European Respiratory Society
Annual Congress 2013

Abstract Number: 3486
Publication Number: P2156

Abstract Group: 1.1. Clinical Problems
Keyword 1: COPD - mechanism **Keyword 2:** Inflammation **Keyword 3:** No keyword

Title: Granulocytic myeloid-derived-supressor cells (GrMDSCs) in chronic obstructive pulmonary disease (COPD) patients

Dr. Agata 21203 Nowicka agatnow@poczta.onet.pl MD [1], Dr. Beata 21204 Brajer-Luftmann bebab@wp.pl MD [1], Dr. Mariusz 21205 Kaczmarek markacz@ump.edu.pl [2] and Prof. Dr Halina 21206 Batura-Gabryel hgabryel@wp.pl MD [1]. [1] Department of Pulmonary Diseases, Poznan University of Medical Sciences, Poznan, Poland and [2] Department of Clinical Immunology, Poznan University of Medical Sciences, Poznan, Poland .

Body: COPD increses the risk of developing lung cancer (LC). Development of LC may be connected not only with smoking, but also with genetic predysposition and chronic inflammation. GrMDSCs expand in cancer, inflamation and infection. GrMDSCs activation increses immunosupresive factors expression, that may activate epithelial cells proliferation and support their migration. These processes may lead to neoplasmatic transformation in course of COPD. Aim of the study: assesment of GrMDSCs in COPD patients blood and BAL (bronchoalveolar lavage) and correlation with clinical parameteres. 18 COPD patients were included to cross-sectional study. Immunophenotyping of blood and BAL cells was performed using CD11b, CD33, Lin1, HLA-DR, CD45 (FACSCanto cytometer). PFTs (pulmonary functin tests) and BODE index were performed. Results: We indicated the presence of GrMDSCs in COPD patients blood (Mean 2.75%, SD 1.625, Min. 0.31, Max. 5.23) and BAL (Mean 0.21%, SD 0.459, Min. 0.0, Max. 1.71). We observed correlation between GrMDSCs[%] and age [yr] (rs,0,68, p 0,0099) GOLD stage (rs,0,7, p 0,0080), RV[%] (rs,0,64, p 0,0182), RV/TLC (rs,0,74, p 0,0036) in BAL and between GrMDSCs[%] and age[yr] (rs,-0,63, p 0,0223), paO2[mmHg] (rs,0,57, p 0,0398), FVC[%] (rs,0,66, p 0,0142) in blood. No correlation between GrMDSCs[%] and other PFT parametres (FEV1, TLC, SaO2, paCO2, DLCO), and BODE index was observed. Conclusion: Our findings confirm the presence of GrMDSCs in systemic and local inflammatory process in COPD. Further studies are needed to explain their role in neoplasmatic transformation in course of COPD.