European Respiratory Society
Annual Congress 2013

Abstract Number: 5440

Publication Number: P4429

Abstract Group: 10.2. Tuberculosis

Keyword 1: Tuberculosis - mechanism **Keyword 2:** Biomarkers **Keyword 3:** Smoking

Title: T cells subpopulations and cytokine responses to tuberculosis antigens in blood of smoking and nonsmoking tuberculosis patients

Dr. Natalia 31739 Makarova nmyke@mail.ru MD [1], Dr. Tatyana 31740 Vaneeva vaneevatv@rambler.ru MD [1], Dr. Nailya 31741 Kulikovskaya nailya-2009@yandex.ru [1] and Prof. Dr Vitaliy 31742 Litvinov vaneevatv@rambler.ru MD [1]. [1] Immunology and Clinical Diagnostic, Moscow Research and Clinical Center for TB Control, Moscow, Russian Federation .

Body: Background: Smoking can influence immune responses in TB patients. Objective: We investigated whether some blood T cell subpopulations and cytokine responses to TB, PHA antigens differ in TB smoking and TB nonsmoking patients. Methods: Of 35 new diagnosed TB patients enrolled (mean 32,3 years old), 13 (37 %) were smoking. The circulating quantity and percentages of CD3+, CD4+, CD8+, CD4+CD25+, CD4+HLa-DR+ in peripheral blood were estimated by multi-color flow cytometry analysis. Also we evaluated levels of IFN-g, TNF-a, IL-2 in ELISA after the induction in blood with CFP10-ESAT6-TB7.7 and PHA antigens. Results: No statistically proven differences in T cell subpopulations were observed in smoking and nonsmoking TB patients. Smoking TB patients had lower levels of IFN-g induced by CFP10-ESAT6-TB7.7 (M±m 60,5±23,7, 95% CI for Mean 8,7-112,2, vs 113±33,4, 95% CI for Mean 43,4-182,6 in nonsmoking) and IL-2 induced by CFP10-ESAT6-TB7.7 (69,8±26,7, 95% CI for Mean 11,7-127,9; vs 172,6±50,5, 95% CI for Mean 67,6-277,5). But in smoking TB patients PHAinduced IFN-g was statistically higher than in nonsmoking (M±m 348,6±63,8 vs 170,4±38,4; Mann-Whitney Test p=0,031). TNF-a response to both antigens had no statistically proven differences in smoking and nonsmoking groups. Conclusion: In smoking TB patients nonspecific INF-g production prevail, but TB-specific INF-g production is lower than in nonsmoking TB patients. So the processes of TB granuloma forming and recovery can be modified in smoking TB patients.