Summary and Conclusion

Summary :

Bronchial asthma in children is a condition characterized by acute attacks of shortness of breath and wheezing associated with at least partially reversible airway obstruction.

Bronchial asthma is an inflammatory airway smooth muscle characterized by infiltration of inflammatory cells, into bronchial tree.

Asthma is characterised by the expression of mutiple inflammatory genes. Interleukin-10 (IL-10), Interleukin - 10 is an intrinsic antiinflammatory peptide , originally identified and cloned as cytokine synthesis inhibitory factor (CSIF) , which has major downregulatory influences on inflammation which have a role in lessining allergic inflammation through his ability to inhibit the synthesis of nonspecific proinflammatory cytokines such as IL-1 , IL-6 , tumor necrosis factor (TNF) - α and IFN-γ , as well as cytokines associated with allergic inflammation including IL-4 and IL-5. It was speculated that diminished IL 10 Production my contribute to develpment of asthma .

Production of IL-10 is, decreased in aveolar macrophages, peripheral blood mononuclear cells and serum of patient with asthma .

The aim of this study is to determine the serum level of IL-10 in children with bronchial asthma during asthma attacks and after treatment (after remissions) as well as its level in normal non-asthmatic healthy children in an attemp to find the contribution of IL-10 level in the development of asthma and the occurrence of acute exacerbations .

We select 35 child suffered of bronchial asthma (22 male, 13 female) with mean age (9.8 ± 2.1 years) visiting the allergy clinic. Also 15 age and sex matched healthy children were selcted as a control group (10 male 5 female). their mean age (10.07 ± 2.15 years). All patients and control were subjected to the following:

1- Full history taking.

2- Physical examination.

3- Peak expriatory flow rate recording (PEFR)

4- Chest radiography.

5- Allergy skin testing.

6- Laboratory investigations including determination of serum level of IL-10 by ELISA.

Results of this study revealed that serum level of IL-10 was significantly reduced in asthmatic childrens during attacks than after remissions .

The serum level of IL-10 was also significantly reduced during attacks than in healthy controls .

Also serum level of IL-10 after attack is increased but to a level lower than that in healthy controls.

The results of the present study reveal no significant correlations between serum level of IL-10 and other variables in asthmatic patients as age of the patients , duration of the disease , no. of attacks per year, no. of admissions per year, and no. of +ve skin prick testing results and PEFR during attack or after remissions.

Conclusion

Asthmatic children showed significant lower level of serum IL-10 during attacks as well as after remissions of asthma than healthy controls. We couldn't demonstrate significant correlations between serum level of IL-10 and severity of asthma or other studied factors as age of the patients, duration of the disease , no. of attacks per year, no. of hospital admissions per year, no. of +ve skin prick testing results and Peak expiratory flow rate recording during attacks or after remissions.

Decrease IL-10 production in asthmatic patients may contribute to development of asthma and occurrence of acute exacerbations.