Monitoring of patients with systemic lupus erythematosus during the COVID-19 outbreak

The emergence and spread of the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and the resulting COVID-19 disease, have had a tremendous impact on public health and the world economy. Thus far, COVID-19 does not appear to be more severe in immunocompromised patients, but relevant data are scarce.1 Conversely to what was initially thought, patients with systemic lupus erythematosus (SLE) are also involved.2,3 In an article by Mathian et al.,4 some severe forms of COVID-19 infection were described in 17 patients with SLE, particularly in those with renal failure or obesity. This greater susceptibility might arise from dysregulation of ACE2 with SLE, particularly in those with renal failure or obesity. This forms of COVID-19 infection were described in 17 patients with SLE because of the higher comorbidity prevalence,4 we found no severe forms of COVID-19 infection among the patients with SLE we followed. The younger age and fewer associated comorbidities in our cohort could explain this difference.

Our observational cohort study included all adult patients with a confirmed SLE diagnosis, according to the 2019 European League Against Rheumatism/American College of Rheumatology criteria, followed by the clinical immunology and nephrology units at the Montpellier University Hospital, who consulted during the past year. We conducted interviews with each patient to investigate symptoms suggestive of infection or to identify confirmed cases of COVID-19. The period concerned is from 1 February (shortly after the first COVID-19 cases in France) to 24 April (end of data collection). Official containment measures were implemented on 17 March in France.

The study included a total of 120 patients. The main characteristics of our cohort are summarised in table 1. Seven patients were not included because they either did not answer the phone calls (n=6) or refused to participate (n=1). Only three patients reported contact with confirmed patients with COVID-19, and all three remained asymptomatic. Thirty-six (30.0%) patients reported symptoms of infection. However, no cases were definitively confirmed. One patient was hospitalised and eventually died from an inhalation pneumopathy, but SARS-CoV-2 infection was excluded by two negative nasal swabs and incompitable chest CT findings. Eight (6.7%) patients reported symptoms highly suggestive of COVID-19. None of these patients was hospitalised, and no severe outcomes were reported. Only two of these patients had comorbidities. The percentage of patients reporting symptoms of COVID-19 infection did not differ between those exposed to HCQ (6.9%) and those who were not (6.3%).

While no preventive role of HCQ was observed in the study, the statistical power was insufficient. The strength of the present study is that the data are likely highly representative since ≥90% of patients with SLE are followed at least once a year by our departments and nearly 95% participated in the study. Contrary to suggestions that COVID-19 disease progression may be exacerbated in patients with SLE because of the higher comorbidity prevalence,5 we found no severe forms of COVID-19 infection among the patients with SLE we followed. The younger age and fewer associated comorbidities in our cohort could explain this difference.

Our study has several limitations, mainly its small sample size and the absence of COVID-19 confirmation by reverse transcription PCR or serological tests. The criteria to define...
probable COVID-19 cases may also be questionable, although some of the symptoms to predict infection were derived from a recent review. Unfortunately, in France, no study has directly estimated the prevalence of confirmed COVID-19 cases on the basis of clinical symptoms. The only estimation, recently issued by the Pasteur Institute, is indirect. Their report of a 4.4% (2.8%–7.2%) prevalence in low-risk regions is similar to our observation. Reported infection rates underestimate the actual prevalence, as they do not take into account asymptomatic and untested patients. A report by the National Health Agency on 29 April found 6389 confirmed cases out of 73 608 tested (8.7%) in the Occitanie region, yielding a global prevalence of 0.11% in the area. Among those testing positive, 3260 (51.0%) required hospitalisation and 360 (5.6%) died. Finally, none of the 303 patients admitted to our hospital for severe COVID-19 during the study period suffered from SLE.

The availability of a larger cohort of patients and combining this type of follow-up with serological determination of SARS-CoV-2 infection will be valuable to better understand the impact of COVID-19 in patients with SLE.

Jan Holubar,1 Moglie Le Quintrec,2 Hind Letaief,1 Jean Luc Faillie,3 Yves-Marie Pers,1,2 Christian Jorgensen1
1Clinical Immunology and Osteoarticular Diseases Therapeutic Unit, CHRU Lapeyronie, Montpellier, France
2Nephrology Unit, CHRU Lapeyronie, Montpellier, France
3Medical Pharmacology and Toxicology Unit, CHRU Lapeyronie, Montpellier, France

Correspondence to Dr Jan Holubar, Herault, University of Montpellier Faculty of Medicine, Montpellier 34295, France; j.holubar11@gmail.com

Contributors JH conceived the design of the study, collected and analysed the data, and wrote the first draft of the manuscript. MLQ, JLF, YMP participated in its design and helped draft the manuscript. HL participated in the data collection. CJ supervised the design of the study, analysed the data and helped draft the manuscript. All authors read and approved the final manuscript.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not required.

Ethics approval The study was approved by the institutional review board (IRB-MTP_2020_04_202000446).

Provenance and peer review Not commissioned; internally peer reviewed.

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Received 8 May 2020
Accepted 12 May 2020

https://doi.org/10.1136/annrheumdis-2020-217988


ORCID iDs
Jan Holubar http://orcid.org/0000-0001-7855-3199
Yves-Marie Pers http://orcid.org/0000-0001-5927-3773

REFERENCES