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Title: Study of some inflammatory markers in children with moderate persistent bronchial asthma before and after therapy with inhaled corticosteroids

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Body: This study included 30 children 5-15 y with moderate persistent asthma without chronic pulmonary illnesses aiming at studying some inflammatory markers (sputum eosinophils, AEC, ECP, and TNF-~) in addition to FEV1/FVC ratio as an indicator of obstructive airway disease. The measurements were done 3 times for the patients and only once for the control group. The first sample was taken in both groups before start of therapy. The second was done after 3 mo of inhaled steroids ICS (after control of manifestations) and the third sample was taken with relapse either during or after complete withdrawal of ICS over 4 months. Pretreatment sample showed significantly higher levels of sputum eosinophis, AEC, ECP, TNF- ~, and FEV1/FVC compared to the control (P= 0.001 for each). Compared to the pretreatment values markers values except AEC decreased significantly after 3 mo of ICS (P= 0.001, 0.07, 0.001, 0.001, and 0.001 respectively). Relapse happened in 83% of the patients during withdrawal of the ICS therapy and was associated with significant increase in the levels of TNF-~ and sputum eosinophils in the third sample compared to the second sample (P= 0.02, and 0.045 respectively). We can conclude that non-invasive assessment of airway inflammation through measurement of some inflammatory markers is enough to monitor the children with bronchial asthma as inflammation is evidenced by increased levels of the these markers in those patients. ICS therapy is an effective tool against this inflammation. TNF-~ followed by sputum eosinophils are sensitive predictors of relapse in the children suffering from bronchial asthma.