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Title: Respiratory pathogens, immunodeficiency or systemic response – What comes first in the etiology of severe community-acquired pneumonia (sCAP)

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Body: Aim: to study the diagnostic value of CD4 marker and procalcitonin (PCT) at patients with sCAP in connection with the respiratory pathogen. Materials and methods: we studied 32 patients (pts) with sCAP and identified respiratory pathogen: physical examination, identification of agent, HIV-test, CD4 counting, the study of PCT level on 1st day before antibiotic therapy. Results: depending on the etiology of sCAP patients were retrospectively divided into 2 groups: group 1 - 24 HIV-negative pts, who were divided into 2 subgroups: 1A - 15 pts with Gr^+bacteria, 1B - 9 patients with Gr^-bacteria, group 2 - 8 HIV-positive pts with Pneumocystis pneumonia.

Levels of CD4 and PCT in groups and subgroups

Parameter	Norm	subgroup 1A	subgroup 1B	group 2
CD4, mcl^{-1}	>500	206,4±29,4*	751,2±61,9*	69,5±25,2*
PCT, ng/ml	<0,1	51,6±12,9*	6,2±1,6*	0,5±0,1*

*p<0,05 between groups and subgroups

Pts of group 1 had strong inverse correlation between CD4 and PCT (r =-0,73, p < 0,05) in contrast with group 2. Conclusions: 1)decreasing of CD4 at HIV-negative patients less than 500 ml^{-1} significantly increases the risk of sCAP causing Gr^- agents, which, in turn, is accompanied with severe systemic inflammatory response; 2) for Pneumocystis pneumonia at HIV-positive patients do not observe correlation between CD4 and system response.