

European Respiratory Society Annual Congress 2013

Abstract Number: 4518

Publication Number: P605

Abstract Group: 3.2. Airway Cell Biology and Immunopathology

Keyword 1: COPD - mechanism **Keyword 2:** Cell biology **Keyword 3:** Immunology

Title: Blood T regulatory lymphocytes number is decreased in severe COPD

Dr. Virginija 29195 Sileikiene virginija.sileikiene@santa.lt MD ^{1,2}, Prof. Edvardas 29196 Danila edvardas.danila@santa.lt MD ^{1,2} and Dr. Laimute 29197 Jurgauskiene laimute.jurgauskiene@santa.lt MD ^{3,4}.

¹ Clinic of Infectious and Chest Diseases, Dermatovenereology and Allergology, Vilnius University, Faculty of Medicine, Vilnius, Lithuania ; ² Center of Pulmonology and allergology, Vilnius University Hospital Santariskiu Klinikos, Vilnius, Lithuania ; ³ Clinic of Cardiac and Vascular Diseases, Vilnius University, Faculty of Medicine, Vilnius, Lithuania and ⁴ Center of Laboratory Medicine, Vilnius University Hospital Santariskiu Klinikos, Vilnius, Lithuania .

Body: The aim of the study. To evaluate the count of regulatory T lymphocytes (CD4+CD25+), as cells, possibly decreasing inflammation, in the patients suffering from different severity COPD and compare with the healthy subjects. Materials and methods. CD4+CD25+ and CD4+CD25^{bright} blood cells were examined for 43 COPD patients and 26 healthy persons. The control group consisted of smokers and non smokers. In accordance with spirometrical severity of the disease COPD patients were distributed into two groups: a group (I) of patients with mild and moderate obstruction and group (II) consisted of patients with severe and very severe obstruction. Results. The comparison of COPD and control groups demonstrated no statistically significant difference either in total number of CD4+CD25+ cells, or in CD4+CD25^{bright}(Treg). However, in the group of patients with severe and very severe COPD, the count of CD4+CD25+ and CD4+CD25^{bright} cells was found to be significantly lower, in comparison with healthy smokers (376±235 vs 610±217 p = 0.01 and 47±26 vs 75±27, p = 0.03). The difference between smoking and non-smoking controls was found to be statistically significant, also: CD4+CD25+ and CD4+CD25^{bright} lymphocytes was markedly higher in healthy smokers than in non-smokers (610±217 vs 392±157, p = 0.02 and 59±29 vs 42±19, p = 0.03). Conclusion. Our results confirmed the proposition that the dysfunction of immune system plays the role in development of COPD. Inflammation of the airways during COPD may be suppressed inadequately due to insufficiency of CD4+CD25+ (T regulatory) lymphocytes.