Connective tissue diseases may pose additional risk from COVID-19

In hospitalised patients, connective tissue diseases might contribute to worse COVID-19 infection

INTRODUCTION
COVID-19 is the disease caused by a new type of coronavirus called severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). It was declared a pandemic by the World Health Organization on 11 March 2020. COVID-19 has forced people to change their behaviours. The goal is to try to limit the spread of infection.

Not much is known about COVID-19 in people with rheumatic diseases. It is also not known how the infection might vary by people’s age, treatment they are taking, or other diseases they already have.

WHAT DID THE AUTHORS HOPE TO FIND?
The authors wanted to see if people with a rheumatic disease had more severe COVID-19 infection than people without a rheumatic disease.

WHO WAS STUDIED?
The study looked at 456 people with COVID-19 infection. Half the people had a rheumatic disease. This included chronic arthritis (rheumatoid, psoriatic or spondyloarthritis) or a connective or autoimmune disease (such as lupus, scleroderma or vasculitis). The other half of the people did not have a rheumatic disease.

HOW WAS THE STUDY CONDUCTED?
In this study the authors used existing databases of patient records to look back and find people for each group. There was no treatment being studied. The authors searched the records of people who were in the database of the rheumatology department and who also had a positive COVID-19 test. The positive test was confirmed in the hospital microbiology database. These 228 people were then matched with another group with similar age and sex. The other group also had hospital-confirmed COVID-19, but no rheumatic diseases. The authors used the results to see if there was any link between immunosuppressive therapies that people were taking at the time they were infected.

Severity of the COVID-19 infection was defined as death, admission to intensive care, or potentially lethal complications such as blood poisoning, blood clots, brain damage, or kidney or heart failure.

WHAT WAS THE MAIN FINDING?
The main finding was that having a connective tissue or autoimmune disease such as lupus, scleroderma or vasculitis doubled the severity of COVID-19 infection. This increased risk did not apply to people with chronic arthritis (rheumatoid, psoriatic or spondyloarthritis). It was also not affected by which previous immunosuppressive medicines people had been taking for their rheumatic disease. These results were adjusted to take into account other factors that can affect the severity of COVID-19 infection, such as age, sex, weight, or having a cardiovascular disease or diabetes.

ARE THESE FINDINGS NEW?
Yes. There were only two previous studies in smaller groups of patients. One of these in 52 people with rheumatic disease in Boston, US, suggested that COVID-19 could lead to higher need for admission to intensive care. Another small study in 26 people in Brescia, Italy, did not find any differences. But because they were small these studies could not separate different disease types. Other more recent studies also conclude that people with certain rheumatic diseases are more often infected or hospitalised than people without rheumatic diseases, and may have more severe infection.
WHAT ARE THE LIMITATIONS OF THIS STUDY?
Because of the study size, it is not possible to say which specific factors are increasing the risk of having worse COVID-19 infection. It could be due to one specific connective tissue disease, or to certain medicines used. It might also depend on which organs are involved in a person’s disease, and how bad their rheumatic disease is. It is possible that not all patients with rheumatic diseases are at similar risk of severe COVID-19 infection.

WHAT DO THE AUTHORS PLAN TO DO WITH THIS INFORMATION?
The authors plan to share this information with patients and doctors. The information may be useful to help protect people with rheumatic diseases. New research is being done to investigate specific factors that might make people with rheumatic diseases more at risk from COVID-19.

WHAT DOES THIS MEAN FOR ME?
If you have a systemic connective tissue or autoimmune disease you are at higher risk of getting COVID-19. If you need to be admitted to hospital, you have a higher risk for more severe infection than other people. Some people with rheumatic diseases might need to self-isolate or shield.

Protect yourself from COVID-19 by following the advice of the government in your country, including wearing masks, washing your hands regularly, avoiding touching your face, and following social distancing rules.

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