Evaluation of serum levels of visfatin and sirtuin-1 in COPD (exacerbation) patients and compared with control groups

Abstract

Background and Objective: *Disturbance in the balance of inflammatory and anti-inflammatory factors are evident in the development of chronic obstructive pulmonary disease (COPD). The present study aimed to investigate serum visfatin and sirtuin-1 levels in patients with stable and acute exacerbation of COPD.*

Methods*: We measured serum visfatin and sirtuin-1 levels in 30 patients with stable COPD (SCOPD), 30 patients with acute exacerbation of COPD (AECOPD), and 30 control subjects and compared them with airflow limitation according to the COPD stage in the Global Initiative for Chronic Obstructive Pulmonary Disease (GOLD) criteria, peripheral O2 saturation (SpO2), and COPD Assessment Test (CAT) score. We also tested the association of serum visfatin and sirtuin-1 levels with COPD patients' clinical parameters.*

Results: *Serum visfatin levesl increased in SCOPD and AECOPD groups compared with control group ($P < 0.05$ and $P < 0.001$, respectively). Moreover, visfatin levels increased in AECOPD patients compared with SCOPD group in GOLD stages III-IV ($P < 0.05$). On the other hand, serum sirtuin-1 levels significantly decreased in COPD patients compared with healthy subjects ($P < 0.05$). There was a significant negative correlation between serum visfatin and sirtuin-1 levels.*

Conclusion*: Elevated visfatin levels demonstrated its proinflammatory effects in patients with COPD, especially in AECOPD patients. In addition, there was negative association between serum visfatin and sirtuin-1 levels suggest that may be their pathophysiologic and therapeutic roles in COPD patients.*

Keywords*: Chronic Obstructive Pulmonary Disease, Visfatin, Interleukin-6, Sirtuin-1.*