Journal of Dermatological Treatment

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/ijdt20

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To cite this article: A. Rodríguez-Villa Lario , D. Vega-Díez , M. González-Cañete , I. Polo-Rodríguez , A. B. Piteiro-Bermejo , M. Herrero-Fernández , J. Arévalo-Serrano , L. Trasobares-Marugán & S. Medina-Montalvo (2020): Patient's perspective: psychological burden of the COVID-19 pandemic in 146 psoriatic patients treated with biological drugs and small molecules in real clinical practice, Journal of Dermatological Treatment, DOI: 10.1080/09546634.2020.1790485

To link to this article: https://doi.org/10.1080/09546634.2020.1790485

Accepted author version posted online: 09 Jul 2020.
Published online: 09 Jul 2020.

JOURNAL OF DERMATOLOGICAL TREATMENT
https://doi.org/10.1080/09546634.2020.1790485

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LETTER TO THE EDITOR

Patient's perspective: psychological burden of the COVID-19 pandemic in 146 psoriatic patients treated with biological drugs and small molecules in real clinical practice

To the Editor,

We read with great interest Megna et al. (1) article, as we concur that discontinuation of psoriatic drugs may lead to higher disease burden and health-related costs. As authors claim, the negative psychological consequences of this pandemic era may have had an impact on this population group. Therefore, we sought to clarify the status of these patients with respect to possible COVID-19 involvement and to detect changes in their treatment regimen, the reason why they made them as well as the influence in their social behavior.

We conducted a retrospective study and analyzed 174 patient charts of patients under treatment in our Hospital during the last year. Inclusion criteria were psoriasis being under biologics or small molecules during the onset and the development of the crisis, verbal consent and adulthood. Exclusion criteria included impossibility of telephone contact or refusal to participate. One hundred and forty-seven individuals were finally included. A statistical analysis was performed with chi-squared, Fisher exact tests and Student's *t*-test using SPSS for Windows (Armonk, NY: IBM Corp). The study was authorized by an ethics committee (HUPA: EPA 14/2020) and included in EnCEPP (EUPAS35712).

The sample was composed of 82 men (56.2%) and 64 women (43.8%), and the mean age was 51.8 years (range 20–80 years). Patient's data are shown in Table 1. Ninety-one percent suffered plaque psoriasis, 6.8% palmoplantar and 2.1% pustular palmoplantar forms. Forty-one (28.1%) patients presented as well psoriatic arthritis (PsoA). Patients received different psoriatic drugs: 43 (29.5%) were on anti-IL-12/23, 35 (24%) on anti-IL-17, 29 (19.9%) on apremilast, 25 (17.1%) received anti-TNF, while 14 (9.6%) were on anti-IL-23.

Nineteen patients (13%: 5 on anti-IL-12/23, 4 on anti-IL-17, 4 on anti-TNF, 4 on apremilast, and 3 on anti-IL-23 (not significant p .937)) were clinically diagnosed with COVID-19, 31.6% of whom had positive COVID-19 tests (rt-PCR or serology). Two patients were also being treated with other immunosuppressive drugs due to PsoA (one methotrexate and one prednisone, concomitant with anti-IL-23 and anti-IL-17, respectively). Five (26.3%) had pneumonia and 3 required hospitalization, none of them in the ICU. No statistically significant differences were found after analyzing the data stratified by age, sex, risk factors, and type of psoriasis.

Thirty-nine (26.7%) out of 146 made changes in the regimen of administration ($p < .001$), 18 of whom suspended medications (46.1%) and 24 extended the interval (16.4%). The main reason for drug discontinuation/modification of regimen was dermatologist recommendation (11.6%), followed by patient's decision (8.2%), intercurrent infection (4.8%), and impossibility to pick up medication due to mobility restrictions (2.1%). Among those with COVID-19 infection, 11 (57.9%) did not make any modification, 4 (21.1%) stopped the treatment, and another 4 extended the interval.

Patients responded by telephone to a 5-question survey on the emotional impact of the pandemic in relation to their immunosuppressed state (Table 2). Regarding the perception of an added concern for being in treatment with the studied drugs, 34.2% (50) of patients expressed feeling more worried during the pandemic because of the treatment ($p < .001$). Twenty-two (15%) declared having searched for information about their drug and COVID-19 on the Internet (p .034). Fourteen individuals (9.6%) asked for information to their GP (p .018) while 34 (23.3%) contacted with their dermatologist to solve doubts (p .003). When asked if they had modified their social behavior due to being on the aforementioned drugs, 21.2% (31) admitted they had increased precaution because of it (p .002). Interestingly, none of the patients on apremilast expressed an increased concern or modified their behaviors.

In conclusion, we found a not significant incidence of COVID-19 infection in our series. Dermatologists were the main drivers in the decision making of these drugs during a pandemic and the main source of information the patients attended, but closely followed by patient's own decision. We would like to bring to light emotional impact of pandemic in this group of patients, as an increased worry about their immunosuppressed status has been evidenced, not so in the apremilast group. Individuals also took additional measures to protect themselves and looked for information on the Internet. Hence, COVID-19 pandemic has not only had an impact on health, but also on the emotional sphere of immunosuppressed psoriatic patients. *Less fear* may have not been the response everyone (2,3). The concern and the search for information of these patients is a reality. Therefore, the dermatologists must respond to this manifest need of our patients.

Table 1. Patient's data.

Total	Absolute frequencies (146)	Relative frequencies[a]
Sex	Men 82	56.2%
	Women 64	43.8%
Age (years)	51.8	42–61
Weight (kg)	79.5	69.8–89.2
Size (m)	1.70	1.62–1.75
IMC (kg/m^2)	27.41	24.42–31.14
Psoriasis		
Plaques	133	91.1%
Palmoplantar	10	6.8%
Pustulous palmoplantar	3	2.1%
Psoriatic arthritis	41	28.1%
Hypertension		
Yes	48	32.9%
No	98	67.1%
Diabetes		
Yes	17	11.6%
No	129	88.4%
Hyperlipidemia		
Yes	49	33.6%
No	97	66.4%
Tabaquism		
Yes	92	63%
No	54	37%
Psoriasis treatment		
Anti-IL 12/23	43	29.5%
Anti-IL 17	35	24%
Apremilast	29	19.9%
Anti-TNF	25	17.1%
Anti-IL 23	14	9.6%
Other immunosuppressive concomitant drugs		
Total		
Methotrexate	8	5.5%
Prednisone	6	
Tacrolimus	6	
	1	
Clinical diagnosis of COVID infection	19	13%
Confirmatory test	6	31.6%
Pneumonia	5	26.3%
Hospitalization	3	15.8%
Analytical results	–	–
Lymphopenia	3	15.8%
DDimer	1	5.3%
Ferritin	3	15.8%
PCR	3	15.8%
LDH	1	5.3%
Treatment applied	–	–
No	4	57.1%
Azithromycin	1	
Lopinavir/ritonavir	2	
Hydroxychloroquine	2	
Unknown	1	

[a]Percentage is used when qualitative variables are expressed. Median and IQR (interquartile range) is used for quantitative variables.

Table 2. Patient's risk perception with regard to COVID-19 pandemic.

	Anti-IL 12/23	Anti-IL 17	Apremilast	Anti-TNF	Anti-IL 23	*p* value[a]
Total (*n*)	43	35	29	25	14	
Have you felt an added concern due to being on immunosuppressive psoriasis drugs in the COVID19 epidemiological situation?						
Yes	19 (44.2%)	20 (57.1%)	0 (0%)	11 (44%)	5 (35.7%)	<.001
No	24 (55.8%)	15 (42.8%)	29 (100%)	14 (56%)	9 (64.3%)	
Have you looked for information about your treatment and COVID19 on the Internet?						
Yes	8 (18.6 %)	9 (25.7 %)	0 (0 %)	3 (12 %)	2 (14.3%)	.034
No	35 (81.4%)	26 (74.3%)	29 (100%)	22 (88%)	12 (85.7%)	
Have you consulted to your GP?						
Yes	3 (7%)	2 (5.7%)	0 (0%)	(28%)	2 (14.3%)	.018
No	40 (93%)	33 (94.3%)	29 (100%)	18 (72%)	12 (85.7%)	
Have you consulted to your Dermatologist?						
Yes	12 (27.9%)	12 (34.3%)	1 (3.4%)	3 (12%)	6 (42.9%)	.003
No	31 (72.1%)	23 (65.7%)	28 (96.6%)	22 (88%)	8 (57.1%)	
Have you changed your social behavior during the pandemic due to the fact that you are being treated with biologics?						
Yes	8 (18.6%)	12 (34.3%)	0 (0%)	8 (32%)	3 (21.4%)	.002
No	35 (81.4%)	23 (65.7%)	29 (100%)	17 (68%)	11 (78.6%)	

[a]To compare qualitative variables Fisher's exact test was applied.

Acknowledgments

The authors would like to thank all the hospital workers that have been battling in this pandemic, a special recognition to the Dermatology department of Hospital Principe de Asturias, fully involved in this fight. Special mention for Dr. Arévalo, who kindly helped us with the statistical analysis in this paper.

Ethical approval

The patients in this manuscript have given written informed consent to publication of their case details. All human and animal studies are approved by an Institutional Review Board.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Received 10 June 2020; accepted 14 June 2020