POS1231

COVID-19 INFECTION IN RHEUMATIC IMMUNE-MEDIATED INFLAMMATORY DISEASES. EPIDEMIOLOGICAL STUDY IN A SINGLE UNIVERSITY HOSPITAL

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Background: Immune-mediated inflammatory diseases (IMID) have an increased risk of infections due to the disease itself, and/or immunosuppressive therapy. Risk of COVID-19 infection in the different rheumatic IMID (R-IMID) remains controversial.

Objectives: To assess the epidemiology and comorbidities of COVID-19 in R-IMID from a Single-University hospital.

Methods: Cross-sectional study in a Single-University hospital. We included all consecutive patients with a diagnosis of a R-IMID and a positive test for COVID-19 up to November 6th, 2020. Medical records of 11,199 patients that suffered COVID-19 in our region, and 6891 with R-IMID from our hospital were reviewed. Incidence data in the different underlying R-IMID were calculated for patients with follow-up in our hospital. Confirmed infection was defined if the patient had a positive nasopharyngeal swab for SARS-CoV-2.

Results: We included 147 patients from our region (96 women/51 men), mean age 60±18 years. Underlying R-IMID were: Rheumatoid arthritis (RA) (n=36, 24.5%), Axial spondyloarthritis/Psoriatic arthritis (SpA/PsA) (n=54, 36.7%), Polymyalgia Rheumatica (PMR) (n=16, 10.9%), systemic lupus erythematosus (SLE) (n=10, 6.8%), sarcoidosis (n=5, 3.4%), Sjögren's syndrome (SS) (n=4, 2.7%), giant cell arteritis (GCA) (n=3, 2%), Behçet's disease (n=3, 2%), ANCA-vasculitis (n=2, 1.4%) and systemic sclerosis (SSc) (n=1, 0.7%). Main comorbidities were hypertension (n=65, 44.2%), dyslipidemia (n=64, 43.5%), age higher than 65 years old (n=55, 37.4%), obesity (n=35, 23.8%), coronary vascular disease (n=27, 18.4%), diabetes mellitus (n=22, 15%), chronic obstructive pulmonary disease (n=15, 10.2%) and chronic kidney disease (n=15, 10.2%). Total cumulative COVID-19 incidence in all patients from our region was 1.9% (11,199 /582,905). From 147 patients with COVID-19 from our region, 115 (76 women/39 men; mean age, 59±18 years) were followed in our hospital. In the latter, the global cumulative incidence in R-IMID was 1.7% (115/6891), ranging from 1.3% in Systemic Sclerosis (SSc) and Giant Cell Arteritis (GCA) up to 5.3% in Behçet's disease (Table 1 and Figure 1).

Table 1. Incidence and relative risk of COVID-19 in patients with different R-IMID in a Single-University hospital

R-IMID	Total cumulative incidence in our hospital(%)	Relative risk (95% confidence interval)
Global population	1.9	-
582,905 inhabitants		
Global R-IMID	1.7	0.9 (0.7-1)
6,891 patients		
Behçet's disease	5.3	2.7 (0.9-8.2)
ANCA-vasculitis	3.5	1.8 (0.4-7.1)
PMR	2.8	1.4 (0.8-2.6)
SS	2.6	1.4 (0.5-3.6)
SLE	2.3	1.2 (0.6-2.3)
Sarcoidosis	2.3	1.2 (0.3-4.7)
SpA/PsA	2.2	1.1 (0.8-1.5)
RA	1.6	0.8 (0.6-1.2)
GCA	1.3	0.7 (0.2-2.8)
SSc	1.3	0.7 (0.1-4.6)

GCA: Giant cell arteritis, PsA: Psoriatic arthritis, RA: Rheumatoid arthritis, SLE: Systemic lupus erythematosus, SpA: Axial spondyloarthritis, SSc: Systemic sclerosis.

Figure 1. Number of patients with COVID-19 in different R-IMID in a Single-University hospital. Data are presented on a logarithmic scale.

In addition, Relative Risk (RR) in different R-IMID compared to the general population was calculated (Table 1). Although RR did not reach statistical significance in any R-IMID, most R-IMID showed a tendency to a higher risk, with the exception of RA, GCA and SSc.

Conclusion: In our series, the total cumulative incidence of COVID-19 in R-IMID was similar to the general population. Higher RR, without statistical significance, was observed in Behçet's disease, ANCA-vasculitis and Polymyalgia Rheumatica. GCA: Giant cell arteritis, PsA: Psoriatic arthritis, RA: Rheumatoid arthritis, SLE: Systemic lupus erythematosus, SpA: Axial spondyloarthritis, SSc: Systemic sclerosis.

Disclosure of Interests: David Martínez-López: None declared, Diana Prieto-Peña Grant/research support from: UCB Pharma, Roche, Sanofi, Pfizer, Abbvie, Lilly, Lara Sanchez-Bilbao: None declared, Alba Herrero-Morant: None declared, Carmen Álvarez-Reguera: None declared, Martin Trigueros-Vazquez: None declared, Miguel A González-Gay Speakers bureau: Abbvie, Pfizer, Roche, Sanofi and MSD., Consultant of: Abbvie, Pfizer, Roche, Sanofi and MSD., Grant/research support from: Abbvie, MSD, Jansen, Roche, Ricardo Blanco Speakers bureau: Abbvie, Pfizer, Roche, Bristol-Myers, Janssen, Lilly and MSD, Consultant of: Abbvie, Pfizer, Roche, Bristol-Myers, Janssen, Lilly and MSD, Grant/research support from: Abbvie, MSD and Roche

DOI: 10.1136/annrheumdis-2021-eular.3039

POS1232

COVID-19 IN PATIENTS WITH SYSTEMIC SCLEROSIS: ONE RHEUMATOLOGY CENTER EXPERIENCE

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Background: Severe Acute Respiratory Syndrome-Coronavirus-2 (SARS-CoV-2) virus infection or COVID-19 is a serious problem for patients with systemic autoimmune diseases. Given the serious complications, including acute lung injury, patients with systemic sclerosis (SSc), especially SScs associated with interstitial lung disease (ILD), may represent a high risk group for infection and the development of severe COVID-19.

Objectives: We present an analysis of the COVID-19 course and outcomes in 110 SSc pts.

Methods: The study included 147 patients with SSc. The information was clarified by means of telephone survey after 10 months of the pandemic (December 2020). Covid-19 was diagnosed when confirmed by positive oral/nasopharyngeal swab, in the presence of positive antibodies and/or characteristic symptoms, and data from chest computed tomography (CT). 110 pts (77%) out of 147 patients in the SSc registry, gave the necessary information. COVID-19 was diagnosed in 59 pts (53%). 42 pts (71%) had SSc-ILD. Pts mean age was 54.96 (s.d. 11, min 31, max 79), 83% women (49 women and 10 men). 38 pts (65%) had a limited form of SSc, 15 (26%) pts had diffuse form SSc, 6% had overlap (SSc-polymyositis (PM) and SSc had rheumatoid arthritis (RA) and 3% had visceral form of SSc). All patients received low-dose prednisone, and more than half of the pts received immunosuppressive therapy. Rituximab therapy was performed in 24 pts (41%).

Results: Almost all patients had positive swab from the oral cavity/nasopharynx. And only in 4 (7%) pts nasopharyngeal swabs were negative, in these patients specific antibodies and characteristic CT changes were detected. Chest CT was performed in 51 (86%) pts. Novel coronavirus pneumonia developed in the vast majority of pts - in 46 (78%) pts. CT1 (up to 25% of lung lesions) had 10 (17%) pts, CT2 (25-50%) - 21 (36%) pts, CT 3 (50-75%) - 15 (25%) pts. In 5 (8.5%) pts no changes were detected on CT. The course of COVID-19 was mild and moderate (20 (34%) pts and 18 (31%) pts respectively), severe course was observed in 21 (35%) pts, including fatal in 12 (20%) pts. Among the deceased pts, only 1 patient with SSc-PM had not had ILD, but 7 patients had been treated with rituximab.

Conclusion: SSc SARS-CoV-2-infected patients may be at risk of severe disease and mortality due to the frequent presence of ILD and the frequent use of immunosuppressive, including biological, therapy.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2021-eular.3086

POS1233

USE OF BARICITINIB AND TOLICIZUMAB FOR THE TREATMENT OF MODERATE TO SEVERE COVID-19 IN HOSPITALIZED PATIENTS

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Background: SARS-CoV2 infection and COVID-19 associated pneumonia are associated to a dysregulated inflammatory response known as cytokine storm and the use of cytokine inhibitors, especially those targeting IL-6, has been

proposed as a therapeutic alternative in these patients. Janus Kinase (JAK) inhibitors in combination to the antiviral Remdesivir have shown evidence of reducing recovery time and accelerating improvement in clinical status among patients with COVID-19, notably among those receiving high-flow oxygen or non-invasive ventilation¹.

Objectives: To describe the outcomes associated with the use of Tocilizumab (TCZ) and Baricitinib (Bari) in patients hospitalized for COVID-19.

Methods: Descriptive study nested in a cohort. Patients from the General Hospital of Cuernavaca who were hospitalized due to COVID-19 associated pneumonia and/or respiratory failure requiring supplemental oxygen or invasive/non-invasive assisted mechanical ventilation (AMV) were analyzed. All patients had a positive RT-PCR upon hospital admission, sampled under standardized conditions. The clinical and demographic data of the patients upon hospitalization were obtained from the instrument on a specific platform (SISVER) used on a national basis. Severe disease was considered as the need for any type of AMV. TCZ was used at 400-600mg in two infusions (baseline and at 72 hours), Bari at 4mg daily for 14 days. The outcomes were the need for AMV, death, or discharge. A $p \leq 0.05$ was considered statistically significant.

Results: Data from 404 SARS-CoV2 positive patients were analyzed. 269 (65.9%) were men. The mean age of the patients was 57.5 years (18-94; SD 15.3). 59.6% of the patients had one or more comorbidities (Diabetes and Hypertension in most cases [31.8%]). 22.8% of the patients had a history of current or previous smoking. Mean hospital stay was 7.4 days (1-36; SD 5.9). 15.9% of the patients required invasive or non-invasive AMV. 11 patients were treated with TCZ and 30 patients received treatment with Baricitinib. 5 of the 11 patients with TCZ required AMV (all but one were intubated), but only 6 of the 30 (20%) with Bari required AMV (all except one received CPAP). The use of Baricitinib was correlated with a reduction in the use of AMV ($p = 0.01$). 6 patients with TCZ were discharged due to improvement and 5 died. In the case of Bari, 19 improved and were discharged and 11 died, significantly correlating with lower mortality ($p = 0.05$). The use TCZ was not associated with a reduced hospitalization (50% remained hospitalized for more than 10 days) but patients receiving Baricitinib had significantly shorter hospital stays (86.6% had a hospital stay of less than 10 days) than those receiving TCZ ($p < 0.0001$).

Conclusion: The patients that were treated with Baricitinib and required AMV most often improved with non-invasive CPAP while the majority of the patients under AMV receiving TCZ were treated with an invasive mode, although this was due in part to the fact that TCZ can be employed intravenously and is more practical for intubated patients in whom oral drug administration is limited. Baricitinib was significantly associated with a better outcome (hospital discharge due to improvement) and a significantly shorter hospital stay.

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Acknowledgements: Thanks to B. Flores and M. Hernandez for their help with data collection.

Disclosure of Interests: Daniel Xavier Xibille Friedmann Speakers bureau: Lilly, Abbvie, Paid instructor for: Lilly, Abbvie, Consultant of: Pfizer, Lilly, Sandra Miriam Carrillo Vazquez Speakers bureau: Roche, Novartis, Paid instructor for: Roche, Janssen, Consultant of: Roche, Janssen

DOI: 10.1136/annrheumdis-2021-eular.3122

POS1234

IMPACT OF THE CHANGE IN ADMINISTRATION ROUTE OF TOCILIZUMAB AND ABATACEPT, DUE TO THE COVID-19 LOCKDOWN ON DISEASE ACTIVITY IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Among therapeutics used to treat rheumatoid arthritis (RA), Tocilizumab (TCZ) and Abatacept (ABA) are both biologic agents that can be delivered subcutaneously (SC) or intravenously (IV). During the first COVID-19 lockdown in France, all patients treated with IV TCZ or IV ABA were offered the option to switch to SC administration.

Objectives: The primary aim was to assess the impact of changing the route of administration on the disease activity. The second aim was to assess whether the return to IV route at the patient's request was associated with disease activity variation, flares, anxiety, depression and low physical activity during the lockdown.

Methods: We conducted a prospective monocentric observational study. Eligibility criteria: Adult ≥ 18 years old, RA treated with IV TCZ or IV ABA with a stable dose ≥ 3 months, change in administration route (from IV to SC) between March 16, 2020, and April 17, 2020. The following data were collected at baseline and

months later (M6): demographics, RA characteristics, treatment, history of previous SC treatment, disease activity (DAS28), self-administered questionnaires on flares, RA life repercussions, physical activity, anxiety and depression (FLARE, RAID, Ricci & Gagnon, HAD).

The primary outcome was the proportion of patients with a DAS28 variation >1.2 at M6. Analyses: Chi2-test for quantitative variables and Mann-Whitney test for qualitative variables. Factors associated with return to IV route identification was performed with univariate and multivariate analysis.

Results: Among the 84 patients who were offered to switch their treatment route of administration, 13 refused to change their treatment. Among the 71 who switched (48 TCZ, 23 ABA), 58 had a M6 follow-up visit (13 lost of follow-up) and DAS28 was available for 49 patients at M6. Main baseline characteristics: female 81%, mean age 62.7, mean disease duration: 16.0, ACPA positive: 72.4%, mean DAS28: 2.01, previously treated with SC TCZ or ABA: 17%.

At M6, the mean DAS28 variation was 0.18 ± 0.15 . Ten (12.2%) patients had a DAS28 worsening >1.2 (ABA: 5/17 [29.4%] and TCZ: 5/32 [15.6%], $p = 0.152$) and 19 patients (32.8%) had a DAS28 worsening >0.6 (ABA: 11/17 [64.7%] and TCZ: 8/32 [25.0%], $p = 0.007$).

At M6, 41 patients (77.4%) were back to IV route (26 TCZ, 15 ABA) at their request. The proportion of patients with a DAS28 worsening >1.2 and >0.6 in the groups return to IV versus SC maintenance were 22.5%, 42.5% versus 11.1% and 22.2% ($p = 0.4$), respectively. The univariate analysis identified the following factors associated with the return to IV route: HAD depression score (12 vs 41, $p = 0.009$), HAS anxiety score (12 vs 41, $p = 0.047$) and corticosteroid use (70% vs 100%, $p = 0.021$), in the SC maintenance vs return to IV, respectively.

Conclusion: The change of administration route of TCZ and ABA during the first COVID-19 lockdown was infrequently associated with a worsening of RA disease. However, the great majority of the patients (77.4%) request to return to IV route, even without disease activity worsening. This nocebo effect was associated with higher anxiety and depression scores.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2021-eular.3126

POS1235

ASSESSMENT OF RISK FACTORS FOR HOSPITALIZATION OF AUTOIMMUNE AND RHEUMATIC DISEASE PATIENTS WITH COVID-19 – A SINGLE CENTRE OBSERVATIONAL STUDY

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Background: Most of the patients suffering from autoimmune and rheumatic diseases (AIRD) are on immunomodulator or immunosuppressive therapies and they are susceptible to infections including COVID19.

Objectives: To assess the risk factors for hospitalization with COVID-19 in patients with AIRD

Methods: A single centre retrospective observational study including patients with AIRD who had contracted COVID-19. Data was collected from all patients attending our clinic from September 2020 to January 2021. Patients with COVID-19 were divided into hospitalized and non-hospitalized groups. Clinical, demographic, ongoing medications, comorbidities and post COVID flare data were collected and analysed using crosstabs-chi square and Mann-Whitney U test.

Results: 520 patients with AIRD were screened over the study duration, of which 52 patients who had contracted COVID-19 were included in the study. Amongst them, 19 patients (36.5%) required hospitalization. The common symptoms in the hospitalized patients over non-hospitalized were fever (63.2% vs 57.6%), fatigue (42.1% vs 21.2%), headache (36.8% vs 18.2%), abdominal pain (26.3% vs 6.1%), myalgias (36.8 vs 18.2%) and dyspnea (31.6% vs 18.2%). The most common rheumatic conditions seen in both the groups were RA (42.1% vs 30.3%), SPA (26.3% vs 36.4%), and SLE with other CTD's (15.8% vs 24.2%). 6 patients (11.5%) required ICU stay, 3 patients (5.7%) were ventilated, and 2 (3.8%) patients died.

Patients requiring hospitalization were aged >50 years ($p = 0.018$), had DM type II ($p = 0.003$), HTN ($p = 0.035$), multimorbidity ($p = 0.021$), and a higher CORAD score ($p < 0.001$). Usage of CsDMARDS, bDMARDS, TsDMARDS, corticosteroids did not show a significant difference between both the groups. Patients with >2 years of disease duration required hospitalization in comparison to <2 years of duration but this was not statistically significant.

84.2% of hospitalized and 69.7% of non-hospitalized patients stopped anti-rheumatic treatment and disease flare was seen in 47.4% and 39.4% patients respectively.

Conclusion: The rheumatic disease and their medications did not increase the risk of COVID-19 hospitalization in this study. However, higher age, DM II, HTN, and high CORAD score were found to be associated with hospitalization in AIRD patients. The findings of this study are limited by a small sample size.