies such as allergen avoidance, allergen-specific immunotherapy and anti-IgE therapy.

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