



The prevalence of COVID-19 in patients with rheumatoid arthritis, multiple sclerosis, or systemic lupus erythematosus receiving biologic disease-modifying antirheumatic drugs

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Abstract

Introduction: The coronavirus disease (COVID-19) became a global pandemic in 2019. Some studies have shown that the virus can cause a higher mortality in people with weakened immune systems, such as the elderly, those taking immunosuppressive drugs, and those with underlying disorders, than in the general population.

Objectives: The aim of this study was to evaluate the prevalence of COVID-19 in patients with rheumatic disorders who received biologic disease-modifying antirheumatic drugs (DMARDs). The effect of precautionary self-isolation in these patients was also determined.

Patients and Methods: This descriptive study involved 200 patients with rheumatoid arthritis (RA), systemic lupus erythematosus (SLE), and multiple sclerosis (MS) who were treated with biologic DMARDs. Patients with symptoms of the coronavirus infection were invited to have a COVID-19 test that involved a COVID-19 IgG antibody test or a polymerase chain reaction (PCR) test (i.e., nasal swab). Additionally, patients were asked about their precautionary self-isolation status during this period.

Results: The mean age of the patients was 51.29 years \pm 13.38 years. The ratio of males to females was 27 to 173. Of the 200 patients included in the study, 156 (78%) had RA, 10 (5%) had SLE, and 34 (17%) had MS. Seventy-five percent of the patients used rituximab. Ten patients (5%) were symptomatic of COVID-19, although only four patients had a definitive diagnosis of the disease. All patients who were symptomatic of COVID-19 took rituximab. Ten percent of patients who did not observe the precautionary self-isolation period were diagnosed with COVID-19.

Conclusion: Patients who receive biologic DMARDs have a lower risk of developing COVID-19 and a lower risk of mortality from the disease than the general population.

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Introduction

In December 2019, an outbreak of a novel pneumonia was seen in Wuhan province, China. The disease was caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a new member of the Coronaviridae family, which spread around the world (1). Approximately 15%-20% of patients had severe cases of the coronavirus disease 2019 (COVID-19), which was characterized by a dry cough, headache, dyspnea, fatigue, fever, and lymphopenia. COVID-19 can initiate interstitial pneumonia with alveolar injury, leading to acute respiratory distress syndrome (ARDS) and even death (2-6). Elderly people, people with comorbidities, and those with a deficient immune system have the

Key point

The prevalence of coronavirus disease 2019 (COVID-19) in patients with rheumatic disorders who received biologic disease-modifying antirheumatic drugs (DMARDs) was studied. The effects of precautionary self-isolation for COVID-19 were also investigated in these patients. Our study showed that the prevalence of COVID-19 in these patients was the same as the prevalence in the normal population.

highest risk of mortality from COVID-19. Patients with autoimmune disorders, such as systemic lupus erythematosus (SLE) and rheumatoid arthritis (RA), not only have a deficient immune system, but also take prescription immunosuppressive medicines



patients. In addition, some patients provided incomplete information about the drugs used. The lack of correct information used to communicate with patients was another limitation.

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Authors' contribution

AA and SH were the principal investigators of the study. AA and SH were involved in preparing the concept and design. AA, MME, and FF revisited the manuscript and critically evaluated the intellectual contents. All authors participated in preparing the final draft of the manuscript, revising the manuscript, and critically evaluating the intellectual contents. All authors have read and approved the content of the manuscript, and confirmed the accuracy or integrity of any part of the work.

Conflicts of interest

The authors declare that they have no competing interests.

Ethical considerations

Ethical issues, which include plagiarism, data fabrication, and double publication, have been completely observed by the authors.

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