Category :**Respiratory: monitoring**

A80 - ***Serum SP-A, SP-D and CC16 in COVID-19 patients***

M Khadzhieva [1] ; A Gracheva [2] ; A Ershov [3] ; A Kuzovlev [4]

[1]Federal Research and Clinical Center of Intensive Care Medicine and Rehabilitology; Dmitry Rogachev National Research Center of Pediatric Hematology, Oncology and Immunology; Vavilov Institute of General Genetics, Russian Academy of Sciences, Moscow, Russian Federation , [2]Federal Research and Clinical Center of Intensive Care Medicine and Rehabilitology; Vavilov Institute of General Genetics, Russian Academy of Sciences, Moscow, Russian Federation , [3]Federal Research and Clinical Center of Intensive Care Medicine and Rehabilitology; Sechenov First Moscow State Medical University, Moscow, Russian Federation , [4]Federal Research and Clinical Center of Intensive Care Medicine and Rehabilitology, Moscow, Russian Federation

Introduction:

New knowledge about candidate molecular markers of damage to the structures of the aerohematic barrier in a new coronavirus infection COVID-19 will allow us to develop algorithms for early diagnosis and prediction of outcomes of acute respiratory failure in intensive care patients with COVID-19. The aim of this study was to investigate the relationship between surfactant proteins SP-A and SP-D and Club cell protein CC16 levels in blood serum and outcomes of COVID-19 patients.

Methods:

We retrospectively investigated 109 COVID-19 patients: survivors (n=90) and non-survivors (n=19). The data analysis was carried out taking into account the day of illness at the time of biomaterial collection, clinical and laboratory data.

Results:

The deceased patients presented with higher SP-A level (P=0.009), age (P=0.002), red blood cell distribution width (RDW) (P=0.020), mean platelet volume (MPV) (P=0.048), D-dimer (P=0.049), blood urea nitrogen (P=0.013), creatinine (P=0.035) and lower mean corpuscular hemoglobin (MCH) (P=0.028), mean corpuscular hemoglobin concentration (MCHC, g/L) (P=0.002) as compared to that of survivors on 1 – 10 days of illness. On 11 – 20 days of illness the deceased patients also presented with higher age (P=0.042), neutrophils (P=0.010), neutrophil-to-lymphocyte ratio (NLR) (P=0.004), RDW (P=0.041), lactate dehydrogenase (LDH) (P=0.009) and lower CC16 level (P=0.031), lymphocytes (P=0.005) as compared to survivors. The serum SP-A and CC16 levels increased during the disease in patients with a favorable outcome (Kruskal-Wallis criterion, P=0.035 and P=0.018 respectively).

Conclusion:

Serum SP-A and CC16 are associated with COVID-19-related death.

Image :

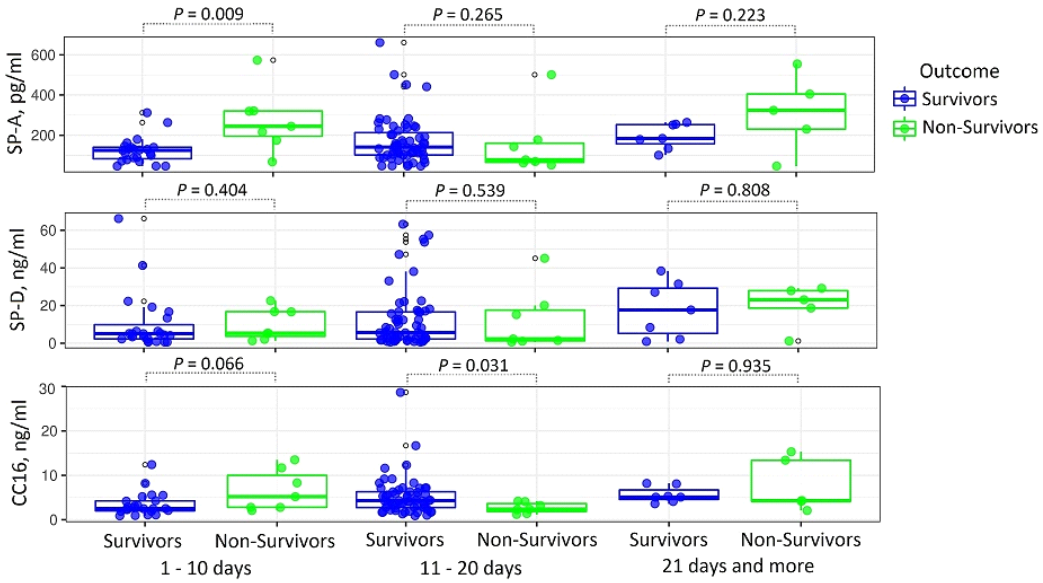

Figure 1. Comparison of serum SP-A, SP-D and CC16 levels between survivor and non-survivor COVID-19 patients (Mann-Whitney U-test)