

Effect of Conjugated Linoleic Acid on serum leptin levels in patients with COPD

Abstract

Background and Objective: Chronic Obstructive Pulmonary Disease (COPD) is a chronic inflammatory lung disease with pulmonary and extrapulmonary complications associated with irreversible airflow limitation. Leptin is a pro-inflammatory cytokine that involve in various processes such as inflammation, immunity and energy metabolism. Few studies have been conducted on the effects of conjugated linoleic acid (CLA) supplementation on serum leptin concentrations in patients with COPD. The aim of this study was to evaluate the effect of CLA on serum leptin and quality of life using COPD Assessment Test (CAT) in patients with COPD .

Methods: In this double-blind, placebo-controlled trial, patients with COPD was divided into 2 groups. Supplemental group (n = 45) received 3.2 g/day CLA and control group (n = 45) received a placebo both for 6 weeks. After history taking and physical examination, spirometry was done and CAT score calculated for each individual, then blood samples were taken to test level of serum leptin. After 6 weeks spirometry, CAT score and level of serum leptin were repeated for both groups. All patients received written consent before entering the study.

Results: The serum leptin significantly decreased in supplemental group compared to placebo group ($p < 0.005$). Also, there were significantly increased in FEV1 ($p = 0.01$), and significantly decreased CAT scores ($p = 0.001$) after trial of CLA compared to placebo group.

Conclusion: The use of CLA supplementation by adjusting level of serum leptin, make it possible to improve the quality of life in COPD patients.

Key words: Conjugated Linoleic Acid, Leptin, COPD Assessment Test.