

Role of T-cell in bronchial asthma

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Background & Aim: Bronchial asthma is an inflammatory airway disease characterized by infiltration of inflammatory cells into bronchial tree and increased airway hyperreactivity to various physical and chemical stimuli. T-cells play an important role in pathogenesis and inflammatory immune response in bronchial asthma. The aim of this study was to detect soluble Interleukin-2 receptors (sIL-2) serum levels, as marker of T lymphocyte activation *in vivo*, among bronchial asthmatic children.

Methods: The study was done at King Abdulaziz University Hospital from January 2015 to December 2015. 77 children were included and subdivided into three groups (acute asthmatic; chronic stable asthmatic and control (table 1, demographic data). After history and clinical examination, with acute asthma were classified into atopic and non-atopic groups. Blood sample was taken from all groups and sIL-2R was measured by ELISA technique.

Results: sIL-2R serum level was significantly elevated in acute and chronic asthmatic children versus controls (table 1). Meanwhile, in acute asthmatic, insignificant differences were recorded between different atopic states of the disease (table 2).

Conclusion: This study emphasize the role of T cells in asthma and suggest that regulation of their function may be important in the treatment of acute and stable asthmatic children as evident by elevated serum levels of sIL-2R

Keywords: T cell; Bronchial asthma; soluble interleukin-2 receptors

Table 1, Demographic Characteristics and soluble interleukin-2 receptors (sIL-2) of different studied groups

Item	Control group	Patients with acute asthma Number 30	Patients with chronic (stable) asthma
Age (years) mean P value	4.75±2.20 2.00-9.00	5.33±1.70 2.00-8.00 P >0.05	5.46±1.30 2.00-9.00 P >0.05 *P >0.05
Sex Number of male Number of Female P value	9(52.94%) 8 (47.06%)	16(53.33%) 14 (46.67%) P >0.05	17(56.66%) 13 (43.34%) P >0.05
sIL-2R (U/ml) mean range P-value	240.34±355.67 154.00-1252.00 P <0.001	705.00±1550.00 450.00-2854.00	308.00±570 154.00-1252.00 P <0.001 *P <0.001

Biography

Laila H. Damanhour is a PHD research Scholar at faculty of medical school, University of Nottingham (UK). Prior to Nottingham, she pursued Master of Immunology of infectious diseases from London school of hygiene and tropical medicine, London, UK. She graduated from Medical school from Ain Shams university at Cairo, Egypt. Currently, she is working in immunology department at applied medical science at King AbdulAZiz university, Jeddah. Saudi Arabia as associate professor. Her research interest to study the cytokines and its rule in pathogenesis of various disease including autoimmune diseases as Diabetes, SLE, AND Bronchial Asthma and Cancer.

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