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BASELINE MEDICATION USE IS ASSOCIATED WITH COVID-19 SEVERITY IN PEOPLE WITH RHEUMATIC DISEASES

Results from the COVID-19 Global Rheumatology Alliance and the French RMD cohort

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COVID-19 is the disease caused by SARS-CoV-2 infection. It has been suggested that biologic or targeted synthetic disease-modifying antirheumatic drugs (b/tsDMARDs) may dampen the inflammatory response in COVID-19, perhaps leading to a less severe clinical course of the infection. However, the way some antirheumatic drugs work might impair the body's natural immune defence against viruses. Two abstracts presented at EULAR 2021 show people taking rituximab or a class of drugs called janus kinase inhibitors (JAKi) have worse COVID-19 severity compared to people taking tumour necrosis factor inhibitors (TNFi). These data from two large registry initiatives highlight the urgent need for strategies to manage the risk in people taking antirheumatic drugs, such as identifying optimal timing for vaccination.

Due to sample size limitations, previous studies of DMARD use and COVID-19 outcomes have combined several different rheumatic diseases and medications, and investigated a single outcome – for example, the risk of hospitalization. EULAR has given financial support to a global project collecting information on SARS-CoV-2 infection in people with rheumatic diseases. The COVID-19 Global Rheumatology Alliance physician-reported registry launched in March 2020 to collect data on adults with rheumatic disease and confirmed or presumptive COVID-19.

This analysis from Jeffrey Sparks, Zachary Wallace, and colleagues aimed to investigate the associations between baseline use of biologic or targeted synthetic DMARDs with a range of poor COVID-19 outcomes specifically in people with rheumatoid arthritis (RA). The treatments included were abatacept, rituximab, JAK inhibitors (JAKi), interleukin-6 inhibitors (IL-6i), or tumor necrosis factor inhibitors (TNFi). The outcomes were scored on a scale of one to four for COVID-19 severity: 1) no hospitalization, 2) hospitalization without oxygen need, 3) hospitalization with any oxygen need or ventilation, or 4) death. The authors used an analysis to compare each drug class to TNFi.

Of 1,673 people with RA taking b/tsDMARDs when they developed COVID-19, 498 (34.3%) were hospitalized and 112 (6.7%) died. Rituximab users were more likely than TNFi users to have interstitial lung disease (ILD; 11.6% versus 1.7%) and history of cancer (7.1% versus 2.0%); JAKi users were more likely than TNFi users to be obese (17.3% versus 9.0%). After propensity score matching, the authors found that rituximab was strongly associated with greater odds of having a worse COVID-19 outcome compared to TNFi. Among rituximab users, 42 (18.8%) died compared to 27 (3.3%) of TNFi users. JAKi use was also associated with greater odds of having a worse COVID-19 severity. People taking abatacept or IL-6i did not have worse COVID-19 severity compared to TNFi. Overall, the results were similar in the sensitivity analysis and after excluding cancer or ILD.

Since the abstract was submitted, Sparks adds that the database was refreshed so the numbers have all changed and the sample size is bigger. The main findings are consistent with the initial submission.

Similar results regarding rituximab have been found in the French RMD cohort. Avouac and colleagues reported findings on behalf of a consortium of contributors, including FAI2R, SFR, SNFMI, SOFREMIP, CRI, and IMIDIATE. Of 1,090 people included with rheumatic diseases – mainly RA – 137 developed severe COVID-19 disease (12.6%). After adjusting for potential confounding factors, severe disease was confirmed to be more frequent in patients receiving rituximab. People who developed severe COVID-19 had received rituximab infusion more recently compared to people with mild or moderate infection.

In this cohort, 89 people cohort died – an overall death rate of 8.2%. Death rate was numerically higher in people receiving rituximab (20.6%) compared to those not (7.4%), and the subgroup of untreated patients with diseases eligible for rituximab therapy (9.9%). However, after adjusting for confounding factors, the risk of death was not significantly increased in people treated with rituximab, although the length of hospital stay was markedly longer in people treated with rituximab compared to both untreated groups.

Results so far from these registries of people with RA and COVID-19 show that baseline use of rituximab or JAKi is associated with worse severity of COVID-19 compared to TNFi use. The elevated odds for poor COVID-19 outcomes in people taking rituximab highlights the urgent need for strategies to limit their risk, such as optimal vaccination timing. The global alliance finding that JAKi are associated with poor COVID-19 outcomes is novel, and needs to be reproduced in other studies.

Source

Sparks J, et al. Associations of baseline use of biologic or targeted synthetic DMARDs with COVID-19 severity in rheumatoid arthritis: Results from the COVID-19 Global Rheumatology Alliance. Presented at EULAR 2021; abstract OP0006.

Avouac J, et al. RITUXIMAB: data from the French RMD COVID-19 cohort. Presented at EULAR 2021; abstract OP0284.

About EULAR

EULAR is the European umbrella organisation representing scientific societies, health professional associations and organisations for people with rheumatic and musculoskeletal diseases (RMDs). EULAR aims to reduce the burden of RMDs on individuals and society and to improve the treatment, prevention, and rehabilitation of RMDs. To this end, EULAR fosters excellence in education and research in the field of rheumatology. It promotes the translation of research advances into daily care and fights for the recognition of the needs of people with RMDs by the EU institutions through advocacy action.

About the EULAR European Congress of Rheumatology

Since its introduction in 2000, the annual EULAR European Congress of Rheumatology has become the primary platform for exchange of scientific and clinical information in Europe. It is

also a renowned forum for interaction between medical doctors, scientists, people with arthritis/rheumatism, health professionals and representatives of the pharmaceutical industry worldwide. The EULAR congress is usually held in June in one of the major cities in Europe (see previous congresses).

The scientific programme at the congress covers a wide range of topics on clinical innovations, clinical, translational and basic science. Meetings set up by associations of people with arthritis/rheumatism, health professionals and the health care industry complement the programme. The poster sessions, offering lively interaction between presenters and participants, are regarded by many as the heart of the congress.

Over the years, the EULAR Congress has gained a reputation of being a most innovative platform for the practicing physician particularly with respect to the acquisition of information on novel clinical research. The congress attracts more than 18,000 delegates from more than 130 countries.

The aim of the EULAR European Congress of Rheumatology is to provide a forum of the highest standard for scientific, both clinical and basic, educational, and social exchange between professionals involved in rheumatology, liaising with patient organisations, in order to achieve progress in the clinical care of people with rheumatic diseases.

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