

BIOLOGICAL THERAPIES IN CHILDREN WITH RHEUMATIC DISEASES DURING THE COVID-19 PANDEMIC: A SINGLE CENTER EXPERIENCE

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To the Editor,

The SARS-CoV-2 infection (COVID-19), which causes severe acute respiratory syndrome, was accepted as a pandemic by the World Health Organization (WHO) on March 11, 2020, resulting in 50.030.121 confirmed cases of COVID-19 (*WHO. Coronavirus disease 2019 Situation reports. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports>, last access 9 November 2020*). Patients with rheumatic diseases are known to have increased infectious risks due to usage of immunosuppressive drugs.^{1,2} Our aim is to determine the frequency and course of COVID 19 of patients who use biological agents for childhood rheumatic diseases.

We surveyed to determine the status of our patients who received biological treatment during the outbreak. The survey was administered to parents by telephone contacts and outpatient visits between 11th March and 10th October 2020.

There were 52 patients (28 F/ 24 M, mean age 12.9±4.1 years) who were treated with biological therapies in our clinic. The overall study population included juvenile idiopathic arthritis (JIA) (n=33, 63%), colchicine-resistant familial Mediterranean fever (FMF) (n=13, 25%), idiopathic uveitis (n=2, 3.8%), systemic lupus erythematosus (SLE) (n=2, 3.8%), Behcet's disease (n=1, 1.9%), granulomatosis with polyangiitis (n=1, 1.9%) and deficiency of adenosine deaminase 2 (DADA2) (n=1, 1.9%). All patients were treated with biological therapies; 26 etanercept, 17 canakinumab, 6 adalimumab, 2 rituximab, 1 infliximab.

Seven out of 52 patients had contact with ones who were positive for COVID-19 (Table 1). PCR tests were performed on 5 of them and only one patient with the treatment of adalimumab had a complaint of cough and weakness was positive. This patient continued adalimumab therapy without interruption. We evaluated the patient one month after the onset of COVID-19 infection and her physical examination findings were all normal without any complaints. COVID-19 was detected in the household of three FMF patients who received canakinumab. The COVID PCR tests were performed on two patients were found to be negative. Three FMF patients treated with canakinumab were tested for COVID-19 due to complaints of fever and arthralgia and found to be negative.

During the 28-week pandemic period that started on March 11, 2020 in Turkey, COVID-19 was not detected in 51 of our 52 patients with rheumatic disease using biological therapies. Annapureddy et al.³ showed that even though the risk of COVID-19 infection remains the same between the patients with biologics and without biologics, the risk of hospitalizations and need for critical care services appear to be low in patients on the immunosuppressive medications. Yıldız et al.⁴ reported that their two JIA patients on biological therapy were positive for COVID-19 and they did not develop either severe disease course. Similarly, in our study, only one patient on biological therapy was positive for COVID-19 and the patient didn't develop severe disease course.

Our preliminary experience with a small number of patients is hopeful for pediatric patients with rheumatic diseases that require biological therapy. Currently, there are no data recommending discontinuation of treatment in these patients.⁵ Our results also support this suggestion.

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Table 1.pdf available at <https://authorea.com/users/375832/articles/493025-biological-therapies-in-children-with-rheumatic-diseases-during-the-covid-19-pandemic-a-single-center-experience>