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THE RELATIONSHIP BETWEEN BIOMARKERS OF SYSTEMIC INFLAMMATION AND SEVERITY IN STABLE COPD.

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It is considered that markers of systemic inflammation can represent the status of inflammation during COPD even in stable phase. But there is not enough information what systemic biomarkers are the most similar to lung function and if this correlation keeps in dynamics. Aim: to determine the significance of systemic biomarkers (C-reactive protein (CRP), fibrinogen, matrix metalloproteinase (MMP)-2, 9, hyaluronic acid (HA) in stable COPD in comparison with FEV1post.

Materials and Methods: We determine plasma biomarkers in 50 patients with verified stable COPD, divided into 2 groups (gr): gr 1 – 23 patients with COPD GOLD II (age – 60,4±0,94 years, men – 21 (96,8%), women – 2 (8,3%)), gr 2 – 27 patients with COPD GOLD III-IV (age – 66,5±0,71 years, men – 24 (88,8%), women – 3 (11,2%)) on screening (visit 1), on visit 2 – in 12 months after correction of anti-inflammatory treatment. While measuring Spearman's correlation level between FEV1post and all other plasma makers we found the most representative parameter from systemic biomarkers.

Results are present in table 1.

Levels of FEV1post correlation with biomarkers in patients with stable COPD during follow-up

Parameter	Spearman's correlation with FE-V1post on visit 1		Spearman's correlation with FE-V1post on visit 2	
	R	p	R	p
C-RP, mg/l	-0,213	0,137	0,145	0,314
fibrinogen, g/l	0,032	0,824	0,178	0,217
MMP-2, cu	0,146	0,312	0,4804	0,000
MMP-9, cu	0,006	0,968	0,196	0,173
HA, mg/ml	0,168	0,243	0,599	0,000

Note: *- p≤0,05

Conclusions:

1. None from initial levels of systemic markers correlates with severity according to FEV1 even in stable phase of COPD. It improves the fact that biomarkers reflect inflammatory mechanism of COPD progression except bronchial obstruction.

2. Only two plasma marker, MMP-2 and HA, correlate with FEV1post after 1 year of basic anti-inflammatory treatment, and thus may be considered the most revealing one during long-term follow-up.