Study of serum adiponectin in stable and exacerbated chronic obsticructive pulmonary disease

Moustafa Abd-Elaty Abd-Elhamid

a syndrome rather than a single disease because there aretwo major phenotypes in COPD. One is the emphysema-dominant type,so-called “pink puffers,” who are frequently cachexic. Another is theairway disease-dominant type, so-called “blue bloaters,” who arefrequently obese. It was demonstrated that BMI might be one of thedeterminants of COPD phenotype.The adipose tissue is an important contributor to systemicmanifestations of COPD. Indeed the inflammatory/anti inflammatoryeffects of adipokines highlight the fact that adipose tissue is more thanenergy storage organ, they also highlight the importance of bodycomposition in the pathogenesis of COPD.Adiponectin is an adipocyte-specific protein secreted by visceral fattissue that has anti-inflammatory as well as anti-obesity effects. Inpatients with metabolic syndrome, adiponectin levels in plasma decreasedin proportion to the increase in body weight.Although systemic manifestations as a result of low grade systemicinflammatory process are recognized by many researchers there is littleknowledge on the alteration of adiponectin in COPD patients.The present study was conducted in Elmehlla chest hospital and thechest department in Benha University Hospital in the period between July2010and July 2011.Summary & Conclusion124The aim of this work was to assess the levels of serum adiponectinin Chronic Obstructive Pulmonary Disease patients (COPD) during acuteexacerbation and in stable conditions and to determine whether changesin its levels correlate with changes in the ventilatory functions.40 patients with COPD in exacerbation divided into (25 nonobeseand 15 obese) and 15 controls with matched age divided into (8 nonobeseand 7obese) were included in this study.All patients received medical treatment for acute exacerbation.All subjects were submitted to:1. Full history taking.2. Full clinical examination.3. Body mass index.4. Plain x-ray chest (postero-anterior and left lateral views).5. Spirometry pre and post bronchodilator.6. Estimation of serum adiponectin during a cute exacerbation and instable state.Exclusion criteria included:1- By history and examination any disease that may result in elevation ofSerum adiponectin level such as (malignancy, infection, cardiacfailure, severe endocrine disorder, hepatic or renal disease, systemicautoimmune or connective tissue disorder and recent surgery).2- By spirometry: reversibility in post bronchodilator FEV1 (%pred)more than 12% or 200 ml.Summary & Conclusion125The results were tabulated and statistically analyzed:It was found that:In nonobese subjects: serum adiponectin level was

higher in COPDcases during exacerbation as compared to the control group and to stableCOPD cases. Also serum adiponectin level was higher in stable COPDcases as compared to control group.In obese subjects: serum adiponectin level was higher in COPDcases during exacerbation as compared to the control group. Also serumadiponectin level was higher in stable COPD cases as compared to thecontrol group.There was no any correlation between changes in serum adiponectinfrom exacerbation to stable conditions with changes in ventilatoryfunctions (FVC (%pred), FEV1 (%pred), FEV1 / FVC and FEF25-75(%pred) from exacerbation to stable conditions.Serum adiponectin level showed a negative correlation with BMI inCOPD cases (nonobese and obese) and in controls (nonobese and obese).Summary & Conclusion126CONCLUSIONSfrom this study,it was concluded that:1. Serum adiponectin level is raised in nonobese COPD cases and the riseis more during exacerbation.2. Serum adiponectin level is raised in obese COPD cases duringexacerbation and during stable conditions.3. Serum adiponectin level is raised in nonobese COPD cases more thanobese COPD cases.4. Serum adiponectin level negatively correlated with the body massindex.