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The effects of conjugated linoleic acid supplementation on the serum levels of Interleukin-6 and Sirtuin-1 in COPD patients

Hassan Ghobadi-Marallu, Somaieh Matin, Ali Nemati, Mehran Mesgari-Abbasi, Saeid Ghorbani, Mohammad Reza Aslani
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Abstract

Objective: Chronic obstructive pulmonary disease (COPD) is characterized with systemic inflammation and accelerated inflammaging of the lungs. Some studies have shown that conjugated linoleic acid (CLA) has anti-inflammatory effects. The aim of the present study was to evaluate the effect of CLA supplementation on the serum levels of interleukin (IL)-6 and Sirtuin1 (SIRT1) in patients with COPD.

Method of Study: 82 patients with stable COPD were selected to be studied in a double blind clinical trial. Subjects were randomly assigned to two groups: placebo (n=42) and supplementation (n=40, 3.2 g CLA daily). Forced expiratory volume in one second (FEV1%), BODE index, and the serum levels of IL-6, and SIRT1 were measured at the baseline and also six weeks after the intervention. In addition, the study parameters in the two groups were compared based on the Global Initiative for Chronic Obstructive Lung Disease (GOLD) criteria.

Results: After supplementation with CLA, the serum levels of IL-6 and BODE index significantly decreased ($p < 0.05$ and $p < 0.001$ respectively). In addition, the serum levels of SIRT1 ($p < 0.01$) and FEV1 ($p < 0.001$) significantly increased in the supplementation group. Based on GOLD criteria, the increase in SIRT1 and the decrease in IL-6 serum levels were found to be statistically significant in stages III-IV in the supplementation group ($P < 0.05$ and $P < 0.01$ respectively).

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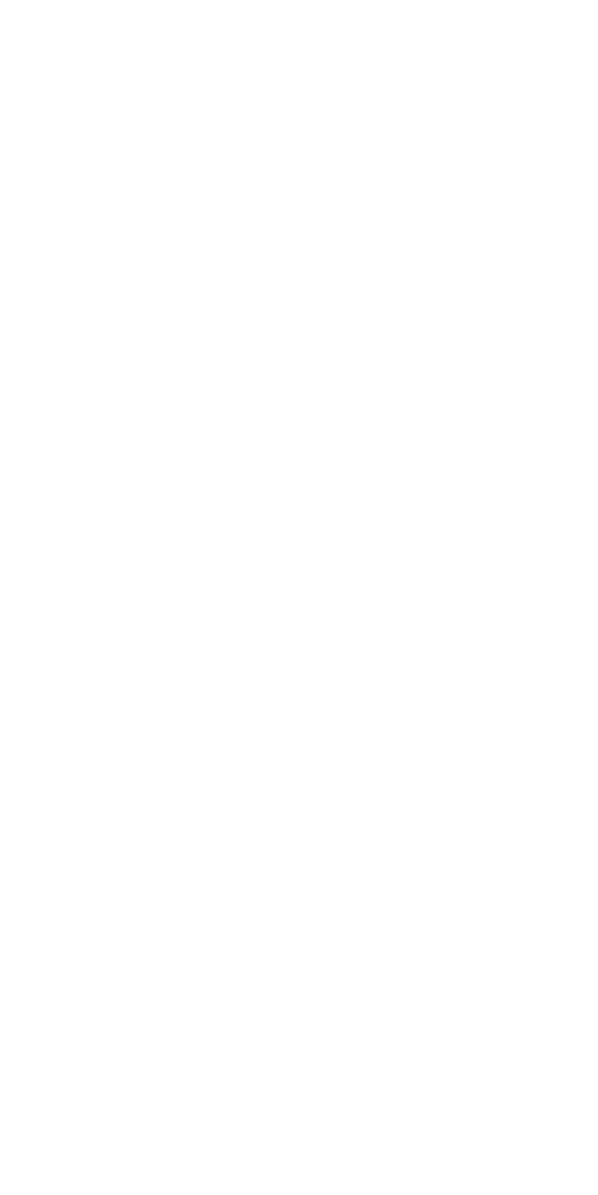
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European Respiratory Society
442 Glossop Road
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