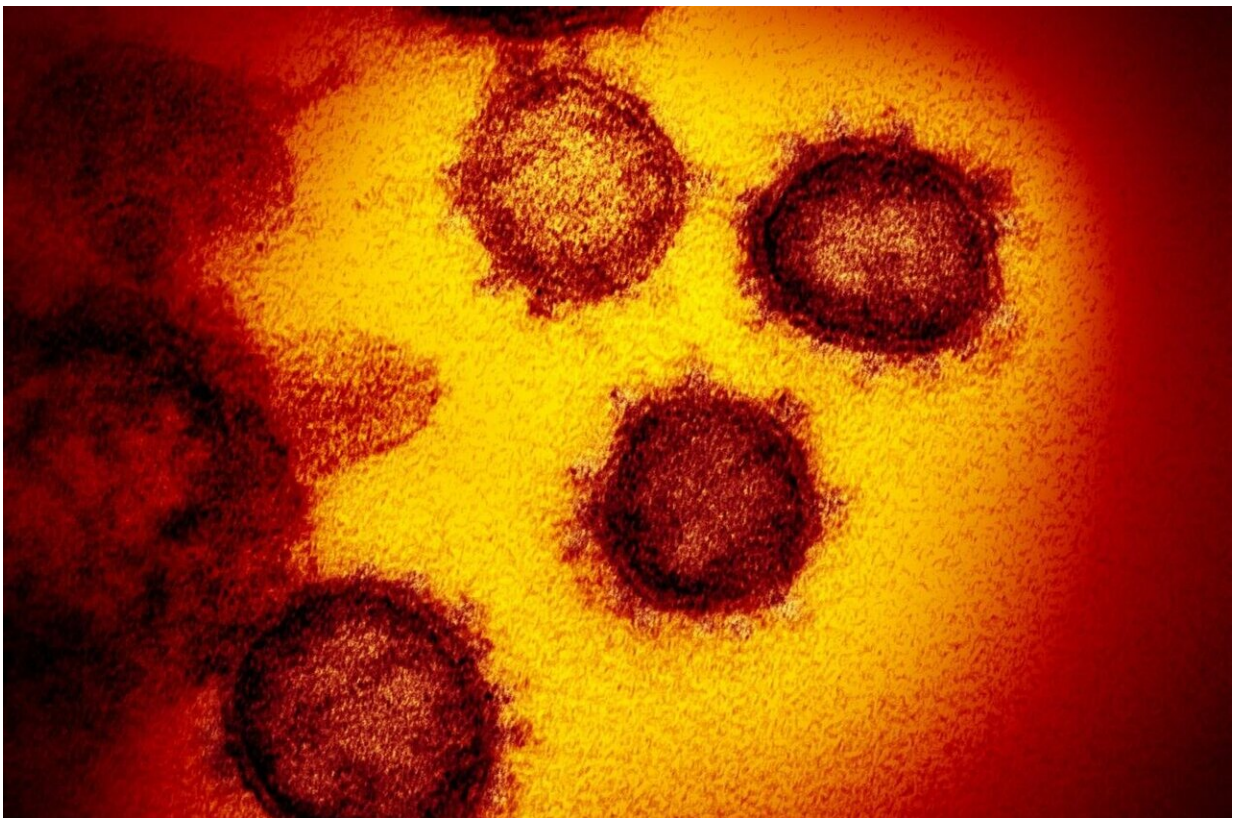


Studies of COVID-19 risk in patients with psoriasis and psoriatic arthritis appear biased

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Transmission electron microscope image of SARS-CoV-2, the virus that causes COVID-19, emerging from human cells. Credit: NIAID

A systematic evaluation of research on the risk and outcomes of

COVID-19 in patients with psoriasis and psoriatic arthritis treated with biological therapies has found high risk of bias in all of the studies, among other quality issues. Therefore, investigators reporting in the *Journal of Investigative Dermatology*, published by Elsevier, conclude that neither a definite statement on risk nor management recommendations can be made based on currently published data.

Since the beginning of the COVID-19 pandemic, there has been concern among dermatologists about increased risk of infection or worse outcomes in patients treated with biological therapies or psoriasis or psoriatic arthritis. Some studies have reported an increased risk of respiratory infection in patients treated with biologics, while these same drugs have been proposed as possible treatments for COVID-19.

"Our study is not intended as a criticism to the authors or the journals that published their research," stressed lead investigator Stefano Piaserico, MD, Ph.D., Department of Medicine, Dermatology Unit, University of Padua, Padua, Italy. "Rather, it is a reminder to be careful when reading new COVID-19 papers. During a pandemic, [healthcare providers](#) should be more cautious when incorporating evidence from new studies into personal decision making."

The study was conducted by a group of dermatologists based in Italy, the first European nation to be hit hard by COVID-19. They wanted to evaluate the incidence of COVID-19 in patients with plaque psoriasis receiving biologic therapies, but even if they used data from several different centers in Italy, the number of patients in their studied population was too low to make a sound comparison with the general population. So, thanks to a collaboration with the Study Center of the Italian Group for Epidemiologic Research in Dermatology (GISED) led by Luigi Naldi, MD, in Bergamo, they decided to study the published literature in an attempt to make a pooling analysis. As a result, they realized that several published studies were flawed in many ways.

Investigators analyzed the quality of 25 papers dealing with the risk and outcomes of COVID-19 in patients receiving biologic treatment for psoriasis or psoriatic arthritis using the Newcastle-Ottawa Scale (NOS). This tool is a point-based system that evaluates studies based on eight different criteria including selection of study groups, comparability of the groups, exposure, and outcome. The highest possible score is nine stars, with six or higher (greater than 75 percent) considered to have a low risk of bias. The investigators also considered other factors for validation including case definition, modality of COVID-19 assessment, and evidence for participant self-selection.

The median score for all studies reviewed was 47.2 percent for psoriasis studies and 44.4 percent for [psoriatic arthritis](#) studies, indicating a high risk of bias. Most studies were performed in referral hospital centers and no population-based studies were published, leading to selection bias.

Dr. Piaserico observed that their results were in line with similar quality studies in other clinical areas. The quality of papers published in some of the leading [medical journals](#) was lower in the first months of 2020 compared to the same period in 2019, and the decline could be tied to COVID-19.

"COVID-19 was, and still is, an unknown disease and there was an urgent need to collect and publish data. Against this backdrop, traditional peer-review systems have been stressed by the enormous number of COVID-19–related manuscripts. Everyone agreed on the fact that little, even flawed, data were better than no data," explained Dr. Piaserico.

The investigators provide a number of specific recommendations for future studies. Multicenter collaboration prioritizing data collection and a system to rapidly activate formal epidemiological studies and registries when global health crises strike should be considered, with international study coordination and data sharing.

"The tremendous hunger for data by the public and medical community and the understandable desire to provide swift information should not, in the future, lower the quality of research," Dr. Piaserico and Dr. Luigi Naldi concluded.

More information: "Assessing the Risk and Outcome of COVID-19 in Patients with Psoriasis or Psoriatic Arthritis on Biologic Treatment: A Critical Appraisal of the Quality of the Published Evidence," *Journal of Investigative Dermatology* (2021). doi.org/10.1016/j.jid.2021.04.036

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