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Title: Individual monitoring of procalcitonin and C-reactive protein levels as a criterion for cancel of antibiotic therapy in patients with severe community-acquired pneumonia

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Body: According to procalcitonin (PCT) strategy antibiotic therapy (ABT) can be canceled at decreasing of individual PCT level more than in 80% from the initial one. Aim: to justify the duration of ABT in patients (pts) with severe community acquired pneumonia (sCAP) based on monitoring of PCT and C-reactive protein (CRP). Methods: 40 pts with verified sCAP (age—57,1±3,1 years, men—30, women—10), general data, SMRT-CO scale, serum levels of PCT and CRP on 1st day before ABT (step 1) and on 8–10th day of ABT (step 2). Results: on step 1 the condition of all pts was serious, their PCT level was significantly above norm (17,8±4,22 ng/ml). On step 2 the status of all pts improved, although they had several residual symptoms, there individual PCT levels decreased more than in 85%. According to ABT strategy 2 groups (gr) were formed: 1—whom ABT was canceled on 8–10 day, 2—whom ABT was continued traditionally. Retrospectively it was determined that groups were homogeneous for clinical severity, PCT and CRP levels. All pts became healthy but the duration of ABT in gr 1 was 8,8±1,9 days and in gr 2 – 14,6±1,0 days (p <0,05). Serum levels of CRP in both gr decreased but didn't exceed normal values. Conclusions: 1) the presence of positive clinical and radiologic dynamics and the presence of 1-2 residual symptoms at sCAP the criterion for the cancel of ABT is significant (almost 2-fold) reduction of individual PCT level, which can significantly short the ABT and provide clinical and economic advantage without loss of efficacy; 2) whereas serum CRP normalized slowly, it's monitoring cannot be a criterion to the ABT cancel.