

Clinical COPD Questionnaire results depending on the degree of the inflammatory response in patients with COPD combined with hypertension

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Abstract

Little is known about the relationship between Clinical COPD Questionnaire (CCQ) score and degree of the inflammatory response in patients with COPD combined with hypertension (HT).

Objective: to analyze the total CCQ score and the score on each of the three domains (symptoms, functional state and mental state) depending on the imbalance between proinflammatory interleukin (IL)-18 and anti-inflammatory IL-10 (IL-18/IL-10 ratio).

Methods: We investigated serum IL-18 and IL-10 levels in 69 COPD (GOLD 2, group B) patients in remission in combination with HT stage II (57 males and 12 females; mean age 55,80±5,51 years).

Results: Patients were divided into three groups – tertiles, depending on the level of IL-18/IL-10 ratio. It was found that the growth of IL-18/IL-10 ratio significantly ($p<0,001$) associated with increasing the functional state domain score. The mean score of the functional state CCQ domain in patients of the 1st tertile was 2,38, 2nd - 2,50 and 3rd - 3,21.

We analyzed CCQ scores depending on the 6-min walk test (6MWT) and pulse oximetry data. An inverse correlation was found between the distance walked in 6MWT and the total CCQ score ($r=-0,74$; $p<0,05$); the functional state domain score ($r=-0,75$; $p<0,05$); the symptom domain score ($r=-0,48$; $p<0,05$) and the mental state domain score ($r=-0,46$; $p<0,05$). A direct correlation was found between desaturation and the total CCQ score ($r=0,66$; $p<0,05$); the functional state domain score ($r=0,77$; $p<0,05$) and the mental state domain score ($r=0,41$; $p<0,05$).

Conclusion: Thus, the functional state CCQ domain score significantly represented the imbalance between IL-18 and IL-10 in COPD with HT patients.