Point of View about Biologic Therapy in Covid-19

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EDITORIAL NOTE

Coronaviridae encompasses a family of viruses responsible for respiratory infections in humans that clinically range from the common cold to a severe acute respiratory syndrome Middle East respiratory syndrome and the newly discovered coronavirus disease firstly reported in Wuhan (China) in December 2019 . This latter disease is caused by a new coronavirus called SARS-CoV-2.

Although most individuals infected by COVID-19 are asymptomatic or have mild symptoms, COVID-19 may frequently yield severe pneumonitis, acute respiratory distress syndrome, and heart and kidney involvement, especially in aged people, immunosuppressed patients, and those with comorbidities such as obesity, diabetes, hypertension and heart failure. Additionally, a hypercoagulability state, particularly in critically ill patients leading to life-threatening thrombotic complications have also been reported.

Currently, there is no completely effective therapy, and until first vaccines are available, there is an unrestrained race in search of an effective and safe treatment applicable to the general population. Certainly, the treatment we use today is quite empirical, depending on the severity of the disease, the associated risk factors and access to medication, all of which has generated enormous confusion in the general population, even among physicians.

Overall, clinical guidelines and daily practice recommend using chloroquine/hydroxychloroquine and lopinavir/ritonavir in mild cases; remdesivir and dexamethasone/hydrocortisone (5-10 days maximum) in moderate cases; and remdesivir, dexamethasone and biologics in severe cases. Here, we will briefly discuss the biologic therapy used in COVID-19 patients.

Anakin is a recombinant human IL-1 receptor antagonist that has shown benefit in patients with severe inflammatory manifestations of autoimmune diseases. Iglesias-Julián et al. recommend using high dose subcutaneous ANK to treat ARDS secondary to CSS among severely ill COVID-19 patients. In a recent study comparing 9 COVID-19 ARDS-CSS patients with a cohort of 18 patients treated with TCZ and selected by propensity score matching, favorable outcome in median PaO2/ FiO2 ratio was achieved in 55.6% and 88.9% of the ANK and TCZ cohorts, respectively.

Noteworthy, aminotransferase levels significantly increased in the TCZ group. Thus, ANK may be a potential alternative to TCZ for patients with elevated aminotransferases, and in non-responders to TCZ, especially in severely ill COVID-19 patients. In another study in ten hospitalized adult patients with COVID-19 and bilateral pneumonia, hyperinflammation and respiratory failure, canakinumab was safe, well tolerated, and associated with a rapid reduction in the systemic inflammatory response and an improvement in oxygenation. In addition, all patients had also received hydroxychloroquine (200 mg twice daily) and the antivirals lopinavir-ritonavir

In summary, the therapeutic strategy in patients with COVID-19 is challenging and not well established yet. In light of the knowledge accumulated throughout this year, we propose the triple combination of a monoclonal antibody associated to low-dose dexamethasone and remdesivir and/or favipiravir in severe COVID-19 cases such as those with septic shock, ARDS, multi-organic failure or in those patients who experience a rapid deterioration due to the development of a hyper inflammatory state.

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