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LETTER TO THE EDITOR

Clinical impact of COVID-19 on a French population of spondyloarthritis patients

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Dear Editor,

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)-mediated coronavirus disease 2019 (COVID-19) has raised many questions regarding chronic inflammatory arthritides such as risks of using biological disease-modifying antirheumatic drugs (bDMARDs) or nonsteroidal anti-inflammatory drugs (NSAIDs) [1], which are widely used in spondyloarthritis (SpA). Possible deleterious effects have been suggested [2], and recent observations from the rheumatologic community have required us to evaluate this evolving medical situation [3, 4]. Since the impact of COVID-19 on inflammatory rheumatic diseases is not well elucidated [5], a survey in a population with SpA was conducted herein. A questionnaire was administered using a private social network of the "Association contre les spondylarthrites" (ACS) in 1656 members on Thursday, April 30, 2020. The questionnaire was created using Microsoft Forms software (Microsoft Corp., Redmond, WA, USA). It included questions on age, body mass index (BMI), diseases, NSAIDs and bDMARDs, clinical manifestations of COVID-19 (detailed in Table 1), confirmed or suspected COVID-19 and possible hospitalisation.

A written explanation of the aim of this study was given with the questionnaire. The study protocol was approved by the national ethics commission (CNIL) and registered by "L'institut national des données de santé" (MR 4316150420; Clinical trial number: NCT04355923). Out of 1656 members, 611 (37%) responded to the questionnaire. The mean age of the participants was 47 years (± 11.8). The mean BMI was 25.9 (± 5.2). Overall, 406 (66%) and 380 (62%) patients were treated with bDMARDS and NSAIDs, respectively. Co-prescription was frequent in 37% of the participants (225/611). Overall, 460 (75%) declared one or more symptoms possibly linked to COVID-19. Analysis of the association between NSAIDs use and declared cases suspected of COVID-19 showed a significant trend (p = 0.05). Similar result was not obtained regarding bDMARD use. As a possible consequence of media warnings, the onset of symptoms and suspicion of the disease were associated with decline in or discontinuation of NSAID (p = 0.01) and bDMARD treatment (p = 0.04).

Present data on the impact of COVID-19 on SpA can assist rheumatologists in their patients counselling and management. Although our findings cannot indicate the incidence rate of COVID-19, the few numbers of confirmed and suspected cases are similar to previously reported results [5]. This situation can be explained by not only non-systematisation of tests in France but also confinement and limited access to practitioners.

Since only one patient was hospitalised, the frequency of evocative symptoms might have not included those in intensive care at the moment of the survey. Although many of these symptoms are non-specific, ageusia and dyspnoea remain suggestive and were only found in patients with NSAIDs or bDMARDs. A significant number of participants were administered bDMARDs. It has been postulated that the use of TNF inhibitors may be effective in reducing both SARS-CoV2 infection and consequent organ damage [6]. It is important to assess the use of NSAIDs in further clinical studies of COVID-19 as there have been

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Table 1 Clinical characteristics of the patients who participated in the survey

	All patients	Without treatment	NSAIDs only	bDMARD only	NSAIDs + bDMARD
Number of patients	611	50	155	181	225
Age mean (SD)	47 (11.8)	47 (11.5)	48 (11.4)	47 (11.5)	46 (12.6)
BMI mean (SD)	25.9 (5.2)	25.2 (3.7)	25.6 (5.0)	26.1 (5.4)	26.0 (5.7)
Comorbidities *n*/total (%)					
Smoking					
Current smoker	113/598 (19%)	8 (16 %)	22 (14%)	42 (23%)	41 (18%)
Former smoker	224/598 (37%)	20 (40%)	62 (40%)	60 (33%)	82 (36%)
No smoker	261/598 (43%)	22 (44%)	67 (43%)	75 (41%)	97(43%)
High blood pressure	97/611 (16%)	15 (30%)	22 (14%)	27 (15%)	33 (15%)
Diabetes	22/611 (4%)	2 (4%)	3 (2%)	5 (3%)	12 (5%)
Kidney failure	15/611 (2%)	2 (4%)	2 (1%)	6 (3%)	5 (2%)
Psoriasis	135/611 (22%)	8 (16%)	35 (23%)	39 (22%)	53 (24%)
Inflammatory bowel disease	63/611 (10%)	4 (8%)	18 (12%)	16 (9%)	25 (11%)
Symptoms *n*/total (%)	460/611 (75%)	33 (66%)	125 (81)	128 (71)	174 (77)
Fever	79/611 (13%)	5(10%)	18(12%)	24 (13%)	32 (14%)
Non-productive cough	148/611 (24%)	10 (20%)	34 (22%)	54 (30%)	50 (22%)
Asthenia *n*/total (%)	460/611 (75%)	33 (66%)	125 (81%)	128 (71%)	174 (77%)
Myalgia	263/611 (43%)	23 (46%)	74 (48%)	65 (36%)	101 (45%)
Anosmia/dysgeusia	20/611 (3%)	0 (0%)	7 (5%)	5 (3%)	8 (4%)
Dyspnoea	110/611 (18%)	11(22%)	26 (17%)	37 (20%)	36 (16%)
Headache	234/611 (38%)	19 (38%)	62 (40%)	62 (34%)	91 (40%)
Diarrhoea/nausea/vomiting	106/611 (17%)	6 (12%)	29 (19%)	30 (17%)	41 (18%)
Diagnostic evocated *n* (%)	40/576 (7%)	0 (0%)	12 (8%)	15 (9%)	13 (6%)
Rhinopharyngeal swabs *n* (%)	17/40 (42%)	0 (0%)	7 (58%)	6 (40%)	4 (31%)
Positive swab test *n* (%)	1 (0.2%)		1 (%)		
Hospital admission *n* (%) *	1 (0.2%)	1 (1%)			

*Not in intensive care

unfounded warnings against the use of these drugs, which subsequently contributed to confusion in the general audience and medical community [2]. The reported association between asthenia and myalgia onset and NSAIDs use may be linked to the clinical course of SpA. In a precedent survey in press, we found more flare-ups possibly linked to confinement. Our survey in patients with SpA and their NSAID and bDMARD usage underlined the low impact of the pandemic on our population as well as the difficulty to interpret reported-related symptoms that can be linked to the clinical course of SpA.

Authors' contributions All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by Christian Roux, Olivier Brocq, Franck Gerald, Christian Pradier and Laurent Bailly. The first draft of the manuscript was written by Christian Roux, and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Compliance with ethical standards

Disclosures None.

Ethical approval The study protocol was approved by the National Ethics Commission (CNIL) and registered by "L'institut national des données de santé" (MR 4316150420; Clinical trial number: NCT04355923).

Consent to participate Not applicable.

Consent for publication Not applicable.

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