Among RTX and N-RTX, 4/48 (8.3%) and 35/104 (33.7%) showed a positive IgG-SC2AT, respectively. Four out of 104 (38.5%) N-RTX tested positive without previous symptoms. No asymptomatic infection was diagnosed among RTX. Univariable analysis showed a lower rate of positivity to SC2AT in confirmed and suspected infection among RTX [Positive IgG-SC2AT in confirmed infection: RTX 4/10 (40%), N-RTX 16/20 (80%); $p=0.045$. Positive IgG-SC2AT in suspected infection: RTX 0/3 (0%), N-RTX 15/18 (83.3%); $p=0.015$].

A logistic binary regression identified previous symptoms [OR 61.2, 95CI(13.3-280.6) $p=0.0001$], male sex [OR 4.8, 95CI(1.3-17.8) $p=0.02$], non-rituximab treatment [OR 19.7, 95CI(3.6-106.3) $p=0.001$] as independent factors associated with a higher probability of positive IgG-SC2AT. Age, previous PCR status, corticosteroid and cDMARD use showed no statistical significance. This model accounted for 47.6% of positive cases.

Conclusion: RTX had a lower rate of positivity to IgG-SC2AT compared to N-RTX. Previous symptoms, male sex and non-RTX treatment were independently associated with higher probability of positive IgG-SC2AT.

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.2082

POS1205

THE IMPACT OF COVID-19 ON PATIENT MANAGEMENT AND PRESCRIBING STRATEGY ACROSS THE EU AND US: A REAL-WORLD SURVEY OF RHEUMATOLOGISTS, DERMATOLOGISTS, AND GASTROENTEROLOGISTS

E. Holdsworth¹, R. Lukanova¹, M. Hughes¹, J. Hall¹, J. Austin¹, G. Taylor-Stokes¹, J. Piercy¹. ¹Adelphi Real World, Real World Evidence, Bollington, United Kingdom

Background: The COVID-19 pandemic is expected to have impacted patient management on a global level. However, the degree of impact on patient management and prescribing strategy in the fields of rheumatology, dermatology and gastroenterology is unclear.

Objectives: Assess the impact of COVID-19 on patient management and prescribing strategy across the EU and US, as described by rheumatologists, dermatologists, and gastroenterologists.

Methods: Data were drawn from physician surveys in France, Germany, Italy, Spain, UK and US between July and December 2020. Physicians completed an online or telephone survey assessing how COVID-19 has impacted type and frequency of consultations; choice and prescription of medication.

Results: 847 physicians took part; 355 rheumatologists, 200 dermatologists (Germany, Spain, UK, and US only), and 282 gastroenterologists. As a result of COVID-19, most physicians stated they have moved at least some patients to video or telephone consultations (70% rheumatologists; 55% dermatologists; 60% gastroenterologists) and reduced overall frequency of consultations with patients (59% rheumatologists; 64% dermatologists; 51% gastroenterologists) (Table 1).

35% of rheumatologists, 22% of dermatologists, and 14% of gastroenterologists described COVID-19 as changing the way they choose and prescribe medication, with differences observed between countries (Figure 1). Of those who stated they have made medication changes, rheumatologists stated changing medication to self-administration (62%) and not starting new patients on an advanced therapy (biologic DMARD or targeted synthetic DMARD) (58%) as most frequent. Dermatologists stated changes include changing treatment to more COVID-appropriate treatment (71%) and prescribing repeat prescriptions more regularly without consultation (56%). Gastroenterologists stated changes include changing medication to self-administration (55%) and prescribing a longer course of medication (48%).

Comparing across countries, for all specialties, the greatest changes were observed in the UK followed by Spain, with least changes in Germany and Italy.

Conclusion: There have been changes in the process of how healthcare is delivered, although treatment prescription was impacted to a lesser extent than consultation type and frequency. This varies across geographies, which may be due to differences in reported prevalence of COVID-19. Differences are also observed across specialties, which may be due to guidance received from specialty bodies. It is unknown what the long-term impact of changes in the management of patients due to COVID-19 will be on patient outcomes, satisfaction, engagement and adherence, and further research is needed.

Table 1. Rheumatologist, Dermatologist, and Gastroenterologist described impact on patient management, by country

	Global (n=847)	France (n=90)	Germany (n=168)	Italy (n=122)	Spain (n=161)	UK (n=133)	US (n=163)
Rheumatologists	n=365	n=50	n=58	n=59	n=57	n=50	n=81
Moving to video/telephone consultation	70%	70%	36%	47%	86%	94%	84%
Fewer visits for individual patients (reduced visiting schedule)	59%	80%	0%	41%	96%	76%	65%
Dermatologists	n=200	-	n=50	-	n=50	n=50	n=50
Moving to video/telephone consultation	55%	-	40%	-	58%	66%	56%
Fewer visits for individual patients (reduced visiting schedule)	64%	-	60%	-	54%	72%	72%
Gastroenterologists	n=282	n=40	n=60	n=63	n=54	n=33	n=32
Moving to video/telephone consultation	60%	63%	18%	54%	83%	100%	69%
Fewer visits for individual patients (reduced visiting schedule)	51%	35%	43%	51%	43%	79%	69%

Figure 1. Proportion of rheumatologists, dermatologists, and gastroenterologists reporting changing the way they choose and prescribe medication as a result of COVID-19

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.2103

POS1206

SEROPREVALENCE OF SARS-CoV-2 ANTIBODIES IN AUTOIMMUNE INFLAMMATORY RHEUMATOLOGIC PATIENTS

T. Eviatar^{1,2}, D. Levartovsky^{1,2}, V. Furer^{1,2}, A. Polachek^{1,2}, O. Elalouf^{1,2}, M. Zisapel^{1,2}, T. Halperin^{1,3}, D. Turner^{1,4}, D. Paran^{1,2}, S. Pel^{1,2}, S. Nevo^{1,2}, O. Elkayam^{1,2}. ¹Tel Aviv University, Sackler Faculty of Medicine, Tel Aviv-Yafo, Israel; ²Tel Aviv Sourasky Medical Center, Rheumatology Department, Tel Aviv, Israel; ³Tel Aviv Sourasky Medical Center, Immunology Department, Tel Aviv, Israel; ⁴Tel Aviv Sourasky Medical Center, Infectious Disease Department, Tel Aviv, Israel

Background: Immune responses in AIIRD patients may be reduced and influenced by immunosuppressive treatments[1]. The effect of immunosuppression on the mounting of SARS-CoV-2 antibodies in AIIRD is not clear.

Objectives: To assess the prevalence of SARS-CoV-2 antibodies in AIIRD patients and to define clinical factors affecting this prevalence.

Methods: Consecutive consenting AIIRD patients from the Rheumatologic department in Tel Aviv Medical Center participated in the study.

Patients answered a questionnaire and were tested for SARS-CoV-2 antibodies. A two stage antibody testing was done in order to increase specificity.

Results: The study included 560 AIIRD patients (229 RA, 149 PsA, 84 SLE, 55 vasculitides, 40 SpA, 3 other CTD), of them 26 patients were found to have SARS-CoV-2 IgG antibodies (4.6%) (Table 1). This was more than double than a

previous prevalence in the same clinic population studied after the first wave of the pandemic in Israel, which was 2.07% (accepted for publication). A lower rate of immunosuppression was found for positive SARS-CoV-2 IgG patients compared to negative serology patients (Table 1, $p=0.009$). There was also a trend for the subgroup of patients on biologic DMARDs (26.92% vs. 47% respectively, $p=0.06$).

Positive SARS-CoV-2 PCR test was reported and confirmed in 36 patients, of them 14 (38.89%) had negative serology. Patients who did not have antibodies had numerically more than double rates of glucocorticoids and bDMARDs treatment. The time between positive PCR test to positive serology test was significantly shorter (mean±standard deviation 75.57±40.44 days) than the time between positive PCR to negative serology test (130.79±86.47 ($p=0.04$)) (Table 1 and Figure 1) suggesting a fading of the antibody response with time.

Conclusion: The prevalence of SARS-CoV-2 IgG was 4.6% in a population of AIIRD patients from a single tertiary medical center in Israel. SARS-CoV-2 seroprevalence tended to be low among AIIRD patients on immunosuppressive treatment, including in patients with a confirmed history of positive SARS-CoV-2 PCR, similar to other studies [3].

As in individuals without AIIRD, the mounting of SARS-CoV-2 IgG seems to fade with time.

Larger studies are needed to confirm the potential effect of immunosuppression on the antibody response in AIIRDs.

Table 1. Demographic and clinical characteristics of patients with negative and positive SARS-CoV-2 IgG, and in the subgroup with positive SARS-CoV-2 PCR test

	Total population (n=560)			Positive PCR population (n=36)		
	Negative IgG (n=534)	Positive IgG (n=26)	P	Negative IgG (n=14)	Positive IgG (n=22)	P
Female n (%)	360 (67.42)	22 (84.62)	0.08	10 (71.43)	18 (81.82)	0.68
Age median (95% CI)	57 (54.95-57.58)	52.5 (46.55-58.6)	0.23	42 (35.46-53.11)	52.5 (47.62-60.65)	0.06
No. of comorbidities mean±STD (95%CI)	0.88±1.15 (0.78-0.98)	0.92±1.2 (0.44-1.41)	0.86	0.79±1.12 (0.14-1.43)	0.96±1.3 (0.4-1.51)	0.68
AIIRD treatments n(%)						
Total immunosuppression	401 (75.09)	13 (50)	0.009	11 (78.57)	12 (54.54)	0.175
GC	113 (21.16)	3 (11.54)	0.32	5 (35.71)	3 (13.64)	0.32
csDMARDs	257 (48.13)	13 (50)	1	7 (50)	13 (59.09)	0.73
bDMARDs	251 (47)	7 (26.92)	0.06	9 (64.29)	7 (31.82)	0.09
Anti CD-20	36 (6.74)	0	0.4	1 (7.14)	0	0.39

SARS-CoV-2, severe acute respiratory syndrome-coronavirus-2; IgG, immunoglobulin G; PCR, polymerase chain reaction; n, number; 95%CI, 95% confidence interval; GC, glucocorticoids; csDMARDs, conventional synthetic disease modifying antirheumatic drugs; bDMARDs, biologic disease modifying antirheumatic drugs.

Figure 1. Kaplan-Meier plot of SARS-CoV-2 IgG survival in days from SARS-CoV-2 PCR test
There were 160 negative SARS-CoV-2 PCR tests with 2 positive serologies among them, and 35 positive SARS-CoV-2 PCR tests with 21 positive serologies among them (for 3 patients time between PCR test and serology was unknown). The median survival of SARS-CoV-2 serology in PCR positive patients was 110 days and was not applicable to PCR negative patients ($p<0.0001$).

REFERENCES:

- [1] V. Furer et al., "Incidence and prevalence of vaccine preventable infections in adult patients with autoimmune inflammatory rheumatic diseases (AIIRD): a systemic literature review informing the 2019 update of the EULAR recommendations for vaccination in adult patients with," *RMD Open*, vol. 5, no. 2, p. e001041, Sep. 2019.
- [2] D. Simon et al., "Patients with immune-mediated inflammatory diseases receiving cytokine inhibitors have low prevalence of SARS-CoV-2 seroconversion," *Nat. Commun.*, vol. 11, no. 1, pp. 1–7, 2020.

Acknowledgements: This study was performed in collaboration with the Israeli Ministry of Health.

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.2107

POS1207

REAL WORLD POPULATION-BASED ASSESSMENT OF COVID-19 OUTCOMES AMONG RHEUMATOID ARTHRITIS PATIENTS USING BIOLOGIC OR SYNTHETIC DMARDs

L. Wegrzyn¹, K. Winthrop², S. Kim³, Y. Ye¹, C. Huisin¹, W. Krueger¹, A. Maniccia⁴, R. Kilpatrick¹. ¹AbbVie, Global Epidemiology, Pharmacovigilance, & Patient Safety, North Chicago, United States of America; ²Oregon Health & Science University, Division of Infectious Diseases, Portland, United States of America; ³Brigham and Women's Hospital/Harvard Medical School, Division of Rheumatology, Inflammation, and Immunity, Boston, United States of America; ⁴AbbVie, Medical Affairs, North Chicago, United States of America

Background: While some risk factors for severe COVID have been identified for patients with rheumatic diseases,¹ few studies have investigated whether outcomes differ based on the type of rheumatoid arthritis (RA) treatment. Most existing reports have been limited to individual centers or voluntary reporting registries.^{2,3}

Objectives: To compare the occurrence of hospitalizations following COVID-19 diagnosis among patients with RA treated with various classes of DMARDs.

Methods: A cohort of patients with confirmed COVID-19 (ICD10 diagnosis code or positive PCR or antigen test result) were identified within a large US electronic health record (EHR) dataset (Optum, Inc.) during the time period Feb 1, 2020 through Oct 14, 2020. From these, we identified RA patients (ICD10 RA diagnosis code) with treatment (most recent of JAK inhibitor [JAKI], biologic [bDMARD] or conventional synthetic [csDMARD] only) within the 12 months prior to COVID-19 diagnosis (i.e., index). The primary outcome was any hospitalization on or within 30 days after COVID-19 diagnosis. Multivariable logistic regression models compared users of JAKi's to non-TNFi bDMARDs and csDMARDs (separately), as well as users of TNFi's to non-TNFi bDMARDs and csDMARDs (separately), and were adjusted for age, gender, index month and baseline corticosteroid use. Sensitivity analyses included restriction of prevalent treatment use to within 180 days prior to COVID-19 diagnosis and restriction of csDMARDs to a group without hydroxychloroquine or chloroquine.

Results: The study included 910 RA patients on DMARD treatment who were diagnosed with COVID-19 (mean age ± SD: 61±15, 80% female, 62% white). Of those, 26% (n=240) were hospitalized on or within 30 days after COVID-19 diagnosis. The proportion of patients hospitalized was highest in non-TNFi bDMARD users (37/87; 43%), followed by csDMARDs users (161/581; 28%) and lowest in JAKi (13/68; 19%) and TNFi users (29/174; 17%). In multivariable-adjusted models, no differences in risk of hospitalization were found comparing JAKi users to csDMARD users (aOR=0.71; 95% CI 0.37-1.36) or TNFi users to csDMARD users (aOR=0.67; 95%CI 0.43-1.06). Compared to non-TNFi bDMARD users, JAKi use and TNFi use was associated with reduced risk of hospitalization (JAKi aOR=0.32; 95%CI 0.14-0.71; TNFi aOR=0.34; 95%CI 0.18-0.62). Age and corticosteroid use were positively associated with 30-day hospitalization in all models. Results of sensitivity analyses were consistent with the main findings.

Conclusion: In this study, roughly a quarter of RA patients with recent DMARD treatment were hospitalized within 30 days after COVID diagnosis. Patients treated with JAKi and TNFi therapies experienced the lowest risk of hospitalization, with risk of hospitalization significantly lower than non-TNFi bDMARDs. However, recent therapy recorded in the EHR may not reflect exposure at time of COVID-19 diagnosis and small sample size per treatment may limit interpretation.

REFERENCES:

- [1] Hyrich KL, Machado PM. *Nat Rev Rheumatol* 2020;1-2. doi:10.1038/s41584-020-00562-2
- [2] Gianfrancesco MA, et al. *Lancet Rheumatol* 2020;2(5):e250-e253. doi:10.1016/S2665-9913(20)30095-3
- [3] Veenstra J, et al. *J Am Acad Dermatol* 2020;83(6):1696-1703.

Acknowledgements: Jonathan Johnson of Optum, Inc. provided dataset guidance and conducted data analyses. AbbVie funded this study, contributed to its design, participated in data collection, analysis, and interpretation of the data, and in the writing, review, and approval of the abstract. No honoraria or payments were made for authorship.

Disclosure of Interests: Lani Wegrzyn Shareholder of: AbbVie, Employee of: AbbVie, Kevin Winthrop Consultant of: Pfizer, AbbVie, UCB, Eli Lilly & Company, Galapagos, GSK, Roche, Gilead, BMS, Regeneron, Sanofi, AstraZeneca, Novartis, Grant/research support from: BMS, Pfizer, Seoyoung Kim Grant/research support from: institutional research grants from Pfizer, AbbVie, Roche, BMS for unrelated studies, Yizhou Ye Shareholder of: AbbVie, Employee of: AbbVie, Carrie Huisin Shareholder of: AbbVie, Employee of: AbbVie, Whitney Krueger Shareholder of: AbbVie, Employee of: AbbVie, Anna Maniccia Shareholder of: AbbVie, Employee of: AbbVie, Ryan Kilpatrick Shareholder of: AbbVie, Employee of: AbbVie.

DOI: 10.1136/annrheumdis-2021-eular.2206