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LETTER

Non-complicated evolution of COVID-19 infection in a patient with psoriasis and psoriatic arthritis during treatment with adalimumab

Dear Editor,

The COVID-19 (coronavirus disease 2019) outbreak, caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV2), started in December 2019 in Wuhan, China, has been recently declared a pandemic[1] by the World Health Organization (WHO), becoming a major health concern worldwide.

The pathogenesis of the disease is still under investigation, but it seems to be strictly related to an uncontrolled immune response that leads to a massive cytokine storm and subsequently to tissue damage.[2] Different immunomodulator treatments have been proposed to contrast this potentially fatal cytokine release syndrome, including (IL)-6 receptor inhibitors (tocilizumab; sarilumab), an IL-1 receptor antagonist (anakinra) and jak-inhibitors, such as baricitinib. Furthermore, another drug class, TNFα inhibitors, has been considered for SARS coronavirus infection.[3]

TNFα has been found in blood and affected tissues of COVID-19 patients.[4] In mice, TNFα blockade or the loss of TNFα receptor showed to reduce mortality or morbidity related to SARS-CoV2 infection.[5] Duret et al[6] reported a case of a patient treated with etanercept for spondyloarthropathy who rapidly recovered from COVID-19. Conti et al[7] described a case of a 67-year-old-psoriatic patient treated with adalimumab that did not develop any COVID-19 related symptom after several close contacts with COVID-19 confirmed cases.

Currently, adalimumab, an anti-TNFα drug approved for many immunological disorders in rheumatology, dermatology, and gastroenterology, is under evaluation in a Chinese clinical trial for COVID-19 (ChiCTR2000030089).[8]

We present the case of a 57-year-old male patient with a 9 years history of psoriasis and psoriatic arthritis treated with 40 mg subcutaneous adalimumab every 2 weeks since June 2018, that rapidly recovered from COVID-19.

The patient suffered from arterial hypertension under therapy with 160 mg daily of oral Valsartan and hyperhomocysteinemia. Three days after the last scheduled administration of adalimumab, the patient developed fever (up to 38.8°C), malaise, and anosmia. After 7 days since the onset of symptoms, a chest X-ray was performed and showed a bilateral interstitial pneumonia. Subsequently, a nasopharyngeal swab test confirmed the Sars-CoV-2 infection and the patient was referred to the emergency department where a chest CT scan confirmed the diagnosis showing a bilateral ground-glass appearance compatible with COVID-19 infection.

On admission, laboratory tests did not show leucopenia or lymphopenia but only a moderate elevation in D-dimer (629 ng/mL), ferritin (814 ng/mL) and C-reactive protein (4 mg/L) values. The patient was hospitalized and treated with antibiotic therapy with ceftriaxone i.v.

He never showed any sing of significant respiratory distress and no oxygen support or intensive care unit management was needed. Therapy with hydroxychloroquine and antiviral drugs was not started considering the fast improvement of the patient that was already afebrile on the second day of hospitalization. After 7 days since admission, considering the normalization of the values of D-dimer, ferritin, and C-reactive protein, the patient was discharged with 98% oxygen saturation on walking test. Two nasopharyngeal swab tests returned negative at 14 and 21 days after discharge and a follow-up chest CT showed complete resolution of the pulmonary disease.

Three weeks after the discharge, adalimumab treatment was resumed without any relapse of COVID-19 related symptoms. In our case, concomitant adalimumab therapy did not lead to any respiratory distress or complicated evolution of COVID-19 infection.

Much more data are needed in order to clearly understand the pathogenesis of COVID-19. Immunomodulators could decrease the immune response predisposing to a less severe cytokine release syndrome[9] and, consequently, to a better prognosis.

More experiences, coming from national and international registries and ongoing clinical trials, are expected to assess the role of anti-TNFalfa drugs as a promising possible therapy for COVID-19 infection.

CONFLICT OF INTEREST

Antonio Costanzo has received speaker honoraria or grants for research from Abbvie, Almirall, Pfizer, Novartis, Lilly, UCB, Janssen. The other authors have no conflict of interest do disclose.

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