

LETTER

The COVID-19 outbreak and rheumatologic skin diseases

Dear Editor

Global public health is currently challenged with the volcanic spread of coronavirus disease 2019 (COVID-19).¹ The American College of Rheumatology has announced that there are no current data on the COVID-19 infection in patients with connective tissue diseases. Hence, extrapolation from the documented literature of other RNA viruses causing connective tissue diseases is our best estimate of how the COVID-19 virus could affect the rheumatic system. Previous study evaluated the patterns of cross-reaction of severe acute respiratory syndrome (SARS)-CoV antigen and antibodies in connective tissue diseases. The patients with systemic lupus erythematosus, systemic sclerosis, mixed connective tissue disease, and rheumatoid arthritis, all showed cross reactions.² False-positive antibody tests were present in samples collected from patients with autoimmune diseases with rheumatic associations. Hence, it is reasonable to keep in mind that there may be a flare of the symptoms of these diseases, including the rheumatologic manifestations.

Genetically susceptible connective tissue diseases like rheumatoid arthritis (RA) have viruses that include coronavirus as triggers that lead to its onset. The mechanisms postulated for this are either post-translational modification of peptides, "molecular mimicry" activating T cells or "epitope spreading," due to direct or T-cell associated damage by the virus leading to autoreactive T cells.¹ Bystander activation of T cells due to inflammatory cytokines released by the virus may also occur. Numerous studies in the literature have shown the onset of new RA or reactivation of arthritis in patients known to be in remission, post a viral infection. The COVID-19 infection may lead to the same. As with other single-strand RNA viruses like HIV, polymyositis, and fibromyalgia may also occur with the COVID-19 infection.³ Viral arthritis, a self-limiting polyarthritis, may also occur with SARS-CoV-2 infection. Chronic, widespread musculoskeletal pain as occurs post SARS syndrome is a possibility with COVID-19.

Currently, patients on disease-modifying antirheumatic drugs, biologics, or other immunosuppressive medications are required to consult their rheumatologist and stop these drugs during an infection.⁴ Noninfected patients are, however, advised to continue their medication during the epidemic. It is also noteworthy to mention that patients with rheumatic disease are more susceptible to the COVID-19 virus either because of the rheumatologic disease itself or the medications used to treat their underlying disease.

From the current available data, no definite association can be established between COVID-19 and rheumatological disorders, but further studies are needed to reaffirm the same.

ACKNOWLEDGMENTS

We confirm that the manuscript has been read and approved by all the authors, that the requirements for authorship as stated earlier in this document have been met, and that each author believes that the manuscript represents honest work.

Gulhima Arora¹
 Martin Kassir²
 Mohammad Jafferany³ 
 Hassan Galadari⁴
 Torello Lotti⁵ 
 Francesca Satolli⁶ 
 Roxanna Sadoughifar^{7,8}
 Zuzanna Sitkowska⁹
 Mohamad Goldust^{8,10,11} 

¹Department of Dermatology, Mehektagul Dermaclinic, New Delhi, India

²Worldwide Laser Institute, Dallas, Texas

³College of Medicine, Central Michigan University, Saginaw, Michigan

⁴College of Medicine and Health Sciences, United Arab Emirates University, Al Ain, United Arab Emirates

⁵University of Studies Guglielmo Marconi, Rome, Italy

⁶Department of Dermatology, University of Parma, Parma, Italy

⁷University of Rome G. Marconi, Rome, Italy

⁸Bidarskincenter, Tehran, Iran

⁹Department of Dermatology, Medical University of Warsaw, Warsaw, Poland

¹⁰Department of Dermatology, University Medical Center Mainz, Mainz, Germany

¹¹Department of Dermatology, University Hospital Basel, Basel, Switzerland

Correspondence

Mohamad Goldust, Department of Dermatology, University Hospital Basel, Basel, Switzerland.

Email: mohamad.goldust@usb.ch

ORCID

Mohammad Jafferany  <https://orcid.org/0000-0001-6358-9068>

Torello Lotti  <https://orcid.org/0000-0003-0840-1936>

Francesca Satolli  <https://orcid.org/0000-0003-1610-9249>

Mohamad Goldust  <https://orcid.org/0000-0002-9615-1246>

REFERENCES

1. Chan J, Kok K, Zhu Z, et al. Genomic characterization of the 2019 novel human-pathogenic coronavirus isolated from a patient with atypical pneumonia after visiting Wuhan. *Emerg Microb Infect*. 2020a;9:221-236.
2. Wang Y, Sun S, Shen H, et al. Cross-reaction of SARS-CoV antigen with autoantibodies in autoimmune diseases. *Cell Mol Immunol*. 2004;1:304-307.
3. Johnson R, Williams F, Kazi S, Dimachkie M, Reveille J. Human immunodeficiency virus-associated polymyositis: a longitudinal study of outcome. *Arthritis Rheum*. 2003;49:172-178.
4. Felis-Giemza A. New era of treatment with biologics in rheumatology— is it time to shift paradigms in treatment with biologics? *Reumatologia*. 2019;57(5):255-256.