

BASIC CLINICAL AND FUNCTIONAL CHARACTERISTICS OF ASTHMA-COPD OVERLAP IN MILITARY PERSONNEL

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Abstract

The aim of the study was to determine the clinical and functional features of asthma-COPD overlap (ACO) in military personnel.

Object and methods. We examined 98 hospital patients at pulmonology department of NMMCC «MMCH». The patients were divided into three groups: group 1 — 35 patients with COPD, group C, GOLD 2–3; group 2 — 33 patients with signs of ACO, GOLD 2–3; group 3 — 30 patients with asthma, moderate persistent, partially controlled. Lung function indices were studied in all patients to determine the degree of reversibility of air flow limitation, serum concentration of cytokines — interleukin-4 (IL-4) and transforming growth factor- β (TGF- β) by enzyme-linked immunosorbent assay. Quality of life was evaluated by interviewing patients using the SF-36 questionnaire.

Results. In patients with ACO a key spirometry finding was a decrease of FEV1/FVC ratio of $< 70\%$, while FEV1 and FVC decreased according to GOLD grade 2–3 without significant differences between groups. In patients with ACO the reversibility test was positive (FEV1 $> 12\%$ and > 200 ml). In patients with asthma and ACO, elevated serum IL-4 levels were found to be significantly higher than those in patients with isolated COPD. Serum TGF- β levels were significantly higher in COPD and ACO patients. The capacity of physical activity was reduced in all patients. The patients from group 3 reported only exacerbation associated fatigue. Patients with ACO had lower scores compared to patients with isolated COPD: physical activity PF, decreased VT viability and role-based physical functioning RP.

Conclusions. Patients with ACO were likely to have more complaints and symptoms, limiting their social and everyday activity. 78.8 % of these patients reported a history of asthma and severe smoking. All patients with ACO had classic spirometry signs of COPD and positive reversibility test. The quality of life associated with physical activity in ACO patients was decreased. In patients with ACO high levels of IL-4 and TGF- β were revealed as a marker of bronchial hyperresponsiveness and bronchial remodeling.

Key words: asthma, chronic obstructive pulmonary disease, asthma-COPD overlap, bronchial obstruction, quality of life.