

COVID-19-related death in rheumatic diseases

This is the lay version of a paper published on behalf of the COVID-19 Global Rheumatology Alliance Consortium. It examines COVID-19-related death in people with rheumatic diseases. The original publication can be downloaded from the EULAR website: www.eular.org.

[Strangfeld A, et al. Factors Associated with COVID-19-related Death in People with Rheumatic Diseases: Results from the COVID-19 Global Rheumatology Alliance physician-reported registry. Ann Rheum Dis Published Online First: 27 January 2021. doi: 10.1136/annrheumdis-2020-219498](#)

Introduction

EULAR gives advice to doctors, nurses and patients about the best way to treat and manage rheumatic diseases. As part of the current global effort to understand and combat COVID-19, EULAR gave financial support to this registry project.

What do we already know?

There are more than 200 rheumatic diseases, including rheumatoid arthritis, spondyloarthritis, and systemic lupus erythematosus. Many of these diseases are autoimmune conditions that cause inflammation in the body. Rheumatic diseases typically affect joints, muscle, or connective tissue. They can also affect a person's internal organs.

People with rheumatic diseases are more prone to infection. This can be because of the disease itself and the way it affects the immune system, but also affected by some of the medicines used to treat the rheumatic disease. COVID-19 is the disease caused by a new type of coronavirus called severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). Clinical information for people with COVID-19 who have a rheumatic disease is limited, especially about factors that might make them more likely to die from the infection.

What does the paper say?

The registry collected information on 3729 people with rheumatic disease who had either a confirmed or highly likely case of COVID-19, or had symptoms of this infection. In total, 390 people died – just over 10%. The authors looked to see if there were any common factors in the people who died compared to those who recovered from the COVID-19 infection.

- **Older age and male sex are associated with COVID-19-related death.**
Of those who died, over two-thirds were over the age of 65. The risk of dying was even higher in people in over the age of 75, and for men compared to women. This is similar to what has been found in the general population.
- **Comorbidities are more common in people who die from COVID-19.**
Across all 3729 people included, most people had at least one other disease (comorbidity). The most common were hypertension (high blood pressure), chronic lung disease, and obesity. In the whole group, 21% of people had three or more comorbidities. When the authors looked only at the people who had died, 43% had three or more comorbidities. This is similar to what has been found in the general population.
- **Cardiovascular and chronic lung disease are more common in people dying from COVID-19.**
Other factors associated with dying from COVID-19 included chronic lung disease, or having

cardiovascular disease combined with hypertension. Chronic kidney disease was also a risk for people with connective tissue disease or vasculitis, but did not increase the risk of death for people with other types of rheumatic disease.

- **Disease-specific factors are associated with COVID-19-related death.**
People with moderate or high disease activity were more likely to die from COVID-19 than those with low disease activity or people who were in remission (no current signs and symptoms of their rheumatic disease).
- **Certain medications are associated with COVID-19-related death.**
People taking rituximab or sulfasalazine were more likely to die from COVID-19. A similar association was seen for a mixed group of immunosuppressants (azathioprine, cyclophosphamide, ciclosporin, mycophenolate and tacrolimus) compared to those using immunomodulators such as disease-modifying anti-rheumatic drugs (often shortened to DMARDs). However, the numbers were too low to allow individual analysis by immunosuppressive drug, making it difficult to interpret these results. Moderate to high doses of glucocorticoids (steroids) – more than 10 mg per day – were also associated with a higher risk of dying across all rheumatic diseases.

What does this mean for me?

These findings will help patients and doctors reach a shared understanding of risk of COVID-19 severe outcomes in patients with RMDs. If you have been in contact with a COVID-19 patient or have symptoms of COVID-19, you should contact your local health authorities and your rheumatologist. Generally, patients with RMD should continue to comply with all preventive and control measures and vaccination efforts prescribed by the health authorities in their countries, such as hand hygiene, wearing masks (ideally FFP2 masks) and holding distance of at least 2 meters from others.

Summary

Overall, the papers highlight that the risk of dying from COVID-19 varies according to people's underlying disease activity and what medicine they are taking. It is important for people with a rheumatic disease to continue to control their disease activity with DMARDs, but preferably without increasing the dose of any glucocorticoids, if possible. Withdrawal of effective treatments should be based on sound evidence, even during a pandemic.

If you have any questions or concerns about your disease or your medication, you should speak to a health professional involved in your care.

Disclaimer

The EULAR COVID-19 Database is based on rheumatologists and other clinicians voluntarily reporting cases, meaning that patients included do not necessarily represent the majority of patients with RMDs and COVID-19, but those who their doctors reported data to the database. Additionally, this database does not account for non-COVID-19 patients. Therefore, results cannot be directly extrapolated to the entire population of patients with RMDs and COVID-19, and should be interpreted cautiously.