

Acute arthritis following SARS-CoV-2 infection

Dear Editor,

We have read with interest the article by Saricaoglu et al¹ published in the recent issue of the *Journal of Medical Virology*. The authors diagnosed reactive arthritis in a 73-year-old male patient after the debut of polyarthritis in feet 8 days after finishing treatment for coronavirus disease-2019 (COVID-19). Although viral-associated arthritis or reactive arthritis should be considered in differential diagnosis, they do not describe if the synovial fluid was analyzed.

Some recent studies have described acute arthritis following severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) infection.²⁻⁴ Differential diagnosis should be made among viral arthritis, crystal-associated arthritis, septic arthritis, or recent onset of any inflammatory rheumatic disease. Synovial fluid examination is essential to approach the diagnosis.

Crystal-associated arthritis, such as gout or pseudogout, is common in hospitalized patients for infections or other diseases.⁵ We described our experience of acute arthritis during COVID-19 admission in four patients.² A total of 306 patients with proven COVID-19 were admitted to our hospital. Eighty-one (26.4%) complained of muscle and joint pain at presentation. No patient had evident arthritis at admission, but four (1.3%) developed acute arthritis during hospitalization all due to crystal-proven flares (gout and calcium pyrophosphate disease). Days from first COVID-19 symptom to acute arthritis onset were, respectively, 8, 19, 8, and 27. The synovial fluid analysis allowed definitive diagnoses. Normal radiographies and normal uric acid do not exclude crystal-associated arthritis since radiographies are normal in most gout patients and serum uric acid descends during the gout flares due to raised urate renal clearance.⁶ Sensitivity of the feet radiographies for CPP arthritis in the affected joints has not been evaluated.

In the patient described by Saricaoglu et al,¹ we noticed pathological nails that could correspond to psoriatic nails and if so, the arthritis could also be the onset of psoriatic arthritis. The diagnosis of reactive arthritis without a complete study and without a long follow-up it is inaccurate.

It is necessary to follow up patients with SARS-CoV-2 who developed new onset of arthritis but we want to insist that it remains essential to check the synovial fluid in every arthritis by polarized

microscopy, especially in recent or acute arthritis—even during the SARS-CoV-2 pandemic.

CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

Vega Jovani MD, PhD¹ 

Eliseo Pascual MD, PhD², Prof

Paloma Vela MD, PhD^{1,2}

Mariano Andrés MD, PhD^{1,2}

¹Department of Rheumatology, Alicante General University Hospital- Alicante Institute of Sanitary and Biomedical Research, Alicante, Spain

²Department of Clinical Medicine, Miguel Hernández University, Elche, Spain

Correspondence

Vega Jovani, MD, PhD, Department of Rheumatology, Alicante General University Hospital, Pintor Baeza 11, 03010 Alicante, Spain.

Email: vegajovani@gmail.com

ORCID

Vega Jovani  <http://orcid.org/0000-0001-8529-4551>

REFERENCES

1. Saricaoglu EM, Hasanoglu I, Guner R. The first reactive arthritis case associated with COVID-19 [Online ahead of print]. *J Med Virol*. 2020. <https://doi.org/10.1002/jmv.26296>
2. López-González MC, Peral-Garrido ML, Calabuig I, et al. Case series of acute arthritis during COVID-19 admission [Online ahead of print]. *Ann Rheum Dis*. 2020. <https://doi.org/10.1136/annrheumdis-2020-217914>
3. Alivernini S, Cingolani A, Gessi M, et al. Comparative analysis of synovial inflammation after SARS-CoV-2 infection [Online ahead of print]. *Ann Rheum Dis*. 2020. <https://doi.org/10.1136/annrheumdis-2020-218315>
4. Yokogawa N, Minematsu N, Katano H, Suzuki T. Case of acute arthritis following SARS-CoV-2 infection [Online ahead of print]. *Ann Rheum Dis*. 2020. <https://doi.org/10.1136/annrheumdis-2020-218281>
5. Zleik N, Elfishawi MM, Kvrivic Z, et al. Hospitalization increases the risk of acute arthritic flares in gout: a population-based study over 2 decades. *J Rheumatol*. 2018;45(8):1188-1191.
6. Logan JA, Morrison E, McGill PE. Serum uric acid in acute gout. *Ann Rheum Dis*. 1997;56(11):696-697.