European Respiratory Society
Annual Congress 2013

Abstract Number: 5119

Publication Number: P1529

Abstract Group: 1.1. Clinical Problems

Keyword 1: COPD - diagnosis **Keyword 2:** Biomarkers **Keyword 3:** Pharmacology

Title: On relationship between local and systemic chronic inflammation and between level of hypoxia and bronchial obstruction in COPD pts

Dr. Bogdana 31309 Basina bogdana-83@mail.ru MD [1], Prof. Tetyana 31310 Pertseva tpertseva@dma.dp.ua MD [1] and Prof. Lyudmyla 31311 Konopkina lkonopkina07@mail.ru MD [1]. [1] Faculty Therapy and Endocrynology, State Medical Academy, Dnipropetrovsk, Ukraine, 49044 .

Body: In the literature, there are conflicting data on the relationship between local and systemic chronic inflammation and between level of hypoxia and bronchial obstruction in COPD pts. Aim: to establish the relationship between markers of local and systemic chronic inflammation, as the level of hypoxia and bronchial obstruction in COPD pts. Materials and methods. We studied 15 COPD pts (II-III st.) in stable phase (age–64.2±3,7yrs). Measurements included clinical status, spirometry (post-dose of salbutamol), SaO_2, nitric oxide in exhaled air (NO_{ex}), plasma level of matrix metalloproteinases (MMP)-2 and 9. Results are presented in the Table.

	NOex	SaO2	MMP-2	MMP-9
FEV1 post	r=0.007; p=0.980	r=-0.115; p=0.685	r=-0.398; p=0.142	r=0.266; p=0.338
NOex		r=0.484; p=0.068	r=0.217; p=0.437	r=0.769; p=0.0008

Conclusion: FEV_1 levels didn't correlate with the level of NO_{ex}, which characterizes the severity of local inflammation in the respiratory tract. COPD pts due to SaO_2 not differ from each other. MMP-2 had an inverse correlation (average power) with FEV_1 level. MMP-9 did not correlate with the level of bronchial obstruction. Level of NO_{ex} had relatively well correlated with SaO_2, didn't correlate with MMP-2 and very strong correlated with plasma level of MMP-9. Conclusion: 1) the degree of bronchial obstruction does not reflect processes of oxygen tension; 2) the degree of local inflammation is an independent characteristic of COPD and can be used for verification of the phenotypes of the disease (with severe chronic local inflammation or without chronic local inflammation); 3) some markers of systemic inflammation may reflect a certain degree of local inflammation (in particular MMP-9).