hospitalization, and mechanical ventilation after adjusting for age, sex, race and ethnicity, COVID-19 diagnosis quarter, insurance, region, severe obesity, smoking status, and comorbidities. Results: We included 687 SLE cases matched with 6,870 controls. After matching, the 30-day mortality for SLE and control was 3.6% and 1.8% (p < 0.001), the 30-day mechanical ventilation was 6.0% and 2.5% (p < 0.001), and 30-day hospitalization was 31.0% and 17.7% (p < 0.001). After multivariable adjustment (Table 1) for age, sex, race, COVID-19 diagnosis quarter, insurance, region, severe obesity, smoking status, and smoking duration, patients with SLE had higher odds of death (Odds Ratio [OR]=2.09; 95% CI 1.31-3.32), mechanical ventilation (OR=2.43; 95% CI 1.67-3.54) and hospitalization (OR=2.06; 95% CI 1.71-2.49). After additionally adjusting for comorbidities, the OR decreased to 1.39 (95% CI 0.79-2.44), 1.81 (95%CI 1.16-2.82), and 1.32 (95%CI 1.05-1.65) for mortality, mechanical ventilation, and hospitalization respectively. Older age, male sex, Hispanic ethnicity or Black race, severe obesity, and smoking had increased risk of adverse outcomes.

Table 1. Multivariable logistic regression model of 30-day mortality, 30-day mechanical ventilation, and 30-day hospitalization on matched cohort adjusting for demographic and comorbidity score

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1*</th>
<th>Model 2**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Odds Ratio (95% CI)</td>
<td>Odds Ratio (95% CI)</td>
</tr>
<tr>
<td>Mortality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>SLE</td>
<td>2.09 (1.31 to 3.32)</td>
<td>1.39 (0.79 to 2.44)</td>
</tr>
<tr>
<td>30-day mechanical ventilation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>SLE</td>
<td>2.43 (95% CI 1.67 to 3.54)</td>
<td>1.81 (1.16 to 2.82)</td>
</tr>
<tr>
<td>Hospitalization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>SLE</td>
<td>2.06 (1.71 to 2.49)</td>
<td>1.32 (1.05 to 1.65)</td>
</tr>
</tbody>
</table>

SLE: systemic lupus erythematosus; CI: confidence interval. *Model 1 includes adjustments for age, sex, race, COVID-19 diagnosis date (by quarter), insurance, region, severe obesity, smoking status, and skilled nursing facility stay three months before COVID-19 diagnosis. **Model 2 includes adjustments from model 1 and comorbidities (excluding SLE).

Conclusion: Patients with SLE have an increased risks of mortality, mechanical ventilation, and hospitalization within 30 days of COVID-19 diagnosis. The risks decreased after adjustment for comorbidities but remained statistically significant for mechanical ventilation and hospitalization.

Disclosure of Interests: Sebastian Bruer: None declared, Xiudong Lei: None declared, Hui Zhao: None declared, Jinoo Yazdany Consultant of: She has performed consulting for Auroc, Astra Zeneca, and Pfizer, unrelated to this work., Grant/research support from: Dr. Yazdany has research grants from Astra Zeneca, Gilead and the Bristol Myers Squibb Foundation unrelated to this work., Christian Roux: None declared, Nathanael Beeker: None declared, Christian Roux: None declared, Lilly, UCB, Gilead, Janssen, NOVartis, Grant/research support from: UCB, Pierre Pinson: None declared, Nathanael Beeker: None declared, Christian Roux: None declared

Acknowledgements: We would like to acknowledge all departments of Rheumatology of AP-HP.

Methods: This was observational cohort based on data available at the Assistance Publique-Hôpitaux de Paris (APHP) Clinical Data Warehouse (which includes data from patients admitted in the 39 APHP hospitals). Data collected included both ICD-10 codes in discharge summaries, and ‘key-words’ search on electronic medical records (EMR). To be included in the analysis, patients had to have a positive RT-PCR for SARS-CoV2 performed in APHP and be admitted in any APHP department between 1st March 2020 until 31st December 2020. Patients with past history of any MSK condition were excluded. MSK conditions were considered only if coded or reported in an EMR up to 90 days after the positive RT-PCR. Demographics and disease characteristics including treatment were compared in both groups (MSK yes/no) by T-test or ChiSquare test, accordingly.

Results: Adding the 55872 patients with a positive SARS-CoV2 RT-PCR performed in APHP, 17771 were admitted in APHP hospitals. Among them, 2170 had a previous history of MSK condition and were therefore excluded from this analysis. Among the remaining 15601 patients, 1370 (8.8%) presented with MSK symptoms. The most prevalent MSK symptoms were low back pain (32.9%), followed by joint pain (29.9%), radicular pain (20.2%) and joint effusion/arthritis (22.8%). Patients with MSK symptoms were older (67y vs 64y, p<0.01), more frequently obese (95%CI 1.93 vs 0.95), hypertensive (94% vs 30%, p<0.01) and with diabetes (21% vs 18%, p<0.01). There were no differences on gender nor on the ICU admission rate between groups (31% vs 29%, NS); 30-days mortality was significantly lower in the MSK+ group probably due to selection bias (i.e. only patients who survived could present with MSK symptoms up to 90 days later) (78% vs 16.9%, p<0.01). Treatment for SARS-CoV2 was slightly different in both groups, with the higher corticosteroids (40.7% vs 29%, p<0.01), antivirals (21.5% vs 15.3%, p<0.01) and immunosuppressive drugs (8.5% vs 4.5%, p<0.01) prescription rates in the MSK+ group.

Conclusion: MSK symptoms occurred in almost 9% of patients admitted to the hospital after a SARS-CoV2 infection, particularly in older and more comorbid patients. Further analysis evaluating the persistence of these symptoms are needed.

Disclosure of Interests: Maria Suarez-Almazor Consultant of: Dr, Suarez-Almazor has been a consultant for Astra Zeneca, Gilead and the Bristol Myers Squibb Foundation unrelated to this work., Zeneca, Gilead and the Bristol Myers Squibb Foundation unrelated to this work., Maria Suarez-Almazor has been a consultant for Zeneca, Gilead and the Bristol Myers Squibb Foundation unrelated to this work.
regardless of the detection of any aPLs. These findings suggested that COVID-19 associated aPLs were irrelevant to thrombotic complications.

**Conclusion:** Thromboses were induced after the infection of SARS-CoV-2 only in the APS model. However, aPLs detected in COVID-19 patients have little impact on the development of thrombosis. SARS-CoV-2 infection might have a high risk of thrombosis, especially in APS patients, as shown in the case report (4). The discrepancy of its thrombogenic effects of aPLs might be explained by the low titer of the antibody or the diversity of antibody epitope. Further analyses are required to clarify the mechanisms of aPLs production and the development of thrombosis in COVID-19.

**REFERENCES:**

**Disclosure of Interests:** Seiya Oba: None declared, Tadashi Hosoya Speakers bureau: Janssen Pharmaceutical K.K. Daiichi Sankyo Company, limited Asahi Kasei Corporation Ono pharmaceuticals Eisai Eli Lilly, Daiisoekawa: None declared, Wenshi Lee: None declared, Mari Kamiya: None declared, Yoji Kamiya: None declared, Hideyuki Iwai: None declared, Yoko Nukui: None declared, Shuju Tohda: None declared, Shin- yuke Yasuda Speakers bureau: Abbvie, Asahi Kasei Pharma, Chugai Pharmaceutical, Eisai, Eli Lilly, GlaxoSmithKline, Mitsubishi Tanabe Pharma, Ono pharmaceutical, Pfizer., Consultant of: ImmunoForge, Grant/research support from: Abbvie, Asahi Kasei Pharma, Chugai Pharmaceutical, CSL Behring, Eisai, ImmunoForge, Mitsubishi Tanabe Pharma, Ono pharmaceutical.

**DOI:** 10.1136/annrheumdis-2022-eular.1914

**POSO198 COVID-19 OUTCOMES IN PATIENTS WITH DERMATOMYOSITIS: A REGISTRY-BASED COHORT ANALYSIS**


1Royal Wolverhampton Hospitals NHS Trust, Department of Rheumatology, Wolverhampton, United Kingdom; 2Sanjay Gandhi Postgraduate Institute of Medical Sciences, Department of Clinical Immunology and Rheumatology, Lucknow, India; 3Royal Mountain Hospital, Sonderborg, Denmark; 4George Washington School of Medicine & Health Sciences, Washington, DC, United States of America; 5Dubai Medical College for Girls, Dubai, United Arab Emirates; 6West Virginia University School of Medicine, Morgantown, United States of America; 7Sidney Kimmel Medical College at Thomas Jefferson University, Philadelphia, United States of America; 8Istanbul University Faculty of Medicine, Department of Medical Ecology and Hydroclimatology, Istanbul, Turkey; 9Kalinga Institute of Medical Sciences, Department of Clinical Immunology and Rheumatology, Bhubaneswar, India; 10Jawaharlal Institute of Postgraduate Medical Education and Research, Department of Clinical Immunology, Puducherry, India; 11Maulana Azad Medical College, Undergraduate, New Delhi, India; 12University of Pittsburgh School of Medicine, Division of Rheumatology and Clinical Immunology, Pittsburgh, United States of America

**Background:** Dermatomyositis (DM) patients have fewer risks of COVID-19 infection compared to the general population, however, certain subgroups with DM have worse outcomes. Men, African Americans, those with interstitial lung disease, exhibited higher risks of severe COVID-19. DMARD and glucocorticoid use was associated with frequent hospitalisations and severe sepsis.

**Objectives:** Rheumatic diseases (RDs) like DM, are previously known to be vulnerable towards various types of infections due to its aggressive activity mandating high dose immunosuppressive therapy. The severity of COVID-19 in RDs is limited in literature due to the heterogeneous nature of the condition. Therefore, specific details on mortality is essential to navigate any precautions required in the treatment.

**Methods:** Retrospective data of individuals with DM and COVID-19 and the general population with COVID-19 between January 2020 to August 2020 was retrieved from the TriNetX database. A one-to-one matched COVID-19 positive control was selected using propensity score (PS) matching. We assessed COVID-19 outcomes such as mortality, hospitalisation, ICU admission, severe COVID-19, mechanical ventilation (MV), acute kidney injury (AKI), venous thromboembolism (VTE), ischemic stroke, acute respiratory distress syndrome (ARDS), renal replacement therapy (RRT) and sepsis. Subgroup analyses included gender, race, ILD, cancer patients, disease-modifying rheumatic drugs (DMARDs) use, and glucocorticoids (GC) use (Figure 1).

**Results:** We identified 5,574 DM patients with COVID-19, and 5,574 general population with COVID-19 (controls). DM with COVID-19 had a lower risk of mortality in comparison to controls [RR 0.76], hospitalisation [RR 0.8], severe COVID-19 [RR 0.76], AKI [RR 0.83], and sepsis [RR 0.73]. Males and African Americans were more likely to develop AKI [RR 1.35, 1.65], while African Americans and ILD group had higher odds for severe COVID-19 [RR 1.62] and VTE [RR 1.54]. DM with ILD group also experienced higher odds for severe COVID-19 infection [RR 1.64], and VTE [RR 2.06] (Figure 1).

DM patients receiving DMARDs and glucocorticoids had higher odds for hospitalisation [RR 1.46, 2.12], and sepsis [RR 3.25] Subgroup analysis of neoplasms amongst DM patients with COVID-19 was inadequate for meaningful comparison (Figure 1).

**Conclusion:** DM patients are protected for certain aspects of COVID-19 disease, including severe COVID-19, hospitalization, and mortality. The African American race, male gender, ILD, DMARDs and glucocorticoid users, are associated with poor outcomes.

**Disclosure of Interests:** Latika Gupta: None declared, Haig Pakhchanian: None declared, Hiba Khan: None declared, Rahul Raiker: None declared, Maryam Abbasi: None declared, Charles DeYoung: None declared, Sinan Karde Grant/research support from: SK has received congress travel, accommodation, and participation fee support (12th Anatolian Rheumatology Days) from Abbvie, Sakir Ahmed Speakers bureau: SA has received honorarium as speaker for Pfizer, Daisuke Kawata: None declared, Wenshi Lee: None declared, Mari Kamiya: None declared, Yoji Kamiya: None declared, Hideyuki Iwai: None declared, Yoko Nukui: None declared, Shuju Tohda: None declared, Shin-yuke Yasuda Speakers bureau: Abbvie, Asahi Kasei Pharma, Chugai Pharmaceutical, Eisai, Eli Lilly, GlaxoSmithKline, Mitsubishi Tanabe Pharma, Ono pharmaceutical, Pfizer., Consultant of: ImmunoForge, Grant/research support from: Abbvie, Asahi Kasei Pharma, Chugai Pharmaceutical, CSL Behring, Eisai, ImmunoForge, Mitsubishi Tanabe Pharma, Ono pharmaceutical.

**DOI:** 10.1136/annrheumdis-2022-eular.1914