

The relationship between the heart-type fatty acid binding protein (H-FABP)serum level with the severity of airway obstruction in patients with COPD

Abstract

Objective: The serum heart-type fatty acid binding protein (H-FABP) level increases in myocardial damage. The present study aimed to examine serum H-FABP level in patients with stable chronic obstructive pulmonary disease (COPD) and the correlation of this marker with airflow limitation and health-related quality of life using the COPD assessment test (CAT).

Materials and Methods: We measured serum H-FABP level in 50 patients with stable COPD and 34 control subjects and compared them with airflow limitation according to the Global Initiative for Chronic Obstructive Pulmonary Disease (GOLD) criteria, history of smoking, and CAT score. We also tested the association of serum H-FABP level with the COPD patients' clinical parameters.

Results: Serum H-FABP level increased in the COPD patients in compared to the control group ($P < 0.01$). It also increased in the subjects with history of smoking in compared with the non-smoker control subjects ($P < 0.01$). In addition, there was a significant positive correlation between serum H-FABP level and history of smoking ($r = 0.367$, $P = 0.001$).

Conclusion: The study showed that serum H-FABP level increased in both the stable COPD patients and healthy subjects with smoking history. Regarding that cardiovascular diseases are common co-morbidity with COPD, the results of this study suggested that the elevated serum level of H-FABP may represent myocardial injury in the COPD patients and healthy smokers.

Keywords: Chronic obstructive pulmonary disease, serum H-FABP, Cigarette smoking