

- Arthritis Rheum 2011;63:267–75.
4. Ravelli A, Felici E, Magni-Manzoni S, Pistorio A, Novarini C, Bozzola E, et al. Patients with antinuclear antibody-positive juvenile idiopathic arthritis constitute a homogeneous subgroup irrespective of the course of joint disease. *Arthritis Rheum* 2005;52:826–32.
 5. Martini A, Ravelli A, Avcin T, Beresford MW, Burgos-Vargas R, Cuttica R, et al; Pediatric Rheumatology International Trials Organization (PRINTO). Toward new classification criteria for juvenile idiopathic arthritis: First steps, Pediatric Rheumatology International Trials Organization international consensus. *J Rheumatol* 2019;46:190–7.
 6. Kasapçopur O, Yoluglu N, Ozyazgan Y, Ercan G, Caliskan S, Sever L, et al. Uveitis and anti nuclear antibody positivity in children with juvenile idiopathic arthritis. *Indian Pediatr* 2004;41:1035–9.
 7. Demirkaya E, Ozen S, Bilginer Y, Ayaz NA, Makay BB, Unsal E, et al. The distribution of juvenile idiopathic arthritis in the eastern Mediterranean: results from the registry of the Turkish Paediatric Rheumatology Association. *Clin Exp Rheumatol* 2011;29:111–6.
 8. Çakan M, Aktay-Ayaz N, Keskindemirci G, Ekinçi DY, Karadağ ŞG. Subtype frequencies, demographic features, and remission rates in juvenile idiopathic arthritis - 265 cases from a Turkish center. *Turk J Pediatr* 2017;59:548–54.
 9. Yener GO, Tekin ZE, Girişgen İ, Çetin EN, Akdağ B, Yüksel S. Juvenile idiopathic arthritis in a center in the Western Anatolia region in Turkey. *Turk Pediatr Ars* 2020;55:157–65.
 10. Cakan M, Ayaz NA, Karadağ SG, Tanatar A. The necessity, efficacy and safety of biologics in juvenile idiopathic arthritis. *North Clin Istanbul* 2019;7:118–23.
 11. Çakan M, Ayaz NA, Karadağ ŞG, Ekinçi DY. Why is the frequency of uveitis low in Turkish children with juvenile idiopathic arthritis? *Rheumatology (Oxford)* 2020;59:679–80.

Received: September 02, 2020 Accepted: October 15, 2020

Online: August 25, 2021

Correspondence: Mustafa ÇAKAN, MD. Sanliurfa Egitim ve Arastirma Hastanesi, Cocuk Romatoloji Klinigi, Sanliurfa, Turkey.

Tel: +90 414 317 17 17 e-mail: mustafacakan@hotmail.com

doi: 10.14744/nci.2020.66563

© Copyright 2021 by Istanbul Provincial Directorate of Health - Available online at www.northclinist.com



A case of human leukocyte antigen B27 positive reactive arthritis associated with severe acute respiratory syndrome coronavirus 2 infection

Hakan Apaydin, Serdar Can Guven, Orhan Kucuksahin, Ahmet Omma, Sukran Erten

Department of Rheumatology, Ankara City Hospital, Ankara, Turkey

To the Editor,

Reactive arthritis (ReA) is a form of seronegative spondyloarthritis associated with human leukocyte antigen

B27 (HLA-B27) positivity that causes asymmetric, oligoarticular arthritis 1–6 weeks after an infection with a causative pathogen [1]. Associations with both bacterial and viral infections have been reported. Herein, we describe a case of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection-related ReA.

A 37-year-old male patient presented to our clinic with severe swelling and pain in both wrists, knees, and ankles for approximately 3 weeks and hospitalized for diagnostic evaluation and treatment. Patient history was unremarkable for any rheumatic disease or other medical conditions except for having watery diarrhea for a week and a dry cough for 2 days before the onset of arthritis. Physical examination revealed arthritis in bilateral knees, wrists, ankles, elbows, and metatarsophalangeal joints. In laboratory evaluation, blood count, liver and kidney function tests, urinalysis, coagulation parameters, ferritin, uric acid, and procalcitonin levels were found to be normal. Erythrocyte sedimentation rate and C-reactive protein (CRP) levels were elevated (63 mm/h, 117 mg/L, respectively). Arthrocentesis of the right knee revealed 617 leukocytes/mm³, with negative gram staining and bacterial cultures. Tests for antinuclear antibodies, rheumatoid factor, anti-streptolysin O antibodies, anti-cyclic citrullinated peptide antibodies, anti-extractable nuclear antibodies, and antineutrophil cytoplasmic antibodies were all negative as well as serological and agglutination tests for infectious agents consisting hepatitis B and C, human immunodeficiency virus, Epstein–Barr virus, herpes simplex type 1 and 2, parvovirus B19, rubella, cytomegalovirus, toxoplasma, brucellosis, syphilis, and gonorrhea. Direct radiography of ankles, knees, pelvis, and feet showed no erosive changes or enthesophytes. Ultrasonographic evaluation of both knees revealed synovial effusion and synovial hypertrophy bilaterally. Chest computed tomography was found to be normal. No vegetation was observed in echocardiography. There was no growth in blood, stool, and urine cultures. No parasites were observed in the stool microscopy. Combined nasopharyngeal and throat swab sampling for real-time reverse transcription-polymerase chain reaction (PCR) confirmed that the patient was positive for SARS-CoV-2. A diagnosis of ReA secondary SARS-CoV-2 was then considered. Hydroxychloroquine 2 mg × 200 mg and methylprednisolone 16 mg daily were initiated as treatment. After 3 days, arthritis regressed, CRP levels dropped to normal limits, and the patient was discharged with methylprednisolone 8 mg after two consecutive negative COVID-19 PCR tests. In the 1st-

month follow-up, the blood sample which was sent for HLA-B27 testing during hospitalization was found to be positive. Although arthritis did not recur, the patient still had complaints of joint pain despite methylprednisolone treatment. Therefore, sulfasalazine 2 g daily was added to the treatment and methylprednisolone set to be tapered gradually.

ReA is typically triggered after a gastrointestinal or genitourinary infection. Several viral pathogens such as rubella, parvovirus B19, and Chikungunya were also known to cause post-infectious arthritis [2]. ReA associated with SARS-CoV-2 infection has been reported previously [3], and in the case we presented, HLA-B27 was found to be positive. HLA-B27 positive ReA patients were reported to be more prone to developing chronic arthritis with a more severe disease course [4]. As such positive HLA-B27 may be the underlying cause of prolonged articular symptoms in our case. SARS-CoV-2 is reported to cause various extrapulmonary complications, including cardiovascular, neurologic, and dermatologic manifestations. Different rheumatologic manifestations are also reported to be observed during disease course, ranging from arthritis resembling a viral post-infectious or ReA to more severe conditions like multisystem inflammatory syndrome [3, 5, 6]. Therefore, during this worldwide pandemic, a SARS-CoV-2 infection should not be overlooked in the differential diagnosis of patients with symptoms resembling ReA.

Cite this article as: Apaydin H, Guven SC, Kucuksahin O, Omma A, Erten S. A case of human leukocyte antigen B27 positive reactive arthritis associated with severe acute respiratory syndrome coronavirus 2 infection *North Clin Istanbul* 2021;8(4):423–424.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study has received no financial support.

Authorship Contributions: Concept – HA, SCG, OK, AO, SE; Design – HA, SCG, OK, AO, SE; Supervision – HA, SCG, OK, AO, SE; Data collection and/or processing – HA; Analysis and/or interpretation – HA, SCG, OK, AO, SE; Literature review – HA, SCG, OK, AO, SE; Writing – HA, SCG; Critical review – HA, SCG, OK, AO, SE.

REFERENCES

- Ozgül A, Dede I, Taskaynatan MA, Aydoğan H, Kalyon TA. Clinical presentations of chlamydial and non-chlamydial reactive arthritis. *Rheumatol Int* 2006;26:879–85.
- Franssila R, Hedman K. Infection and musculoskeletal conditions: viral causes of arthritis. *Best Pract Res Clin Rheumatol* 2006;20:1139–57.
- Ono K, Kishimoto M, Shimasaki T, Uchida H, Kurai D, Deshpande GA, et al. Reactive arthritis after COVID-19 infection. *RMD Open* 2020;6:e001350.
- Rich E, Hook EW 3rd, Alarcón GS, Moreland LW. Reactive arthritis in patients attending an urban sexually transmitted diseases clinic. *Arthritis Rheum* 1996;39:1172–7.
- Kaushik A, Gupta S, Sood M, Sharma S, Verma S. A systematic review of multisystem inflammatory syndrome in children associated with SARS-CoV-2 infection. *Pediatr Infect Dis J* 2020;39:e340–6.
- Saricaoglu EM, Hasanoglu I, Guner R. The first reactive arthritis case associated with COVID-19. *J Med Virol* 2021;93:192–3.

Received: December 04, 2020 **Accepted:** December 23, 2020

Online: August 25, 2021

Correspondence: Hakan APAYDIN, MD. Ankara Sehir Hastanesi, Romatoloji Klinigi, Ankara, Turkey.

Tel: +90 312 552 60 00 e-mail: drhakanapaydin@gmail.com

doi: 10.14744/nci.2020.88965

© Copyright 2021 by Istanbul Provincial Directorate of Health - Available online at www.northclinist.com

