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Potential effect of natural and anabolizan steroids in elderly patient with COVID-19

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Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2 or COVID-2019) is a novel emerging global health threatening pathogen, originating from Wuhan, China in December 2019 [1]. Understanding immunopathogenesis of COVID-19 is very important, not only in the management of complications, but also developing efficient treatment regimens. Why elderly adults with COVID-19 have poor treatment response and greater mortality than younger individuals? [2].

IL-6 is known to be potent mediator of inflammatory processes of elderly named Alzheimer disease. Improvement of dementia with cytotoxic treatment was reported in a case of Alzheimer disease. It has also been shown that decreased estrogen and testosterone level in elderly patient is unable to downregulate IL-6 gene expression [3–5]. Also, estrogen result in decrease pro-inflammatory cytokine IFN, IL-2, IL-6 TNF a production, and increased anti- inflammatory cytokine IL-4 and IL-5 production [6].

On the other hand, a variety of potantial anti-inflammatory agents are currently investigating in COVID-19. One of them is hydroxychloroquine via to inhibit immune response to the COVID-19 [1,7]. It inhibits the production of TNF, IFNα, IL-6 and natural killer cell [8–10]. Moreover, co-medication of selective estrogen receptor modulatory with hydroxychloroquine is associated with eye toxicity due to synergistic inhibition of lysosomal enzymes [11].

Taken all together, it may be suggested that endogenous pro- inflamatory modulation agent (estrogen and testesteron) may be effective in management of elderly COVID-19 by decreasing pro-inflammatory cytokine. Also, doping administration of anabolizan steroids may slow progression of elderly COVID-19 with the effects mentioned above.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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We hereby declare that all authors have made a substantial contribution to the information submitted for publication; all have read and approved the final manuscript and the manuscript or portionsthereof are not under consideration by another journal. Also, we have no conflict of interest to report.

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Fatih Karaahmet[a,*], Ozgur Zeliha Karaahmet[b]
[a] *Department of Gastroenterology, Medicana International Ankara Hospital, Ankara, Turkey*
[b] *Associate Prof, Department of Physical Medicine and Rehabilitation, Diskapi Yildirim Beyazit Education and Research Hospital, Ankara, Turkey*
E-mail address: fatih_ares@yahoo.com.tr (F. Karaahmet).

* Corresponding author at: Department of Gastroenterology, Medicana International Ankara Hospital, 06340 Sogutozu, Çankaya, Ankara, Turkey.

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