Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

investigate the longitudinal evolution of anti-JCV antibody index in a cohort of Tunisian MS patients and to evaluate the impact of age, sex and disease modifying therapies (DMT) use in Anti-JCV antibody status.

Material(s) and Method(s): We studied records of the patients diagnosed with MS according to 2017 Mc Donald criteria and followed at the MS Unit of the department of Neurology of Razi University Hospital in Tunis-Tunisia between 2018 and 2020, with or without DMT. We included patients for whom Anti-JCV antibody serological status and repetitive assessment of JCV antibody index were available.

Result(s): One hundred patients were included in this study. Seventy-one of them were female. Median follow-up time was 36,19 months, with a median of 3 samples available per patient. At baseline, 49 % of patients were anti-JCV antibody positive with a median anti-JCV antibody index of 1.16. Twelve patients (12%) changed initial serostatus at least once during follow-up: 4% from negative to positive anti-JCV antibody status and 8% from positive to negative anti-JCV antibody status. Baseline anti-JCV antibody index was higher in patients remaining seropositive at follow-up compared to those reverting to seronegativity (1.94 vs. 0.89, p = 0.02). Only 6.1% of our patients did not receive DMT at time of JCV assessment. The 94% of patients were under Rebif (39%), under Avonex (37,4%) and under Natalizumab (46,5%). Natalizumab was stopped in 10 patients because of seroconversion in 4 of them and other side effects in 6 others. The type of DMT did not affect the anti-JCV antibody status. Moreover, no correlation was found between Baseline anti-JCV antibody index and sex or age. 60% of our patients had a second JCV blood sample with a median number of months between the first and second sample of 10,95 months with 91% of stability between the two assessments. 41% of our patients had a third JCV blood sample with 68,3 % of patients remaining negative.

Conclusion(s): Anti-JCV antibody index remained relatively stable over 3-year follow-up in our Tunisian cohort. Baseline anti-JCV antibody index was higher in positive seroconverters and was not affected by MS patients' age or gender and the type of DMT use.

doi: 10.1016/j.msard.2022.103585

First Study in Iraq About (HLA)-Drb1 * 15:01 as a Genetic Risk Factor for MS Initiation

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Background: To assess the genotypes of (HLA)-DRB1 * 15:01 as genetic risk factor for MS development in samples of Iraqi MS patients.

Material(s) and Method(s): This case control study involved fifty MS patients for HLA-DRB1 15:01 investigation; their age were ranged from 14 to 69 years. They attended to seek treatment in the MS out patient's clinic at Medical City- Baghdad Teaching Hospital in the period, which extended from December 2018 to March 2020. The diagnosis of each case was established according to MC Donald criteria done by a neurologist and confirmed by MRI and certain cases by oligoclonal band test of the CSF. Patients were subjected to a questionnaire about name, age, sex, smoking, family history. The control group involved 50 healthy persons. The institutional review board (IRB) in the College of Medicine/Al-Nahrain University approved this study, and all samples were obtained with informed consent in accordance with the Ministry of Health declaration. HLA-DRB1 15:01 genotype also was conducted by Sanger sequencing technique.

Result(s): The Polymerase chain reaction (PCR) products HLA-DRB1 Genes were subjected for Sanger sequencing technique. In addition, the resultant sequences were compared with reference sequences in national center for biotechnology information NCBI. All the genotypes of HLA-DRB1 were analyzed for linkage disequilibrium. There was a very high linkage disequilibrium in rs2213585, rs2213586 and rs3135388 in both patients and control. In concern to the rs3135388, which tags for HLA-DRB1*15:01 the heterozygous genotype (GA) was more frequent in MS patients (28%) than controls (10%) (OR= 3.52, 95%CI=1.16-10.72, p=0.027). Regarding the rs2213585, rs2213586 there were no significance associations between control group and patients.

Conclusion(s): This is the first study that revealed that HLA-DRB1 15.01 genotype may be considered as genetic risk factor for MS susceptibility in Iraqi MS patients.

doi: 10.1016/j.msard.2022.103586

The Effect of Disease Modifying Drugs of Multiple Sclerosis on the Effectiveness of BBIBP-CorV COVID19 Vaccine

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Background: Vaccines to prevent SARS-CoV-2 infection are considered the most promising approach for curbing the pandemic. There are many concerns about the effectiveness of vaccination in patients with multiple sclerosis (MS). Few studies have examined the effectiveness of mRNA COVID vaccine in MS patients treated with high potency disease modifying therapies (DMTs). The aim of this study was to evaluate the efficacy of BBIBP-CorV (Sinopharm) vaccine in patients treated with 7 different DMTs.

Material(s) and Method(s): This quasi-experimental study was conducted on the patients of MS clinics of Imam Hossein hospital in Tehran (capital of Iran) and Ghaem hospital in Mashhad (northeast of Iran). MS patients with:1- no history of COVID infection in the past 6 month, 2- no history of relapse or steroid use in the past 4 weeks, 3- regular use of a DMT for at least 6 months (9 month for glatiramer acetate) and 4- at least 2 months interval between the previous rituximab infusion and vaccination, were enrolled and vaccinated with Sinopharm vaccine (2 doses, 4 weeks apart). In the case of relapse, COVID infection, or If any of the antibodies (anti neucleocapsid IgM and IgG and anti RBD IgG) were positive at the first injection of the vaccine, the patient was excluded from the study. The amount of IgG class antibodies against virus RBD were measured using ELISA SARS-CoV-2 IgG DIAZIST after 28 days of the first vaccination and on the day 56 (28 days after the second vaccination). An index value higher than 1.1 was considered reactive for anti RBD antibodies.

Result(s): Out of the 208 patients included in the study, 91 patients were excluded and 117 patients were finally analyzed. Humoral response to vaccination based on the DMT used by the patient was as follows: beta interferons: 89.47% (17 out of 19 patients), dimethyl fumarate: 85.71% (12 out of 14 patients), patients without DMT treatment:83.33% (5 out of 6 patients), Natalizumab 83.33% (5 out of 6 patients), glatiramer acetate:71.42% (5 out of 7 patients), teriflunomide: 50% (4 out of 8 patients), rituximab: 38.46% (15 out of 39 patients), and fingolimod: 21.05% (4 out of 19 patients).

Conclusion(s): According to our findings, the response to vaccination is maintained in patients treated with beta interferons, dimethyl fumarate and natalizumab, but is less than acceptable in patients treated with rituximab and fingolimod.

doi: 10.1016/j.msard.2022.103587