Multiple Sclerosis

COVID-19, ANTI-CD20 TREATMENT AND MULTIPLE SCLEROSIS

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BACKGROUND There are still unresolved questionts about the role of Anti-CD20 treatments in Multiple Sclerosis (MS) and Covid-19 infections and vaccine response. We aim to study the safety, management and the antibody response to SARS-CoV-2 vaccines in MS patients on Anti-CD20. METHODS Prospective study of MS patients on Anti-CD20 treatment during Covid-19 pandemic (March 2020 to January 2022). Demographic features, time on Anti-CD20, Covid-19 infection and vaccine response with an ELISA assay (Abbott®) were collected. Titers 50 UA/ml were considered an adequate immune humoral response. RESULTS We analyzed 64 patients treated with Anti-CD20, 42 on ocrelizumab and 22 on rituximab. Fifteen patients had Covid-19 infection, 8 with the Omicron variant. Excluding omicron variant eight patients on ocrelizumab had Covid-19 disease and 4 of them required hospitalization for more than a week and had a multilobar pneumonia and only one patient on rituximab had Covid-19 disease. Fifty-two patients had received 2 doses of mRNA vaccine, 25 of them 3 doses. Median SARS-CoV-2 titer at three weeks was 1.3UA/mL(range:0-2140,3), at 6 weeks 2.7UA/mL(range:0-66691,3) and at 3 months 2.4UA/ml(range:0-7947,2). After 3 doses of mRNA vaccine only 3 patients on ocrelizumab and 4 on rituximab developed enough antibodies to SARS-CoV-2. There were no statistically significant differences in vaccine response with respect to total lymphocyte, CD19 and immunoglobulin levels. CONCLUSION Covid-19 infection could be more sever in patients on antiCD20 therapy. MS patients treated with Anti-CD20 are at significantly higher risk of an inadequate humoral response to SARS-CoV-2 vaccines even after 3 doses.