No increased rate of SARS-CoV-2 infection for patients with inflammatory rheumatic diseases compared with the general population in the city of Hamburg (Germany)

We highly appreciated the work on the paper by Gianfrancesco *et al*.[1] While this large international registry provides information, for example, about the course of the disease in regard to the intensity of immunosuppression or complications, they do not allow any conclusions about the actual incidence rate of infections in patients with rheumatic diseases compared with the overall population. In addition to the data by Gianfrancesco *et al* we here like to share our data and experience of the Hamburg COVID-19 registry.

Until 9 June 2020, a total of 5120 proven severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infections were reported in Hamburg.[2] This corresponds to 0.28% of the total population of the city of Hamburg (1.814 million inhabitants), with a reported mortality rate of 4.4% (in total 226 patients).

With the beginning of the COVID-19 pandemic we initiated a SARS-CoV-2 registry, where all reported COVID cases were documented anonymously by all rheumatologists of the city of Hamburg. In total, 11 771 patients were prescribed any disease-modifying antirheumatic drug (DMARD) during this period. Of these, a total of 30 (0.25%) patients had a clinically tested SARS-CoV-2 infection (clinical symptoms and SARS-CoV-2 PCR and/or IgG positive). Three out of 30 patients with rheumatic diseases (10%) were treated with severe disease in intensive care unit, in contrast to 4.4% of patients with COVID of the general population. So far, no deaths were reported in our cohort (mortality rate 0%) (see table 1).

In analogy to the COVID-19 Global Rheumatology Alliance registry, our cohort found no evidence that individual rheumatological diseases lead to a higher risk for or a severe course of infection. Additionally, so far, no accumulation of infection among one of the therapy groups (conventional synthetic DMARD, biological DMARD or targeted synthetic DMARD) was apparent.[1]

Table 1 Number of SARS-Cov-2 infections, ICU admissions and death in the general population compared to DMARD treated patients as well as calculated incidences

	General population	DMARD-treated patients with rheumatic diseases
Total, n	1.814.000	10.771
SARS-CoV-2 infected, n (%)	5120 (0.28)	30 (0.25)
ICU, n (%)	227 (4.4)	3 (10)
Death, n (%)	226 (4.4)	0 (0)

DMARD, disease-modifying antirheumatic drug; ICU, intensive care unit; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

To the best of our knowledge, this is the largest population-based study to date in this particular risk group. We consider the risk of unreported cases for the group of the general population comparable with that for the patients with rheumatic diseases.

In summary, patients with rheumatic diseases and under DMARD therapy do not seem to have a higher risk of a SARS-CoV-2 infection.

Additionally, in this cohort patients with rheumatic diseases did not have a higher rate of a severe course of SARS-CoV-2 infection.

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