Can anti-TNFα Antibodies Affect SARS-CoV-2 Disease Outcomes?

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Dear Editor,

The novel coronavirus that first appeared in December 2019 (COVID-19), subsequently named severe acute respiratory syndrome coronavirus type 2 (SARS-CoV-2) is rapidly spreading as a global pandemic. Following infection by SARS-CoV-2, systemic inflammatory response are mediated by the release of large amounts of mediators including; IL-6, IL-1b, TNFα and IL-2R in severe infected patients. 1,2

It has been reported that severe COVID-19 infected patients had significantly higher serum levels of TNF than non-severe infected patients. 2

In a case series study treatment of severe COVID-19 patients with infliximab (IFX), an anti-TNF antibody showed a rapid and temporary decrease in pro-inflammatory mediators such as IL-6 and other inflammatory markers (Lactate dehydrogenase and C-reactive protein) along with clinical improvement in 6 of 7 infected patients. Lymphocyte count also increased in 5 patients after IFX treatment which was initially below (before IFX treatment). Moreover, 35% overall mortality at a similar stage of hospitalization was also observed in the 17 patients of the control group. 3

In conclusion, TNF may exert pathogenic effects in coronavirus disease by augmenting the expression of angiotensin-converting enzyme 2 (ACE2) or by augmenting lymphopenia. Anti-TNF antibody by modulating of immune system and expression of ACE2 can useful for SARS-
Coronavirus disease 2019 (COVID-19) disease. But more clinical trials of anti-TNFα therapy for SARS-CoV-2 disease were suggested.

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**Disclosure statement**

The author declare no conflicts of interest in this study.

**References**


