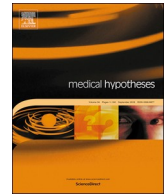




Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



SARS-CoV-2 infection in a psoriatic arthritis patient treated with IL-17 inhibitor



Dear editor

We read with great interest the article entitled “May IL-17 have a role in COVID-19 infection?” published by M. Megna et al. [1].

Increased levels of plasma pro-inflammatory cytokines such as interleukin IL 6 are observed in Covid 19 subjects; this condition represents the rationale for the use of tocilizumab, a monoclonal antibody blocking IL-6 [1,2]. Special attention for other cytokines that could reduce COVID-19 impact, in particular IL 17, is growing [1], because IL 6 and IL17 synergistically prevent apoptosis of infected cells and promote the virus persistence [3].

Balestri et al. reported a clinical case of a patient that during therapy with an IL-17 inhibitor resulted positive for SARS-CoV-2, despite being completely asymptomatic, and that continued biological therapy suggesting that the inhibition of IL-17 pathway may have beneficial effects in treating COVID-19 and that it does not negatively affect the primary phase of infection [4].

We report a case of a 57 year old man with psoriatic arthritis treated with Methotrexate and Secukinumab who in April 2020 reports fever, dyspnea, ageusia, anosmia and conjunctivitis; he was tested for SARS-CoV-2 and he resulted positive. For the rapid worsening of clinical symptoms, the patient was hospitalized, intubated and treated with mechanical ventilation and antiviral therapy. There was a gradual and progressive improvement with extubation and subsequent discharge. Biohumoral tests documented lymphocytopenia and increase of reactants of the acute phase with IL 6 levels always normal. In our case

report, unlike what reported by Balestri, IL 17 inhibitor was not protective against the progression of the infection, resulting in ARDS (Acute distress respiratory Syndrome). In this patient low IL 6 values were found, at all stages of the disease, suggesting that other cytokines and mechanisms may have a role in critical COVID-19 patients which progress to multiple organ dysfunction.

Conflict of interest

All authors declare to not have conflict of interest as well as funding sources to declare.

References

- [1] Megna M, Napolitano M, Fabbrocini G. May IL-17 have a role in COVID-19 infection? *Med Hypotheses*. 2020;140:109749.
- [2] Luo P, Liu Y, Qiu L, Liu X, Liu D, Li J. Tocilizumab treatment in COVID-19: a single center experience. *J Med Virol* 2020.
- [3] Hou W, Jin YH, Kang HS, Kim BS. Interleukin-6 (IL-6) and IL-17 synergistically promote viral persistence by inhibiting cellular apoptosis and cytotoxic T cell function. *J Virol* 2014;88(15):8479–89.
- [4] Balestri R, Rech G, Girardelli CR. SARS-CoV-2 infection in a psoriatic patient treated with IL-17 inhibitor. *J Eur Acad Dermatol Venereol* 2020.

Rosario Foti, Giorgio Amato, Elisa Visalli*
Rheumatology Unit AOU Policlinico Vittorio Emanuele Catania
 E-mail address: elivisa21@gmail.com (E. Visalli).

* Corresponding author.

<https://doi.org/10.1016/j.mehy.2020.110040>

Received 18 May 2020; Accepted 22 June 2020

Available online 01 July 2020

0306-9877/ © 2020 Elsevier Ltd. All rights reserved.