Results: From the 18 women with autoimmune rheumatic disease in follow-up during this period, 2 (11.1%) pregnant women, 2 (11.1%) postpartum women, and 1(5.5%) post-miscarriage woman developed COVID-19. The mean age was 28 ± 6.3 years, 3 (60%) had systemic lupus erythematosus, 1 (20%) had rheumatoid arthritis, and 1 (20%) had the antiphospholipid syndrome. Clinical features and treatments are shown in Graphic 1 and Table 1. The most frequent symptoms were fever (80%), cough (60%) and anosmia (60%). Four (80%) had mild symptoms, and 1 (20%) had severe symptoms requiring intensive care unit admission and mechanical ventilation. Three (60%) referred history of contact with a person who had COVID-19. All the patients were using hydroxychloroquine and prednisone. No patient in our study died.

Conclusion: From our population, a total of 27.8% presented COVID-19. Most of our patients had a mild course of SARS-CoV-2 infection consistent with data from the general population. Additionally, none of our patients had risk factors such as hypertension, diabetes, chronic kidney disease or lung disease. Nonetheless, pregnant women remain a vulnerable population. Prevention measures must continue worldwide to avoid additional COVID-19 morbidity and mortality.

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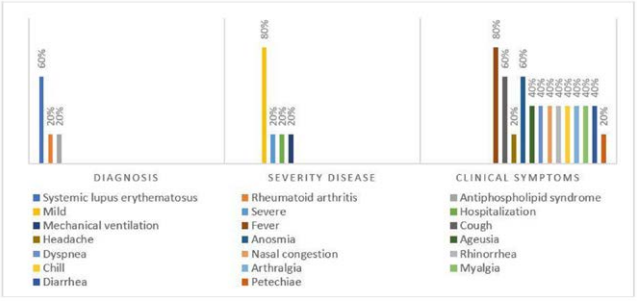

Graphic 1. Diagnosis, severity disease and clinical symptoms of pregnant rheumatic disease patients with COVID-19

Table 1. Features, preventive measures, and treatments of pregnant rheumatic disease patients with COVID-19

	N=5
Age, years, mean (SD)	28 (6.36)
Obesity, n (%)	2 (40)
Current occupation, n (%)	
Employee	3 (60)
Student	1 (20)
Housewife	1 (20)
Positive PCR test, n (%)	5 (100)
Prevention measures, n (%)	
Social Distancing	2 (40)
Quarantine	3 (60)
Contact with a person who had COVID-19	3 (60)
Treatments used before disease, n (%)	
Prednisone	5 (100)
Hydroxychloroquine	5 (100)
Sulfasalazine	2 (40)
Azathioprine	1 (20)
Methotrexate*	1 (20)
Rheumatic treatment during disease, n (%)	
Continued	3 (60)
Suspended	2 (40)

PCR: polymerase chain reaction, *Methotrexate was used during conception and suspended immediately after the pregnancy detection.

Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2021-eular.2641

POS1221

SARS-COV2 SEROLOGY SCREENING IN SPONDYLOARTHRITIS PATIENTS IN NORTH-EASTERN ITALY: A PILOT STUDY

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Background: Serology could help defining the real extent of Severe Acute Respiratory Syndrome CoronaVirus 2 (SARS-CoV2) diffusion in the population, especially in individuals considered at higher risk of SARS-CoV2 infection (COVID-19), such as Spondiloarthritis (SpA) patients undergoing immunosuppressive therapy or health care workers (HCW). In fact, COVID-19 detection is complicated by the fact that many patients can be asymptomatic. In these cases, it has also been suggested that a weaker immune response might be elicited.
In this context, the role of anti-cytokine targeted therapy –commonly used as treatment in SpA- is uncertain, as it is not clear whether it is detrimental or protective towards severe disease forms.

Objectives: The aim of the study was to explore the potential role of serology in detecting previous contact with SARS-CoV2 in SpA patients and HCW, and compare the frequency of positive findings with a control population.

Methods: Consecutive patients affected by axial or peripheral SpA, classified according to Assessment of SpondyloArthritis international Society (ASAS) criteria and undergoing cytokine-targeted therapy, as well as HCW and controls from the pre-COVID-19 era (control group, 2015) were recruited. In SpA patients, disease activity was assessed by Ankylosing Spondylitis Disease Activity Score (ASDAS) and Disease Activity Score on 28-joint-count (DAS28).
Sera from all patients were analysed through chemiluminescent analytical system (CLIA) for the presence of IgG and IgM anti-SARS-CoV2. Patients with a positive serological test (either IgM or IgG) additionally underwent real time Polymerase Chain Reaction (RT-PCR) in nasopharyngeal swabs in order to test for active infection. In SpA patients, serology was repeated after 3 months. Data across the 3 groups were compared by ANOVA or Chi-square, while comparison between 2 groups were conducted by Wilcoxon signed rank test or Chi-Square, for continuous and categorical data respectively. $P \leq 0.05$ were considered as significant.

Results: A total of 396 patients were recruited: 200 SpA, 95 HCW and 101 healthy controls. SpA patients were mostly (54%) males, with mean age 49.6 ±14.7 years, and all were treated with anti-TNFα (78%), anti-IL-17 (9%) and anti-IL-23 drugs (7%), or small molecules (6%). Their disease activity level was moderate-low as assessed by ASDAS (1.95 ±0.98) and DAS28 (2.33 ±2.02). Among HCW and controls, 35% and 62% were male, with mean age 46.7 ±12.9 and 50.6±10.6 respectively.
Positive serology (IgM or IgG, or both) was found in 12.5% SpA patients, 8.4% HCW, 0% controls (p=0.001). Among these, IgM titres were higher in the SpA group than in HCW (2.76±2.94 versus 0.80±0.67 KU/L, p= 0.016), while IgG mean titres were lower in the SpA group than in HCW (0.88±3.18 KU/L versus 1.05±0.88, p= 0.035). SpA patients with positive serology more frequently reported COVID-19 like symptoms than those with negative serology (20% vs 4%, p=0.009) and 2 had COVID-19 as confirmed by RT-PCR, none with a severe disease course. None of the HCW reported symptoms or tested positive by RT-PCR. In the SpA patients, at 3 months, the mean IgM titre decreased from 2.76±2.93 to 2.38±2.95 (p=0.001), while the IgG titres decreased from 0.89±3.25 to 0.31±0.87 (p=ns). Interestingly, the IgM or IgG titer at a single-patient level did not seem to change much in terms of absolute value (Figure 1), except in one patient, with documented COVID-19 (positive RT-PCR), in whom IgG level even decreased at 3 months.

Conclusion: Serology revealed that exposure to COVID-19 in SpA patients, as well as HCW, was higher than expected based on reported symptoms. Targeted anti-cytokine therapy could act as a protective factor for a severe disease course in SpA patients. However, in this population, IgG and IgM titres did not change in a clinically significant manner at 3 months, and patient did not seem to develop an immune profile consistent with durable response. This result could be due to a weaker immune response in mild infections, but further studies are warranted to clarify the pathophysiology beyond these observations.

Figure. Levels of IgM and IgG anti-Severe Acute Respiratory Syndrome-coronavirus 2 (SARS-CoV2) at baseline and 3 months in spondyloarthritis patients

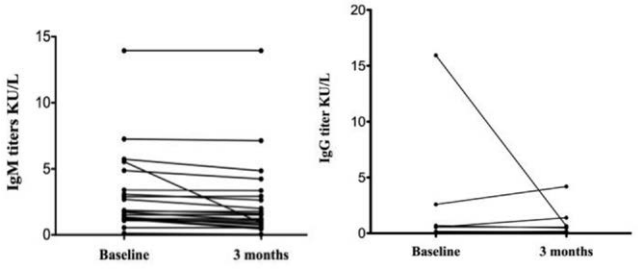

Figure 1.

Disclosure of Interests: Augusta Ortolan: None declared, Chiara Cosma: None declared, Mariagrazia Lorenzin: None declared, Giacomo Cozzi: None declared, Andrea Doria Speakers bureau: Novartis, Abbvie, Pfizer, MSD, Janssen, Glaxosmithkline, Mario Plebani: None declared, Roberta Ramonda Speakers bureau: Novartis, Abbvie, Pfizer, MSD, Janssen
DOI: 10.1136/annrheumdis-2021-eular.2681