

EPIDEMIOLOGY

New data emerging on outcomes for patients with COVID-19 and rheumatic diseases

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Efforts to understand the effects of the coronavirus disease 19 (COVID-19) pandemic on patients with rheumatic diseases are ongoing globally. Two new reports, including a large, international case series and a single-centre epidemiological study, add to what is known about factors associated with severe disease and outcomes in this subgroup of patients with COVID-19.

The case series reported on the first 600 patients submitted to the COVID-19 Global Rheumatology Alliance (C19-GRA) physician registry, a cohort that included patients from 40 countries. Although nearly half of the patients (46%) were hospitalized, most recovered from COVID-19; 55 patients (9%) died. The investigators found that those who were hospitalized were more likely to be over age 65 and to have comorbidities, with hypertension, lung disease and diabetes mellitus being the most common.

Use of moderate-to-high dose glucocorticoids (prednisone-equivalent dose of ≥ 10 mg per day) was also associated with an increased risk of hospitalization in the C19-GRA registry cohort (OR 2.05, 95% CI 1.06–3.96), whereas use of DMARDs or NSAIDs

was not. Notably, use of TNF inhibitors substantially reduced the odds of hospitalization (OR 0.40, 95% CI 0.39–1.06), a finding that could have implications not only for patients with rheumatic or immune-mediated diseases, but also for patients with COVID-19 more broadly.

“Our data are the first to show in a substantial number of patients the protective effect of TNF inhibitors on poor outcomes,” says Philip Robinson, corresponding author of the C19-GRA study. The mechanisms underlying this protective effect are unclear at present, but the potential benefit of TNF blockade in treating COVID-19 is currently being explored in placebo-controlled trials. “This has real potential to be an effective, and accessible, treatment for COVID-19 infection,” Robinson remarks.

The single-centre epidemiological study involved a retrospective analysis of 1,255 patients with COVID-19, as well as detailed screening of 17 patients with rheumatic diseases and COVID-19 (identified from records of 2,804 patients), admitted to a hospital in Wuhan, China. The majority of the 1,255 hospitalized patients with COVID-19 (63%), including 83% of those admitted to the intensive care unit, had comorbid conditions, most commonly hypertension and diabetes mellitus. The analysis of this cohort suggested that older males with chronic comorbidities were more likely to develop severe COVID-19.

The 17 patients with rheumatic diseases and COVID-19 were of similar age to the overall population of patients with COVID-19, and 58.8% had a comorbid condition; one of the 17 patients died. The researchers highlighted that the number of patients with COVID-19 who

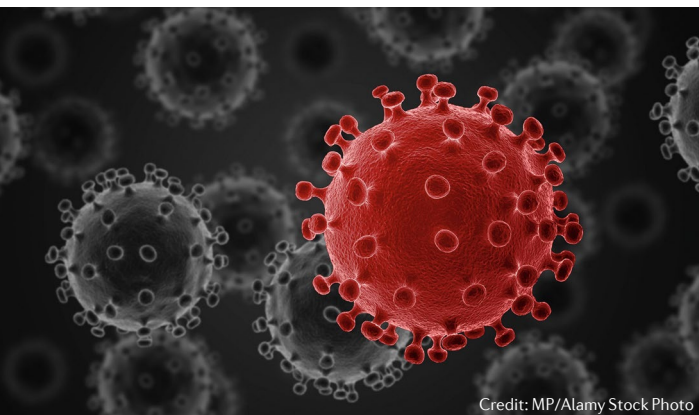
had rheumatic diseases was much lower than expected, considering the prevalence of these diseases in the general population, but whether this finding was related to use of immunomodulatory therapies could not be determined from the small number of cases. “We think this finding is very fascinating, and it is well worth more high-quality human clinical trials and in-depth research into the mechanisms,” comments Shenghao Tu, corresponding author of the Wuhan study.

In follow-up interviews, the researchers learnt that 10 of the 16 discharged patients had changed or discontinued therapy for their rheumatic disease while hospitalized, particularly elderly patients who lived alone. Many of these patients felt their disease had worsened as a result, but still remained reluctant to visit a doctor as the pandemic was ongoing. “Considering the dilemma, we propose more attention should be put on the underlying diseases of patients with chronic comorbidities,” says Tu.

The authors of both studies remark that the findings should be interpreted with caution and highlight avenues for future investigations. The C19-GRA continues to enrol patients; future studies are planned to examine specific outcomes of COVID-19 in people with rheumatic diseases, such as mortality and ventilation, as well as disease-specific analyses.

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ORIGINAL ARTICLES Gianfrancesco, M. et al. Characteristics associated with hospitalisation for COVID-19 in people with rheumatic disease: data from the COVID-19 Global Rheumatology Alliance physician-reported registry. *Ann. Rheum. Dis.* <https://doi.org/10.1136/annrheumdis-2020-217871> (2020) | Huang, Y. et al. Clinical characteristics of 17 patients with COVID-19 and systemic autoimmune diseases: a retrospective study. *Ann. Rheum. Dis.* <https://doi.org/10.1136/annrheumdis-2020-217425> (2020)



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