Response to: 'Correspondence on 'Historically controlled comparison of glucocorticoids with or without tocilizumab versus supportive care only in patients with COVID-19-associated cytokine storm syndrome: results of the CHIC study'' by Calvo-Aranda et al

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We read with interest the letter from Calvo-Aranda *et al*[1] on our COVID high-intensity immunosuppression in cytokine storm syndrome study.[2] In our study, we have used in patients with COVID-19 associated cytokine storm syndrome (CSS) an immunosuppressive strategy consisting of glucocorticoids as first line, followed, by tocilizumab in case of insufficient response. Calvo-Aranda *et al* show us the results of their positive experience with a 3 days course of anakinra treatment (100 mg/day) in a series of nine patients with moderate-to-severe COVID-19, refractory to standard-of-care treatment.[1] Six out of nine patients achieved the composite endpoint that included radiological, clinical and analytical improvement within 72 hours. No radiological worsening was recorded in the remaining three patients.

The experience with anakinra reported by Calvo-Aranda is encouraging. We agree with the authors that anakinra may be an alternative option for the management of patients with COVID-19 associated CSS. Preliminary data on the effects of anakinra in this patient population have been published previously and cited in our manuscript.[3 4] We acknowledge that several immunosuppressive compounds, such as tumour necrosis factor alpha inhibitors and interleukin-1 receptor antagonists, may have similar effects.[2] We believe the international community is reaching consensus about the role of immunosuppression in the minority of patients with severe, life-threatening COVID-19. What remains to be investigated is the best immunosuppressive treatment strategy. One may think about individual agents, such as the ones mentioned, or switch between agents (eg, in case of insufficient response to the first), step-up therapy (eg, starting with one and adding another in case of insufficient response) or combination therapy (eg, combine drugs with different mechanisms of action). We are looking forward to well-conducted studies addressing this unmet need and comparing treatment interventions or strategies so that we can optimise the treatment of our patients.

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