SUMMARY

Asthma the commonest chronic illness of the population it is responsible for about 5-10% of school absenteeism.

The most recent definition: Asthma is a chronic inflammatory disorder of the airways in which many cells and cellular elements play a role. The chronic inflammation causes an associated increase in airway hyper responsiveness that lead to recurrent episodes of wheezing, breathlessness, chest tightness and coughing particularly at night or in the early morning. These episodes are usually associated with widespread but variable airflow obstruction that is often reversible either spontaneously or with treatment.

Airway remodeling is a heterogeneous process leading to changes in connective tissue deposition and to altered airways structure through a dynamic process of migration, differentiation, and maturation of structural cells. Several structural features are characteristically involved in airway remodeling in asthma. In the bronchi the sub epithelial basement membrane is of normal thickness, but thickening and an increase in the density of the lamina reticularis typically occur early in the disease process. This thickening is brought about by a plexiform deposition of interstitial

collagens I,III, and V and fibronectin produced by activated myofibroblasts, which themselves derive from the attenuated fibroblast sheath lying immediately beneath the epithelium. The observation that increased collagen deposition in the lamina reticularis occurs only in asthma suggests that this Change is a fundamental abnormality linked to pathogenesis of the disease. Many risk factors and trigger factor stimulate asthma. Diagnosis of asthma by clinical picture and laboratory investigation help to detect the category of asthma according to GINA 2002 which help us to prescribe the correct treatment and so help to control asthma well. The immune system act as a physiological barriers of the body, immune response can be inmate (natural, non adaptive or non specific) or adaptive (acquired or specific). The adaptive immunity is either-passive immunity which is transmitted by antibodies or lymphocytes performed in another host and the active immunity which is induced after contact with foreign antigens. The exact mechanism, factors and nature of allergic asthma immune response are still being defined. It is believed that symptoms are manifested because of Th2 mediated immune response. Provides a schematic representation of ligament involved in the regulation, recruitment and effector functions of Th2 cells. TARC is one of the chemokines which is protein in nature and defined by longing the D3A

gene from peripheral blood. TARC is closely related to macrophage-derived chemokine (MDC). It acts on the chemokine receptor CCR which is expressed on (PBMCs) and human T-cell lines but not on B cells, NK cells or granulocyte. TARC act as chemotaxis factor which is attract the polymorphonuclear leukocytes toward the irritant and inflammatory sites. In previous studies they found that TARC can be measured in sera and induced sputum of asthmatic and elevated than other control group also the TARC can be identified in endothelial biopsies from asthmatic patients.

In our study we had investigated the relation between the plasma TARC concentrations and the severity of asthma and the disease activity. Random sample was collected from children aged (6-14) y both sexes were randomly taken and attended pediatric chest and allergy out patient Benha University Hospital from April 2006 to April 2007. All the studied groups were subjected to medical history taking, general and local examination beside the investigation which included C.B.C, chest x-ray, stool, urine analysis, pulmonary function test, and plasma TARC concentrations by Elisa tequnice . In our study which included thirty asthmatic child and fifteen healthy control. We reported that the thirty asthmatic child was divided into 10 mil, 10 moderate and 10 sever cases by using the pulmonary function test and plasma TARC titer

show high significance difference between the mild, moderate and sever cases and also show high significance difference of the cases after one month when the signs and symptoms of asthma were relined and plasma TARC titer return toward to the normal levels and this will show the benefit of this test assessing the asthma severity and disease activity.

Finally from this study we recommended to further investigations and researches about the TARC and his role in other disease and using this investigation to asses asthma severity especially in young age because its easy maneuver.