PROGNOSTIC BIOMARKERS IN SEVERE COMMUNITY-ACQUIRED PNEUMONIA

O. Omelyanenko[1], A. Makarevich[2], P. Jagus[3], J. Chorostowska-Wynimko[3], T. Rybina[1], E. Amelchenko[1].

[1]Clinical Laboratory of Occupational Diseases, Republican Scientific and Practical Center of Hygiene, Minsk, Belarus; 1st Department of Internal Diseases, Belarusian State Medical University, Minsk, Belarus; [3]Laboratory of Molecular Diagnostics and Immunology, National Institute of Tuberculosis and Lung Diseases, Warsaw, Poland

Background: Measurement of prohormones representing different pathophysiological pathways could enhance risk stratification in severe community acquired penumonia (SCAP) patients. **Aim:** To investigate procalcitonin (PCT), adrenomedullin(AMD), copeptin (CP),B-type *natriuretic peptide* (BNP-32) levels in intensive vare unit (ICU) SCAP patients and their relationship with in-hospital outcomes (in-hospital mortality (IHM), length of in-hospital stay(LOS), duration of ICU stay), disease specific complications, need for invasive mechanical ventilation (IMV) and vasopressor support (VS). **Methods:** 20 ICU patients with proven SCAP CURB-65 class 3, 4 were enrolled to the study. Serum PCT, AMD, CP and BNP-32 values were measured within the first 24 hours after admission. **Results:** Increasing CAP severity was associated with increased PCT values(r=0,74;p=0,05).PCT in CURB-65 3 and 4 class patients was 0,73 [0,56;5,8] vs 5,94 [4,6; 37,1]ng/ml, respectively (p=0,03).CP levels on admission appeared to be higher in CURB-65 4th class patients vs the 3rd class patients - 74,8 [55,06; 90] vs 47,6 [24,5;59,8] pg/ml, respectively(p=0,03). PCT values demonstrated statistically significant correlation with IHM (r=0,74;p=0,005) and were higher in non-survivors than those in survivors [median] [5,94 vs 0,73 ng/ml, p=0,01, respectively]. PCT and CP values on admission correlated with need for VS (r=0,74;p=0,0005 and r=0,54; p=0,02, respectively) and showed higher concentrations in patients requiring VS compared with those with stable haemodynamics [102 vs 0,73 ng/ml, p=0,01] and [74,8 vs 47,6 pg/ml, p=0,03] respectively.AMD levels on ICU admission were associated with need for IMV (r=0,47; p=0,04). BNP-32 values correlated with LOS (r=0,56; p=0,02), PCT - with duration of ICU stay (r=0,81; p=0,001). **Conclusions:** PCT and CP showed the best performance as the prognostic biomarkers in SCAP pts.