

عنوان مقاله:

Measurement of SARS-CoV-2-Specific Humoral and Cellular Immunity in Coronavirus Disease 2019 Convalescent Health Care Workers in Iraq

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خلاصه مقاله:

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) belongs to the Coronaviridae family which led to a global pandemic. However, available knowledge on adaptive immunity in convalescent individuals is limited. The present study was conducted on 191 convalescent coronavirus disease 2019 (COVID-19) health care workers (HCW); moreover, it evaluated the cell-mediated immunity of 122 recovered HCW and the level of anti-receptor binding domain (RBD) IgG antibodies of 181 recovered HCW. Cellular and humoral immune responses were identified over time from one to eight months post recovery with varying disease severity using MTT proliferation assay and enzyme-linked immunosorbent assay. Analysis of lymphocyte proliferation with S1 protein in mild-moderate and severe HCW revealed an insignificant difference with an increase in the maximum and third quartile (Q3) from one to eight months after COVID-19 recovery. Antibody levels in mild-moderate and severe recovered HCW were insignificantly different from post-COVID 19 recovery ($P > 0.05$); in addition, the median, maximum, and Q3 values of anti-RBD IgG were close to each other over the time intervals from one to eight months post recovery. These data suggest that many convalescent HCW enrolled in this study were re-exposed to the virus without the development of symptoms indicating the role of cell-mediated and humoral immunity in preventing symptomatic reinfection. This study reveals that a robust immunity developed after mild, moderate, and severe COVID-19 that could last for several months post recovery.

کلمات کلیدی:

Cell-Mediated Immunity, Coronavirus Disease 2019 (COVID-19), humoral immunity, Severe Acute Respiratory (Syndrome Coronavirus 2 (SARS-CoV-2)

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