

COVID-19 Infection Correlates with Autoimmunity Markers

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ABSTRACT

Nowadays, few evidences have shown the possible involvement of autoimmunity in patients affected by Corona Virus Disease-2019 (COVID-19). In this study, we elucidate whether severe acute respiratory syndrome (SARS-CoV-2) stimulates autoantibody production and contributes to autoimmunity activation. We enrolled 40 adult patients (66.8 years mean age) admitted to Alessandria hospital between March and April 2020. All the patients had a confirmed COVID-19 diagnosis and no previously clinical record of autoimmune disease. 40 blood donors were analyzed for the same markers and considered as healthy controls.

Our patients had high levels of common inflammatory markers, such as C Reactive Protein, Lactate Dehydrogenase, ferritin and creatinine. Interleukin-6 concentrations were also increased, supporting the major role of this interleukin during COVID-19 infection. Lymphocytes number were generally lower compared to healthy individuals. All the patients were also screened for the most common autoantibodies. We found a significant prevalence of ANA, ANCA and ASCA IgA antibodies. We observed that patients having a de novo autoimmune response had the worst acute viral disease prognosis and outcome.

Our results sustain the hypothesis that COVID-19 infection correlates with the autoimmunity markers. Our study might help clinicians to: a) better understand the heterogeneity of this pathology and b) correctly evaluate COVID-19 clinical manifestations. Our data explained why drugs used to treat autoimmune diseases may also be useful for SARS-CoV-2 infection. In addition, we highly recommend checking COVID-19 patients for autoimmunity markers, mainly when deciding on whether to treat them with plasma transfer therapy.

Keywords: COVID-19, Autoimmunity markers, Autoimmune diseases, Antibodies

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