THE INNATE IMMUNE RESPONSE AND ITS DEFENSE MECHANISMS AGAINST COVID-19

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Covid-19 has represented (represents) an acute crisis of health and world economy, with appalling consequences on human mortality and morbidity. This study aimed to explain the chronology of IgM/IgG antibodies. With samples from 330 hospitalized patients, positive and negative for COVID-19, it was detectable that patients with RT-qPCR+ began to present IgM by ELISA, (immunoenzymatic serological test) with monitoring of up to eight weeks. Soon after the realization of systemic soluble biomarkers, chemokines, pro-inflammatory/regulatory cytokines together with growth factors, a decline was manifested over six months of follow-up, with restriction to CCL11, CXCL8, CCL3 among others. A worrying number of infected patients reported neutralizing antibodies to the Wuhan strain, as well as to the Alpha, Gamma, and Beta variants. In all cases, even if indirect immunochromatographic tests in Brazil were evaluated, there was a good sensitivity and specificity in the detection of anti-SARS-CoV-2 antibodies after 15 days of indications. There are proven facts, that in the period of the pandemic the innate immune system was active in the body, for being the first barrier of defense against viruses and microorganisms, that in turn, the organism has contact with the virus, the PRR receptors along with PAMPs that stimulate the release of cytokine, so that there is the displacement of neutrophils, being lyphonia (the virus defense agent). With this contact, it is expected that the body produces NET, so that there is IR against the inflammation and aggressions of the disease, to a possible new contact with the immune system, creating an already active primary barrier. The innate immune system, such as macrophages and dendritic cells, recognize molecular patterns of the virus, such as viral RNA. In addition, natural killer (NK) cells attack cells infected by the virus, but nevertheless, the adaptive immune response, including the production of virus-specific T cells, are of paramount importance for effective long-term defense. The interaction between the innate and adaptive immune response is crucial to fighting COVID-19 and developing lasting immunity, in the same way that understanding these mechanisms are critical to the development of effective vaccines and treatments. Thus, we emphasize with the great technological advance and with great investments in scientific research, the importance of maintaining the care related to hygiene and protection, following the recommendations of the world health agencies.

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