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Title: Changes in the populations of blood T-lymphocytes containing chemokine receptors in non-smoking patients with COPD

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Body: Background. Chemokine receptors are considered to play an important role in regulating the migration of immune cells, including T-cells, from the peripheral blood into inflamed tissue, such as the lung. However their role has not been studied in non-smoking patients with chronic obstructive pulmonary disease (COPD). Aim. The aim of the study was to determine the percentage of CD3+CXCR3+ and CD3+CCR5+ lymphocytes in blood of COPD patients. Methods. For analysis of lymphocytes subtypes the flow cytometry method was used. The study population consisted of 21 non-smokers with COPD, 20 smokers with COPD, 20 healthy non-smokers and 21 healthy smokers. Results. There were no significant differences in the proportion of T-cells (CD3+) between the groups. We observed an increase in blood T-cells expressing receptors CXCR3 and CCR5 in non-smokers with COPD compared with healthy non-smokers (CXCR3+ T-cells: median value was 46.2% vs 36.6%, respectively, $p<0.05$; CCR5+ T-lymphocytes: 5.2% vs 2.7%, respectively, $p<0.001$). The percentage of T-cells containing receptors CXCR3 and CCR5 was significantly higher in blood of smokers with COPD when compared to healthy smokers (CXCR3+ T-lymphocytes: median value was 40.5% vs 37.3%, respectively, $p=0.001$; CCR5+ T-cells: 4.6% vs 3.1%, respectively, $p<0.05$). No differences were seen in the proportion of CD3+CXCR3+ and CD3+CCR5+ lymphocytes between COPD smokers and COPD non-smokers. Conclusion. Our findings suggest a similar mechanism of T-cells migration from blood into the airways in non-smoking and smoking COPD patients.