[redacted]

Summary and Conclusion

Bronchial asthma is a chronic inflammatory airway disorder characterized by hyper- responsiveness of the tracheo – bronchial tree to respiratory irritants and bronchoconstrictor chemicals, producing attacks of cough, wheezing, dyspnea and chest tightness.

The severity of the disease varies from occasional mild transient episodes to severe, chronic, life- threatening bronchial obstruction. An associated eosinophilia is recognized in the peripheral blood and respiratory secretions where eosinophils are regarded as the major cellular participants in the pathophysiology of asthma.

Activated eosinophils in the bronchial mucosa and peripheral blood release a number of preformed mediators from their granules, the most cytotoxic and eosinophil- specific of which is the ECP. In vitro studies of ECP proved that it is cytotoxic for human bronchial epithelial cells and accordingly, it can cause destruction of the mucociliary escalator with excessive shedding of the bronchial epithelium which in turn results in induction of inflammation, increase in bronchial responsiveness, retention of secretions and bronchospasm.

Therefore, the present study aimed at assessing the role of serum ECP in discriminating patients with acute severe asthmatic episodes from those with moderate or mild disease in order to tailor relevant therapeutic modalities and adjust the medication doses according to each patient's condition. Furthermore, it aimed at shedding a spot of light on the role of serum ECP in monitoring the process of airway inflammation about the state of activity of the disease and consequently helps us in decreasing the frequency and severity of attacks.

Forty five asthmatic patients were included in this study, fifteen of which were selected during an acute severe exacerbation of bronchial asthma (group III), while the other thirteen patients were fifteen in moderate state (group II), and fifteen in mild state (group I). They were compared to teen apparently healthy children with no history of asthma.

The results of this study showed statistical significant differences between group I & II and III compared to the control group. As regard eosinophilic count.

There is a statistical significant differences between group II & III compared to control group and no significant differences between control & group I as regard serum ECP level.

- There is a statistical significant difference between group I & II as regard blood eosinophilia & PEF with no significant difference as regard ECP.
- Also there is a statistical significant differences between group I & III as regard blood eosinophilia, ECP, PEF.
- Comparing group II & III there was statistical significant difference as regard serum ECP and PEF.
- There was a positive correlation between ECP & eosinophilia, and negative correlation between ECP & PEF in all patients group.

Recommendations:

1- ECP is a sensitive marker for the state of activity of eosinophils in blood.

2- Further extensive follow up studies is needed to evaluate therapeutic usefulness of measuring ECP in asthmatic patients.