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Effect of the COVID-19 pandemic on patients with systemic rheumatic diseases



The effect of the COVID-19 pandemic on people with inflammatory or autoimmune rheumatic diseases remains unclear. Risk factors associated with severe COVID-19 outcomes include older age (>65 years), male sex, and pre-existing comorbidities (hypertension, diabetes, obesity, cardiovascular diseases, and chronic respiratory diseases).¹ Additionally, immune-compromised individuals, including people with systemic rheumatic diseases, are at increased risk of infection, including by SARS-CoV-2.²

The prevalence of COVID-19 and its association with rheumatic diseases and immunosuppressive medications have been evaluated in large population-based studies in the first phase of pandemic, from February to August, 2020. Some studies have shown a high prevalence of COVID-19 in people with inflammatory or autoimmune rheumatic diseases compared with the general population.³ Furthermore, a protective role of some immunomodulatory drugs (eg, hydroxychloroquine) has been suggested by other observational studies in patients with rheumatic diseases; some of these drugs have been proposed as treatments in patients with COVID-19 who develop hyperinflammation, which is associated with severe COVID-19 outcomes.⁴ Conflicting results, however, were initially reported in the literature about both the risk of COVID-19, and the effects of immunomodulatory drugs in patients with inflammatory or autoimmune rheumatic diseases.

More recently, increased prevalence of COVID-19 in patients with rheumatic disease has been shown by

large observational and meta-analysis studies.⁵ Notably, differences in prevalence have been reported according to types of rheumatic disease, with patients with connective tissue diseases showing a higher prevalence of COVID-19 than patients with chronic arthritis.⁶ Moreover, COVID-19 is more prevalent in patients with pre-existing interstitial lung disease than in those without,⁶ and interstitial lung disease is associated with a more severe COVID-19 pneumonia, and a worse prognosis. Thus, the risks of COVID-19 in people with rheumatic diseases are complex and varied, as are the challenges faced in deciding how to reduce the risk of infection by SARS-CoV-2.

In *The Lancet Rheumatology*, Jonathan S Hausmann and colleagues⁷ report the results of the COVID-19 Global Rheumatology Alliance Patient Experience Survey, an international online survey designed to investigate the effects of the COVID-19 pandemic on patients with rheumatic diseases worldwide. Survey questions were disseminated through websites, social media, and patient support organisations. The questionnaire included information about demographics, rheumatic disease diagnosis, COVID-19 diagnosis, protective behavioural measures adopted to reduce COVID-19 exposure, health-care access and communication with rheumatologists, medication access and changes, and changes in employment.

Responses from 9300 adult patients with rheumatic diseases were included from more than 90 countries (mean age 46.1 years [SD 12.8];

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8375 [90.1%] women and 893 [9.6%] men) between April 3 and May 8, 2020. The most frequent diagnoses were rheumatoid arthritis (39.1%), systemic lupus erythematosus (31.0%), and Sjögren's syndrome (13.9%). The most common antirheumatic medications were conventional synthetic disease modifying antirheumatic drugs (DMARDs; 71.4%), systemic glucocorticoids (34.9%), and biologic DMARDs (31.1%). Of the 9300 respondents, 510 (5.5%) had a COVID-19 diagnosis: 43.7% were self-diagnosed according to symptoms, 35.1% were diagnosed by a health-care provider on the basis of symptoms, and 17.8% were confirmed by laboratory tests. Most respondents (82.0%) continued their prescribed antirheumatic medication. Almost all respondents (99.7%) adopted protective behaviours to reduce COVID-19 exposure. 27.1% of respondents had a change in their employment status: the number in full-time employment decreased by 13.6% (from 4066 to 3514).

From the results of Hausmann and colleagues and of other observational studies, some provisional conclusions can be drawn. Patients with inflammatory or autoimmune rheumatic diseases should be included among people considered clinically vulnerable to COVID-19. The increased prevalence of COVID-19 in inflammatory or autoimmune rheumatic diseases can depend on numerous factors, such as disease-related immune-system alterations or the use of immune-modulating drugs; the variable diffusion of SARS-CoV-2 infection in different geographical areas; local health system organisation; and unknown genetic and environmental predisposing conditions.⁸ The high prevalence of mild COVID-19 in patients with rheumatic disease might be associated with ongoing anti-inflammatory or immunomodulating treatments frequently used in these conditions. Notably, the risk of developing severe COVID-19 is particularly high in patients with rheumatic disease who have pre-existing interstitial lung disease and in the subgroup of those with connective tissue disease.⁶

People with rheumatic diseases continued therapy and followed public health advice to mitigate the risks

of COVID-19. Substantial employment status changes occurred, with potential implications for health-care access, medication affordability, mental health, and rheumatic disease activity.⁷

In consideration of the unpredictable succession of pandemic waves and the appearance of more virulent SARS-CoV-2 variants, verifying the effect of vaccination^{9,10} against COVID-19 for protection against the virus, and its association with ongoing treatments in patients with inflammatory or autoimmune rheumatic diseases who are more prone to this infectious disease, is necessary.

We declare no competing interests.

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