

# Anti-rheumatic in SARS Cov 2: benefit or risk?

Francesco Ferrara<sup>1</sup>, Chiara Pelliccia<sup>2</sup>, and Antonio Vitiello<sup>3</sup>

<sup>1</sup>USL 1 Umbria

<sup>2</sup>Azienda Unità Sanitaria Locale Umbria 2

<sup>3</sup>Azienda Unità Sanitaria Locale Umbria 1

April 28, 2020

## Abstract

About 300 million people worldwide are affected by rheumatic diseases and over 5 and a half million men and women affected by rheumatological diseases are present in Italy. These are chronic diseases and therefore require treatment and diagnostic tests for long periods of time. Patient needs must be met even in these difficult months marked by the COVID-19 pandemic. The guarantee of therapeutic continuity is important and increasingly dangerous is the lack of many drugs. This is because many antimalarial and anti-inflammatory drugs have entered the protocols for treatment from Sars Cov 2. Without taking these medicines, which for years have also been used in rheumatology, there is a risk of reactivating serious diseases including rheumatoid arthritis, ankylosing spondylitis or systemic Lupus erythematosus.

Anti-rheumatic in SARS Cov 2: benefit or risk?

Francesco Ferrara 1, Chiara Pelliccia 2, Antonio Vitiello 1

1: Usl Umbria 1, Perugia, Italy; 2: Usl Umbria 2, Terni, Italy

Dear Editor,

About 300 million people worldwide are affected by rheumatic diseases and over 5 and a half million men and women affected by rheumatological diseases are present in Italy. These are chronic diseases and therefore require treatment and diagnostic tests for long periods of time. Patient needs must be met even in these difficult months marked by the COVID-19 pandemic. The guarantee of therapeutic continuity is important and increasingly dangerous is the lack of many drugs. This is because many antimalarial and anti-inflammatory drugs have entered the protocols for treatment from Sars Cov 2. Without taking these medicines, which for years have also been used in rheumatology, there is a risk of reactivating serious diseases including rheumatoid arthritis, ankylosing spondylitis or systemic Lupus erythematosus.

Anti rheumatic drugs are often associated with viral and bacteriological infectious events that cause elevated inflammatory states. This virus induces the activation of immune and anti-inflammatory response mechanisms that serve to eradicate the virus, but are so intense that they become pathological, inducing not only bilateral interstitial pneumonia, but also damage in other body areas, as is emerging from the autopsies of patients who died for Covid-19. For this reason, immunosuppressive or powerful anti-inflammatory drugs are used which have given important results in other pathologies, so it was not difficult to predict that some drugs used in commonly used Rheumatology could also be used for Covid-19 Rheumatological drugs currently being tested in Covid-19 belong to two categories:

- 1) drugs that can inhibit viral replication (e.g. chloroquine, hydroxychloroquine)
- 2) drugs that are able to quell the inflammatory cytokine storm (still chloroquine and hydroxychloroquine, colchicine and the array of biotechnological drugs - tocilizumab, IL-6 inhibitor, anti-IL1 and anti-TNFalpha)

drugs - and small molecules (e.g. baricitinib ).

At the moment there is no scientific evidence showing a higher risk of Coronavirus infection in case of a rheumatological disease so you must not avoid treatment for fear of possible infections. The administration of immunosuppressive drugs should only be stopped if flu-like symptoms such as fever or cough occur. This is a normal medical practice that must be performed independently of COVID-19. As for the start of new immunosuppressive or biological drug therapies, in this critical period for the health system, the choice is up to the rheumatologist. It is preferable to start these treatments, which present an infectious risk, only in cases of some pathologies that can have strongly negative effects on health or cause damage to vital organs.

The due reflection is that antirheumatic drugs risk being a paradox: they treat the infected and put the uninfected at risk if they make people more vulnerable to the virus with the risk of infecting more people than they are saved with the same drugs.

1. World Health Association (2020) Coronavirus disease 2019 (COVID-19) situation Report—61. <https://www.who.int/default-source/coronaviruse/situation-reports/20200322-sitrep-62-covid-19.pdf>. Accessed 22 Mar 2020.
2. Xu Z, Shi L, Wang Y, Zhang J, Huang L, Zhang C, Tai Y (2020) Pathological findings of COVID-19 associated with acute respiratory distress syndrome. *Lancet Respir Med*. [https://doi.org/10.1016/S2213-2600\(20\)30076-X](https://doi.org/10.1016/S2213-2600(20)30076-X)
3. Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y et al (2020) Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet* 395:497–506. [https://doi.org/10.1016/S0140-6736\(20\)30183-5](https://doi.org/10.1016/S0140-6736(20)30183-5)
4. Zou L, Ruan F, Huang M, Liang L, Huang H, Hong Z et al (2020) SARS-CoV-2 viral load in upper respiratory specimens of infected patients. *N Engl J Med*. <https://doi.org/10.1056/NEJMc2001737>
5. Nicastri E, Petrosillo N, Ippolito G, D’Ofzi G, Marchioni L, Bartoli TA et al (2020) National Institute for the Infectious Diseases “L. Spallanzani” IRCCS. Recommendations for COVID19 clinical management. *Infect Dis Rep*. <https://doi.org/10.4081/idr.2020.8543>
6. World Health Organization (2020) Clinical management of severe acute respiratory infection (SARI) when COVID-19 disease is suspected: interim guidance, 13 March 2020. <https://apps.who.int/iris/bitstream/handle/102019-nCoV-clinical-2020.4-eng.pdf>. Accessed 22 Mar 2020.
7. Gao J, Tian Z, Yang X (2020) Breakthrough: Chloroquine phosphate has shown apparent efficacy in treatment of COVID-19 associated pneumonia in clinical studies. *Biosci Trends* 14(1):72– 73. <https://doi.org/10.5582/bst.2020.01047>
8. Ruan Q, Yang K, Wang W, Jiang L, Song J (2020) Clinical predictors of mortality due to COVID-19 based on an analysis of data of 150 patients from Wuhan, China. *Intensive Care Med*. <https://doi.org/10.1007/s00134-020-05991-x>
9. Mehta P, McAuley DF, Brown M, Sanchez E, Tattersall RS, Manson JJ (2020) COVID-19: consider cytokine storm syndromes and immunosuppression. *Lancet*. [https://doi.org/10.1016/S0140-6736\(20\)30628-0](https://doi.org/10.1016/S0140-6736(20)30628-0)
10. Chen X, Zhao B, Qu Y, Chen Y, Xiong J, Feng Y et al (2020) Detectable serum SARS-CoV-2 viral load (RNAemia) is closely associated with drastically elevated interleukin 6 (IL-6) level in critically ill COVID-19 patients. Preprints. <https://doi.org/10.1101/2020.02.29.20029520>