POS1224

RHEUMATIC MANIFESTATIONS IN COVID-19 PATIENTS - SINGLE-CENTER EXPERIENCE AMIDST THE PANDEMIC

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Background: Recently evolved from a monochromic flu-like disease to a poly-syndromic "spectrum of disease", our understanding of coronavirus disease 2019 (COVID-19) is still far from being complete [1]. Hyperinflammation involving not only the lungs but also the musculoskeletal system, skin, cardiovascular, genitourinary systems is immune-mediated resembling the flares of a full-blown rheumatic disease [2,3].

Objectives: To describe the prevalence and type of rheumatic manifestations in a cohort of COVID-19 patients hospitalized in the COVID-19 rheumatology department in University Hospital St. Marina, Varna, Bulgaria.

Methods: In the present single-center cohort study, a retrospective database analysis was performed among all COVID-19 patients hospitalized from 1 Dec 2020 to 22 Jan 2021. All 243 patients (age 19 - 93 years) were treated for moderate or severe SARS-CoV-2 infection confirmed by laboratory tests, including positive polymerase chain reaction (PCR) test, and imaging modality. Inpatient treatment included antibiotics, dexamethasone, anticoagulants, and antiviral drug remdesivir (optional). Detailed disease history and clinical examination were carried out by a fully certified rheumatologist and/or specialist in internal medicine.

Results: Among all 243 COVID-19 patients, those with prominent self-reported myalgia and arthralgia were 26% (n = 63) and 21.3% (n = 52), respectively. We had 4 (1.6%) cases of newly developed cutaneous vasculitis and 2 (0.8%) cases of severe Raynaud's phenomenon after SARS-CoV-2 infection onset. Two patients experienced severe muscle weakness, had elevated creatine phosphokinase, and were diagnosed with inflammatory myopathy secondary to COVID-19. Lupus-like syndrome was observed in 2 (0.8%) patients.

Conclusion: Rheumatic manifestations are part of the heterogeneous spectrum of COVID-19 disease. Amidst the COVID-19 crisis, each newly onset rheumatic manifestation warrants exclusion of SARS-CoV-2 infection. Therefore, a rheumatologist should be a part of a multidisciplinary approach towards the COVID-19 treatment.

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POS1225

INFLUENCE OF COLCHICINE PRESCRIPTION IN COVID19-RELATED HOSPITAL ADMISSIONS: A SURVIVAL ANALYSIS

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Background: Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), triggers the innate immune system, leading in severe cases, an excessive immune response, which can lead to high levels of pro-inflammatory cytokines promoting a "cytokine storm".

To modulate this exaggerated inflammatory response, several clinical trials with already approved and well-known therapeutic agents that inhibit the inflammatory response, are being carried out. However, none of these drugs seems to achieve the desired results when treating COVID19.

Colchicine, a drug often used in the management of patients with Rheumatic and Musculoskeletal diseases (RMDs), is one of the several drugs that are being currently tested for efficacy in COVID19 due to its anti-inflammatory effects.

Objectives: To analyze association between colchicine prescription and COVID19-related hospital admissions in patients with Rheumatic and Musculoskeletal diseases (RMDs).

Methods: Patients attending a rheumatology outpatient clinic from a tertiary care center in Madrid, Spain, from 1st September 2019 to 29th February 2020 were included.

Patients were assigned as exposed or unexposed based on whether they were prescribed with colchicine in their last visit to the clinic during the 6 months before the start of the observation period. Treatment changes during the observation period were also considered. The primary outcome was COVID19-related hospital admissions occurring between March 1st and May 20th, 2020. Secondary outcome included COVID19-related mortality. Several weighting techniques for data balancing, based and non-based on the propensity score, followed by Cox regressions were performed to estimate the association of colchicine prescription on both outcomes.

Results: 9,379 patients entered in the study, with 406 and 9,002 exposed and unexposed follow-up periods, respectively. Generalized Boosted Models (GBM) and Empirical Balancing Calibration Weighting (EBCW) methods showed the best balance for COVID19-related hospital admissions. Colchicine prescription did not show a statistically significant association after covariable balancing (p-value = 0.195 and 0.059 for GBM and EBCW, respectively). Regarding mortality, the low number of events prevented a success variable balancing and analysis.

Conclusion: Colchicine prescription does not play a significant protective or risk role in RMD patients regarding COVID19-related hospital admissions. Our observations could support the maintenance of colchicine prescription in those patients already being treated, as it is not associated with a worse prognosis.

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POS1226

THE COURSE OF CORONAVIRUS DISEASE 2019 (COVID-19) IN PATIENTS WITH SJOGREN'S SYNDROME TREATED WITH ANTI-CD20 MONOCLONAL ANTIBODY (RITUXIMAB)

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Background: The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) disease 2019 (COVID-19) raised concern for the outcomes in people with different rheumatic diseases and management of these patients. There was an anxiety that biologic therapies, especially anti-B-cell depletion strategies, could lead to more severe disease course and lack of protective antibodies formation.

Information about the course of COVID-19 in patients with certain rheumatic diseases is still lacking.

Objectives: To examine clinical course of COVID-19 in patients with Sjogren's syndrome treated with anti-CD20 monoclonal antibody (rituximab).

Methods: Single center observational study. Diagnosis of SjS was based on ECR/EULAR 2016 criteria. COVID-19 diagnosis was based on positive PCR test even without clinical symptoms and/or typical clinical features (CT signs, fever and anosmia). Rituximab was administered in two 1000mg infusions 14 days apart for the 1st course, then 500mg every 6 months.

Results: 19 patients were included, 18 women and 1 man. Median age was 55 years (29-70 years), and median rituximab treatment duration was 24 months (1-48 months). Five patients had concomitant RA (2 patients), SLAE (1 pt), Systemic sclerosis (2 patients). Patients with RA took baricitinib and methotrexate as well. 3 patients had MALT-lymphoma anamnesis (24, 38 and 24 months before the diagnosis of COVID-19). Only 3 patients had chronic ischemic heart disease and/or arterial hypertension. 12 patients were PCR positive, 6 negative and in 1 the test was not done. 11 patients had full and 4 partial B-cell depletion in peripheral blood. Five patients had <20% lung involvement on CT, 2 patients – 20-40% and 4 patients – 40-60%. Three patients with 40-60% lung involvement required hospitalization due to marked shortness of breath and long febrile period, 2 of them received anti-IL6 treatment and neither of them required mechanical lung ventilation (either non-invasive or invasive). Seventeen patients were treated at home and recovered in 10-24 days. Anti-SARS-CoV-2 IgG were measured in 9 patients, 6 (66.7%) of them were positive.

Conclusion: It seems that neither SjS itself nor anti-CD20 therapy predisposes patients to severe course of COVID-19. Presumably risk factors such as age, diabetes or anamnesis of cardiovascular diseases have far more significant impact on COVID-19 severity. Data hints that anti-CD20 therapy might negatively affect the formation of specific anti-SARS-CoV-2 humoral immunity, but further investigation is required to determine that with any degree of certainty.

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POS1227

IMPACT OF A PRE-EXISTING INTERSTITIAL LUNG DISEASE ON SEVERITY OF COVID-19 IN PATIENTS WITH RHEUMATIC AND MUSCULOSKELETAL DISEASES

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Background: COVID19 due to SARS-CoV-2 infection implies an important anti-viral immune response leading to a major inflammatory syndrome with increased pro-inflammatory cytokine levels (i.e. the cytokine storm paradigm). The impact of a preexisting interstitial lung disease (ILD) on the morbi-mortality of COVID-19 is unclear. An increased mortality rate has been identified in studies that included a limited number of patients with ILD from various etiologies. To date, no studies have investigated the severity of COVID-19 in patients with preexisting ILD in a large population of rheumatic and musculoskeletal diseases (RMD-ILD). Since March 18th, 2020, the French RMD COVID19 dataset (NCT04353609) includes patients with an RMD and SARS-Cov-2 infection.

Objectives: To assess the impact of a preexisting ILD on COVID-19 morbi-mortality within the French RMD COVID-19 dataset.

Methods: Patients from the French RMD COVID-19 dataset were included in the analysis. COVID-19 diagnosis was established by a positive SARS-CoV-2 PCR test and/or typical symptoms or chest CT scans pattern during the period of the pandemic. Baseline phenotypic characteristics of the RMD including pre-existing ILD prior to the SARS-CoV-2 infection were collected. COVID-19 evolution was characterized as benign (ambulatory care), moderate (hospitalization outside intensive care unit [ICU]) and severe (hospitalization in ICU). Association between the ILD status and the severity and mortality rate of COVID-19 was assessed using multivariable logistic regression adjusted on sex, age, body mass index and diabetes.

Results: By June 26, 2020, 897 patients were included. Pre-existing ILD was reported in 27 patients (3%): 11 patients with systemic sclerosis, 8 with rheumatoid arthritis, 2 with auto-immune myositis, 2 with mixed connective tissue disease and 4 with other RMD. Among these 27 patients (11 male, mean age 63.1 ± 16.4 y/o, 56.5% having a usual interstitial pneumonia HRCT pattern), 22 had severe infection. Death related to COVID-19, was observed in 58 patients with RMD without ILD (7.1%) and in 10 patients with RMD-ILD (37%). Having a preexisting ILD was found to be independently associated with an increased risk of severe COVID-19 (adjusted OR=7.6 [2.9 – 20.2], P<0.001) and an increased mortality rate (adjusted OR=12.3 [3.8 – 39.2], P<0.001).

Conclusion: In RMD patients with SARS-CoV-2 infection, preexisting ILD was associated with an increased risk to severe COVID-19 and related mortality. Our

findings suggest that RMD-ILD patients should be prioritized for COVID-19 vaccination according to the high morbi-mortality rate during SARS-CoV-2 infection.

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POS1228

THE ROLE OF CHEST CT IN UNDERSTANDING INTERSTITIAL LUNG DISEASE (ILD): SYSTEMIC SCLEROSIS (SSC). VERSUS COVID-19

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Background: COVID-19 pandemic is a global emergency which may overlap on the clinical and radiological scenario of ILD in SSC. In clinical practice, the striking similarities observed at computed tomography (CT) between the diseases make it difficult to distinguish a COVID-19 superinfection from a progression of SSC-ILD.

Objectives: The aim of our study was to identify the main CT features that may help distinguishing SSC-ILD from COVID-19 pneumonia.

Methods: 22 international readers were included and divided in the radiologist group (RAD) and non-radiologist group (nRAD). The RAD group included non-chest RAD and chest-RAD. A total of 99 patients, 52 with COVID-19 and 47 with SSC-ILD, were included in the study.

Results: Fibrosis inside focal ground glass opacities (GGO) in the upper lobes; fibrosis in the lower lobe GGO; reticulations in lower lobes (especially if bilateral and symmetrical or associated with signs of fibrosis) were the CT parameters most frequently associated with SSC-ILD. The CT parameters most frequently associated with COVID-19 pneumonia were: consolidation (CONS) in the lower lobes, CONS with peripheral (both central/peripheral or patchy distributions), anterior and posterior CONS and rounded-shaped GGOs in the lower lobes. After multivariate analysis, the presence of CONS in the lower lobes (p <0.0001) and signs of fibrosis in GGO in the lower lobes (p <0.0001) remained independently associated with COVID-19 pneumonia or SSC-ILD, respectively. These two variables were combined in a predictive score which resulted positively associated with the COVID-19 diagnosis, with 96.1% sensitivity and 83.3% specificity: 3 different risk class for COVID-19 pneumonia may be identified: high risk for COVID-19 pneumonia (5-9 points); probable overlap COVID-19 pneumonia in SSC-ILD (4 points); low risk for COVID-19 pneumonia (0-3 points).

Conclusion: The CT differential diagnosis between COVID-19 Pneumonia and SSC-ILD is possible and may be fostered in practice by the use of a