Table 1.

Table 1

Epidemiological and clinical features	Patients (27)	Healthy control (30)
Age (m±sd)	48.7±11	49.1±10
F/M	21/6	20/10
Comorbidity		
Hypertension	4	5
Obesity	2	3
Diabetes	1	1
Rheumatic disease		
Psoriatic arthritis / Spondylo-arthritis	10/3	
Rheumatoid arthritis	6	
Systemic sclerosis / Sjogren syndrome/SLE	5/1/2	
Therapy		
TNF- α	5	
Small molecules	3	
Anti-IL17	3	
OH-chloroquine	5	
Methotrexate /Mycophenolate	4/1	
Anti-IL 12/23	2	
Anti-IL 6 /CTLA4-Ig	1/1	
No therapy	2	

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POS1249

MULTISYSTEM INFLAMMATORY SYNDROME IN CHILDREN DURING THE COVID-19 PANDEMIC IN TURKEY: FIRST REPORT FROM THE EASTERN MEDITERRANEAN

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Background: The severity of COVID-19 symptoms can range from mild to severe. Severe COVID-19 cases with excessive hyperinflammation have many overlap features with multisystem inflammatory syndrome in children (MIS-C).

Objectives: We aimed to describe the typical clinical and laboratory features and treatment of children diagnosed with MIS-C and to understand the differences as compared to severe/critical pediatric cases with COVID-19 in an eastern Mediterranean country.

Methods: Children (aged <18 years) who diagnosed with MIS-C and severe/critical pediatric cases with COVID-19, were admitted to hospital between 26 March and 3 November 2020 were enrolled in the study.

Results: A total of 52 patients, 22 patients diagnosed with COVID-19 with severe/critical disease course and 30 patients diagnosed with MIS-C. Although severe COVID-19 cases and cases with MIS-C share many clinical and laboratory features, MIS-C cases had longer fever duration and higher rate of the existence of rash, conjunctival injection, peripheral edema, abdominal pain, altered mental status, and myalgia than in severe cases ($p < 0.001$ for each). Of all, 53.3% of MIS-C cases had the evidence of myocardial involvement as compared to severe cases (27.2%). Additionally, C-reactive protein (CRP) and white blood cell (WBC) are the independent predictors for the diagnosis of MIS-C, particularly in the existence of conjunctival injection and rash. Corticosteroids, intravenous immunoglobulin (IVIG), and biologic immunomodulatory treatments were mainly used in MIS-C cases rather than cases with severe disease course. There were only 3 deaths among 52 patients, one of whom had Burkitt lymphoma and the two cases with severe COVID-19 of late referral.

Conclusion: Differences between clinical presentations, acute phase responses, organ involvements, and management strategies indicate that MIS-C might be a distinct immunopathogenic disease as compared to pediatric COVID-19. Conjunctival injection and higher CRP and low WBC count seem good diagnostic parameters for MIS-C cases.

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POS1250

VITAMIN D DEFICIENCY IS MAINLY ASSOCIATED WITH SEVERE LUNG INVOLVEMENT, LONGER DISEASE DURATION AND RISK OF DEATH IN ELDERLY COVID-19 PATIENTS

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Background: Vitamin D regulates the innate and adaptive immune system responses and low vitamin D levels have been associated with the increased risk of respiratory tract infections (1). Vitamin D deficiency has been recently reported to interfere with the prognosis of COVID-19 (2,3).

Objectives: The aim of this study was to correlate the 25OH-vitamin D serum levels with lung involvement and disease severity, in a cohort of elderly patients hospitalized for SARS-CoV-2 infection.

Methods: Sixty-five COVID-19 patients (mean age 76±13 years) and sixty-five sex- and age-matched control subjects (CNT) were included in the study. Respiratory parameters (PaO₂, SO₂, PaCO₂, PaO₂/FiO₂), clinical and laboratory parameters (including 25OH-vitamin D, D-dimer, C-reactive protein) and type of radiological pulmonary involvement were collected at hospital admission. Statistical analysis was performed by non-parametric tests.

Results: Vitamin D sufficiency (>30 ng/ml), insufficiency (between 20 and 30 ng/ml), deficiency (between 10 and 20 ng/ml) and severe deficiency (<10 ng/ml) were observed respectively in 11, 11, 21 and 57 % of COVID-19 patients. Vitamin D serum levels were found significantly lower in COVID-19 patients than in CNT (median 8 vs 16 ng/ml, $p = 0.001$). A statistically significant positive correlation was observed between vitamin D serum levels and SO₂ ($p = 0.05$), PaO₂ ($p = 0.03$), PaO₂/FiO₂ ($p = 0.02$). A statistically significant negative correlation was found between vitamin D serum levels and severity of radiologic pulmonary involvement: vitamin D was significantly lower in COVID-19 patients with either diffuse/severe interstitial lung involvement ($p = 0.05$) or multiple lung consolidations ($p = 0.0001$) than in those with mild radiological lung involvement. Significantly lower vitamin D serum levels were found in COVID-19 patients who died during hospitalization, compared to those who survived (median 3 vs 8 ng/ml, $p = 0.05$). Finally, a statistically significant negative correlation was found between vitamin D serum levels and D-dimer ($p = 0.04$), C-reactive protein ($p = 0.04$) and disease duration ($p = 0.05$).

Conclusion: This study confirms that severe vitamin D deficiency is associated with more severe lung involvement, longer disease duration and risk of death in elderly COVID-19 patients.

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POS1251

ROLE OF SYSTEMIC AUTOIMMUNE CONDITIONS IN HOSPITAL ADMISSIONS RELATED TO COVID-19

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Background: The COVID-19 pandemic continues worldwide and has had a strong impact on public health, quality of life and economy of the general population. To date, the number of infections and deaths are still increasing. From the beginning of the pandemic, efforts were intensified to identify risk factors for development of the severe form of COVID-19. In this sense underlying medical comorbidities have been shown to have a worse prognosis in these patients.

Objectives: In patients with rheumatic and musculoskeletal diseases (RMDs) and infected with Covid – 19, we aim to investigate the role of systemic autoimmune conditions compared to other type of RMDs in severity of COVID-19 in terms of hospital admissions.

Methods: An observational longitudinal study was conducted during the epidemic peak in Madrid (1st Mar to 20th May 2020). All patients attended at the rheumatology outpatient clinic of a tertiary hospital with a diagnosis of RMDs and Covid-19 infection were included (according to a medical diagnosis or confirmed with a positive SARS-CoV-2 PCR diagnostic test). All patients were included since the time of COVID-19 diagnosis. Main variable: hospital admission related to Covid -19 infection. Independent variable: type of RMD including: autoimmune (systemic autoimmune conditions and inflammatory joint disease (IJD)) and non-autoimmune (mechanical diseases, and inflammatory diseases (microcrystalline arthritis and tendonitis)). Covariates: sociodemographic, clinical and therapy used. Statistical analysis: description of the sociodemographic, clinical and treatment characteristics of the patients. A multivariate logistic regression adjusted by age, sex and comorbidities was used to evaluate the risk of the different types of RMDs in hospital admissions related to Covid-19. The results were expressed as OR with its corresponding confidence interval (95% CI).

Results: 406 patients were included with RMDs and Covid- 19 infection. 69.21% were women with a mean age at diagnosis of 60 ± 15.26 years. The evolution time from the diagnosis of RMD was 8 ± 8.38 years. 26% had comorbidity at baseline. 25% were chronically on corticoids prior to the infection. Of the 406 patients, 244 (60.09%) had non-autoimmune RMD (157 mechanic, 87 inflammatory) and 162 (39.9%) (106 (65.43%) IJD, 56 (34.56%) systemic autoimmune condition) had autoimmune RMD. 36% of all patients were admitted (31% from not autoimmune RMDs and 43% from autoimmune RMD ($p = 0.013$)). The risk of hospital admission in autoimmune RMD compared to non-autoimmune RMD was higher (OR: 1.68; [1.11-2.54], $p=0.013$), being the risk of systemic autoimmune condition compared to both IJD and non-autoimmune RMD higher (OR IJD: 0.41 [0.21-0.51], $p=0.01$; OR non-autoimmune: 0.33; [0.18-0.61]; $p=0.000$). After adjusting by confounders, autoimmune RMD had higher risk of hospital admissions compared to the rest (OR: 1.75; [1.04-2.95]; $p=0.03$), and specifically systemic autoimmune condition had higher risk compared to IJD (OR of IJD 0.33; [0.14-.076]; $p=0.009$) and compared to non-autoimmune (OR non autoimmune 0.28; [0.13-0.59], $p=0.001$). Advanced age (OR: 1.10; [1.07-1.12], $p<0.001$), male (OR 0.58; [0.33-1.02], $p=0.06$), and more number of comorbidities (OR 1.39; [1.02-1.90] $p=0.03$) also increased the risk of hospitalization related to COVID-19.

Conclusion: One third of the RMD patients infected with COVID-19 required hospital admission. This study shows that patients with autoimmune and specifically with systemic autoimmune conditions have a higher risk of hospitalization related to COVID-19. We also show that advanced age, male sex and a higher number of comorbidities can contribute to worsen the prognosis of the COVID-19 disease.

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POS1252

COVID-19 IN PATIENTS WITH RHEUMATIC DISEASES ON CHRONIC USE OF HYDROXYCHLOROQUINE IN A LARGE BRAZILIAN COHORT – A 24-WEEK PROSPECTIVE STUDY

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Background: The role of chronic use of hydroxychloroquine (HCQ) in rheumatic disease (RD) patients during the SARS-CoV-2 pandemic is still subject of discussion.

Objectives: To compare the occurrence of COVID-19 and its outcomes between RD patients on HCQ use with individuals from the same household not taking the drug during community viral transmission in an observational prospective multicenter study in Brazil.

Methods: Participants were enrolled and monitored through 24-week (From March 29th to Sep 30th, 2020) regularly scheduled phone calls performed by trained medical professionals. Epidemiological and demographic data, as well as RD disease activity status and current treatment data, specific information about COVID-19, hospitalization, need for intensive care, and death was recorded in both groups and stored in the Research Electronic Data Capture (REDCap) database. COVID-19 was defined according to the Brazilian Ministry of Health (BMH) criteria. The statistical analysis was performed using IBM-SPSS v.20.0 software. Group comparisons were made using the Man-Whitney, Chi-Square and Fisher Exact Test, as well as multivariate regression models adjusted to confounders. Survival curves were performed using Kaplan-Meier analysis.

Results: A total of 10,427 participants mean age (SD) of 44.04 (14.98) years were enrolled, including 6004 (57.6%) rheumatic disease patients, of whom 70.8% had systemic lupus erythematosus (SLE), 6.7% rheumatoid arthritis (RA), 4% primary Sjögren's syndrome (pSS), 1.8% mixed connective tissue disease (DMTC), 1% systemic sclerosis (SSc) and others (15.9), including overlap syndromes. In total, 1,132 (10.8%) participants fulfilled criteria for COVID-19, being 6.7% RD patients and 4.1% controls ($p=0.002$). A recent influenza vaccination had a protective role ($p<0.001$). Moderate and severe COVID-19 included the need for hospitalization, intensive care, mechanical ventilation or death. Infection severity was not different between groups ($p=0.391$) (Table 1). After adjustments for multiple confounders, the main risk factors significantly associated with COVID-19 were higher education level (OR=1.29 95%CI 1.05-1.59), being healthcare professionals (OR=1.91; 95%CI 1.45-2.53), presence of two comorbidities (OR=1.31; 95%CI 1.01-1.66) and three or more comorbidities associated (OR=1.69; 95%CI 1.23-2.32). Interestingly, age ≥ 65 years (OR=0.20; 95%CI 0.11-0.34) was negatively associated. Regarding RD, the risk factors associated with COVID-19 diagnoses were SLE (OR= 2.37; 95%CI 1.92-293), SSc (OR=2.25; 95%CI 1.05-4.83) and rituximab use (OR=1.92; 95%CI 1.13-3.26). In addition, age ≥ 65 years (OR=5.47; 95%CI 1.7-19.4) and heart disease (OR=2.60; 95%CI 1.06-6.38) were associated with hospitalization. Seven female RD patients died, six with SLE and one with pSS, and the presence of two or more comorbidities were associated with higher mortality rate.