Summary

Bronchial asthma is the most common chronic illness in pediatrics, and its prevalence is still increasing. This necessitates continuous evaluation of the medical services.

Our study aimed at determining the expression of CD20 on B-lymphocytes in asthmatic children.

The study included 30 children aged 2-12 years. Fifteen of them were suffering from bronchial asthma, 8 with non atopic asthma (4 males & 4 females) and 7 with atopic asthma (6 males & 1 female). The remaining 15 were healthy age and sex matched children taken as a control group. The children were recruited from Benha University Hospital, Benha Children Hospital & Benha Teaching Hospital from September, 2009 to November, 2009.

All the subjects were subjected to: full clinical history , complete physical examination & laboratory investigations : CBC, ESR, CRP , total IgE and flow cytometric study of CD20 on B-lymphocytes .

The sex distribution in our study revealed a statistically significant male predominance (66.7%). Also, our study showed that the atopic asthma group has significantly higher mean age than the non-atopic asthma group bur, that the sex difference between them is non-significant.

Our study showed that the most common complaints of our asthmatic patients were cough (100% in both the atopic & non-atopic types), wheeze (62.5 % in non-atopic asthma & 14.3 % in atopic

asthma), dyspnea (37.5 % in non-atopic asthma & 14.3 % in atopic asthma) and chest tightness (12.5 % in non-atopic asthma & 14.3 % in atopic asthma). We found no significant differences between the two asthma phenotypes as regards the different chest symptoms.

In our study, we found that serum IgE of the asthmatic children is significantly higher than that of the controls with highly significant increment in the atopic group when compared to the non-atopic one. Moreover, we found that the asthmatic children had eosinophil and monocyte counts significantly higher than those of the control group.

Our patients had a statistically significant decrement in their mean hemoglobin level when compared to the controls. Also, our asthmatic patients showed mean ESR and CRP levels significantly higher than those of the controls.

Our asthmatic children have mean CD20 expression significantly higher than that of the controls and 33.3% of them are CD20 positive while all the controls have negative CD20 expression.

Our results show that CD20 expression has significantly negative correlations with age and hemoglobin concentration. On the other hand, we found a significantly positive correlation between CD20 expression and the eosinophil count which has been reported to be correlated in a statistically significant manner with the clinical severity of asthma and lung function impairment.