The epidemiology of COVID-19 and MS-related characteristics in a national sample of people with MS in China

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Abstract

Few studies have focused on immune status and disease activity in MS patients during the coronavirus disease 2019 (COVID-19) pandemic. The aim of this study is to investigate immune status, COVID-19 infection, and attacks in MS patients during the pandemic. An online questionnaire about COVID-19 infection, MS attack, and MS treatment during the pandemic was administered to all 525 MS patients registered in our hospital database from January 1, 2011, to June 1, 2020, only 384 responded, of which 361 patients could be included in the final analysis. During the pandemic, 42.1% of the 361 patients and 65.0% of the 234 patients on immunotherapies were exposed to teriflunomide. Compared to patients who didn't receive treatment, patients exposed to DMTs had significantly lower levels of neutrophils (P<0.01) and immunoglobulin G (P<0.01), patients exposed to immunosuppressants had significantly lower levels of immunoglobulin G (P<0.05). Over 80% of our patients followed effective protective measures and none of the 361 MS patients in our cohort contracted COVID-19. Patients whose treatment was disrupted had a significantly higher annualized relapse rate (ARR) during than before the pandemic (P<0.01), while the ARR of patients with continuous treatment or without treatment remained unchanged. During the pandemic, the risk of MS attack due to treatment disruption possibly outweighs the risk of COVID-19 infection under preventive measures and MS treatment maintenance might be necessary.

Key words: multiple sclerosis, COVID-19, disease modifying therapies, teriflunomide, immunosuppressant, relapse