

Specific IgE Assay for Respiratory Allergens in Patients with Atopy in Ahvaz, Iran

Maryam Moradi¹, Abbas Fayezi², Mana Momeni¹, Asyeh Javanian¹, Suzan Amini¹, Mohammad Shahrooei^{1,3*}

¹Specialized Immunology Laboratory of Dr. Shahrooei, Sina Medical Complex, Ahvaz, ²Department of Allergy and Clinical Immunology, School of Medicine, Ahvaz University of Medical Sciences, Ahvaz, Iran, ³Department of Microbiology and Immunology, Experimental Laboratory Immunology, KU Leuven, Leuven, Belgium

ABSTRACT

Background: The frequency of sensitization to respiratory allergens is different in various geographical regions. **Objective:** To determine the level of specific IgE to respiratory allergens in patients with atopy in Ahvaz, Iran. **Methods:** In this retrospective cross-sectional study, the total and specific IgE data were recorded for 408 patients with allergic rhinitis and asthma referred to allergy diagnostic laboratory in Ahvaz from 2014 to 2017. The specific IgE was measured for nine respiratory allergens including *Salsola kali*, *Triticum aestivum*, *Lolium perenne*, *Salix caprea*, *Prosopis juliflora*, *Dermatophagoides farinae*, *Aspergillus fumigatus*, *Alternaria alternate*, *Blatella germani* using the ImmunoCAP system (ThermoFisher-Phadia, Uppsala, Sweden) in referred patients. **Results:** The median (IQR) age of participants was 15.5(27) years. The most common outdoor aeroallergens were *Salsola kali* (42.9%), *Lolium perenne* (32.2%), and *Salix caprea* (28.2%) while *Dermatophagoides farinae* (21.1%) and *Blatella germanica* (20.6%) were the most dominant indoor sensitizers. Sensitization to at least one allergen was found in 57.4% of the patients. The prevalence of IgE sensitization to all respiratory allergens was higher in males. The prevalence of IgE sensitization to molds including *Aspergillus fumigatus* and *Alternaria alternata* significantly decreased with increased age. **Conclusion:** The pattern of allergen-specific IgE showed that *Salsola Kali* and *Lolium perenne* are the most common aeroallergens in allergic patients. This finding demonstrates the high frequency of IgE sensitization to outdoor allergens in the southwest of Iran.

Moradi M, et al. *Iran J Immunol.* 2018; 15(4): 294-301.

Keywords: Aeroallergen, Allergy, Immunology, Specific IgE

*Corresponding author: Dr. Mohammad Shahrooei, Specialized Immunology Laboratory of Dr. Shahrooei, Sina Medical Complex, Ahvaz, Iran, e-mail: mshahrooei@gmail.com