

Serum Level of Selenium, IL-4, IL-10 & IFN- γ in Patients with Allergic Asthma, Allergic Rhinitis and Healthy Controls

Reza Farid¹, Farahzad Jabbari Azad¹, Javad Gaffari¹, Alireza Rangbar², Zahra Nikjoy¹

¹Bu-Ali Immunology Research Center, Mashhad University of Medical Sciences, Mashhad, Iran, ²Koeln Immunology Research Center, Germany

ABSTRACT

Background: Allergic diseases have increased during the past decade worldwide. Th2 type lymphocyte response is known to play an important role in the process of allergic inflammation. IL-4, a mediator of type II cytokine response increases IgE synthesis and Interferon gamma, a cytokine of type I response interferes with IL-4 and inhibits IgE production. Selenium is an essential component of glutathione peroxides and changes in its plasma level has been proposed to be associated with allergic diseases. **Materials and Methods:** This study comprised of 21 cases of allergic asthma (AA), 33 cases of allergic rhinitis (AR) whose age and sex were matched with 28 healthy controls. IL-4, IL-10, IFN- γ levels were tested by ELISA assay, and serum selenium was measured by atomic absorption spectrophotometry method. **Results:** Mean serum selenium level of AA and AR groups were lower than controls. Mean serum IL-4 level of AA was higher than the AR group. Mean serum IL-4 level of AA and AR group were higher than controls. **Conclusion:** The results of this study indicate that low selenium level may have a role in the pathogenesis of allergic diseases.

Keywords: Allergic rhinitis, Eosinophilia, Prevalence

Corresponding author: Dr. Reza Farid-Hosseini, Department of Immunology Medical Sciences, Mashhad-Iran, Fax: +98 511 761 0681, e-mail: rfarideh@yahoo.com