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Title: Procalcitonin as etiological marker of severe community-acquired pneumonia

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Body: Aim: to study the diagnostic value of procalcitonin (PCT) at patients (pts) with severe community-acquired pneumonia (sCAP) depending on the identified pathogen. Methods: 54 patients with verified sCAP (age 54,1±2,6, men—38, women—16), general data, HIV-test, pathogens' identification in sputum, scoring SMRT-CO scale, serum PCT level before antibiotic therapy. Results: all pts were in serious condition, the number of points according to SMART was 6,0±0,2. We could identify the pathogen at 32 (59,3%) pts. According to the etiology they were retrospectively divided into groups (gr): 1—Gr+ bacteria, Gr-bacteria, Pneumocystis pneumonia at HIV-positive pts. PCT levels in pts of gr 1 and 2 were higher than normal (0,1 ng/ml) more than in 60 and 500 times respectively. It differed significantly from PCT level in gr 3, at which it does not exceed the norm. We found that PCT level at Gr-pathogens was more than at Gr+ in 8 times.

Parameter	Groups		
	1 (n=15)	2 (n=9)	3 (n=8)
Etiology	Streptococcus pneumoniae (n=10); Staphylococcus aureus (n=5)	Pseudomonas aeruginosa (n=3); Klebsiella pneumonia (n=3); Neisseria meningitides (n=2); Acinetobacter (n=1)	Pneumocystis jirovecii (n=8)
SMRT-CO scale, scores	5,4±0,3	7,0±0,2	7,6±0,2
PCT, ng/ml	6,2±1,6*#	51,6±12,9*#	0,5±0,1#

*-p1,2-n<0,05, 1-gr 1,2-gr 2, n-norm;#-p1-2, 1-3, 2-3<0,05, 1-gr 1, 2-gr 2, 3-gr 3

Conclusions: PCT level can be an etiological marker of sCAP: 1) sharp increase of PCT (up to 50 ng/ml) may be a marker of Gr-pathogen, 2) increasing up to 7 ng/ml is a marker of Gr+ bacterial agent; 3) normal PCT level may accompanies Pneumocystis pneumonia at HIV-positive pts and may point on prolongation of

diagnostic search for determination the cause of acute respiratory failure.