Table 1. Studies on SARS-CoV-2 infection pathogenesis

Research question	N
Cytokines profile	7
Immune profile	18
Algorithm	17
Children	3
Comorbidities	1
Endothelial dysfunction and platelets	8
Gut and microbiota	3
Genetics and variants	8
Histology	7
Antibodies profiles	8
Viral load and immune response	4
Interferon	3
Immunosuppression	3
Total	90*

*Some manuscripts were including in several research questions. Total number of studies included n=85.

Disclosure of Interests: Aurelie Najm Speakers bureau: BMS, Consultant of: BMS, Alessia Alunno: None declared, Xavier Mariette Speakers bureau: BMS, Eli Lilly, Galapagos, Gilead, GSK, Janssen, Novartis, Pfizer, Servier and UCB, Consultant of: BMS, Eli Lilly, Galapagos, Gilead, GSK, Janssen, Novartis, Pfizer, Servier and UCB, Benjamin Terrier Speakers bureau: Roche, Chugai, Vifor Pharma, GSK, AstraZeneca, Terumo BCT, LFB and Grifols, Consultant of: Roche, Chugai, Vifor Pharma, GSK, AstraZeneca, Terumo BCT, LFB and Grifols, Gabriele De Marco: None declared, Laura Mason: None declared, Jenny Emmel: None declared, Dennis McGonagle Speakers bureau: Abbvie, BMS, Celgene, Eli Lilly, Janssen, MSD, Novartis, Pfizer, Roche and UCB, Consultant of: Abbvie, BMS, Celgene, Eli Lilly, Janssen, MSD, Novartis, Pfizer, Roche and UCB, Pedro M Machado Speakers bureau: Abbvie, BMS, Celgene, Eli Lilly, Janssen, MSD, Novartis, Orphazyme, Pfizer, Roche and UCB, Consultant of: Abbvie, BMS, Celgene, Eli Lilly, Janssen, MSD, Novartis, Orphazyme, Pfizer, Roche and UCB.

DOI: 10.1136/annrheumdis-2021-eular.2851

POS0053

RHEUMATOID ARTHRITIS AND THE RISK OF COVID-19 DIAGNOSIS, HOSPITALISATION AND DEATH: A POPULATION-BASED MULTI-STATE COHORT ANALYSIS INCLUDING 5,586,565 PEOPLE IN CATALONIA, SPAIN

A. Vivekanantham^{1,2}, E. Burn^{1,3}, S. Fernandez-Bertolin³, M. Aragon³, T. Duarte-Salles³, D. Prieto-Alhambra^{1,4}. ¹University of Oxford, Centre for Statistics in Medicine, Nuffield Department of Orthopaedics, Rheumatology, and Musculoskeletal Sciences, Oxford, United Kingdom; ²Nuffield Orthopaedic Centre, Rheumatology, Oxford, United Kingdom; ³Fundació Institut Universitari per a la recerca a l'Atenció Primària de Salut Jordi Gol i Gurina, (IDIAPJGol), Barcelona, Spain; ⁴Erasmus University Medical Center, Health Data Sciences, Rotterdam, Netherlands

Background: The COVID-19 pandemic caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus is of particular concern for people with rheumatoid arthritis (RA), with concerns that these people may be at higher risk and have poorer outcomes. However, at present the implications of COVID-19 for people with RA remain poorly understood.

Objectives: To investigate the associations between rheumatoid arthritis and the risk of COVID-19 diagnosis, hospitalisation with COVID-19 and COVID-19-related death.

Methods: A population-based cohort study including all individuals registered in the Information System for Research in Primary Care (SIDIAP). SIDIAP includes primary care records covering over 80% of the population of Catalonia, Spain, and was linked to region-wide SARS-CoV-2 PCR testing, hospital and mortality records. Outpatient diagnoses of COVID-19, hospitalisations with COVID-19 and deaths with COVID-19 were identified as study outcomes between 1st March and 6th May 2020. A multi-state model was used, with cause-specific Cox survival models estimated for each transition, adjusted for age and sex.

Results: A total of 5,586,565 individuals were identified in SIDIAP as of the 1st March 2020, of which 16,344 had RA. RA patients were median (IQR) 63 years (52.0, 74.0) and the majority (n=11,727, 71.8%) were female. Having RA was positively associated with being diagnosed with COVID-19 (adjusted HR 1.14 (1.03 to 1.28)), with hospitalisation with COVID-19 (HR 1.66 (1.35 to 2.04)). However, we did not find an association between RA status and the risk of worsening from outpatient diagnosis to hospitalization or death, or from hospitalization to death (see Table 1).

Table 1. Estimated hazard ratios, adjusted for age and gender, for individuals with rheumatoid arthritis

Transition	Study population (RA), n	Total events (RA), n	Hazard Ratios (95% Confidence Intervals)
From general population to diagnosed with COVID-19	5,586,565 (16,344)	88,396 (324)	1.14 (1.03 to 1.28)
From general population to hospitalised with COVID-19	5,586,565 (16,344)	10,143 (90)	1.66 (1.35 to 2.04)
From diagnosed with COVID-19 to hospitalised with COVID-19	88,396 (324)	5,946 (30)	0.95 (0.66 to 1.36)
From diagnosed with COVID-19 to death	88,396 (324)	2,295 (16)	0.96 (0.58 to 1.56)
From hospitalised with COVID-19 to death	16,089 (120)	2,602 (27)	1.13 (0.77 to 1.64)

Conclusion: To our knowledge, this is the largest study performed to date looking at COVID-19 outcomes in RA patients. Individuals with RA were found to have an increased risk of COVID-19 diagnosis and hospitalisation with COVID-19, compared to the general population. Further research is needed to address factors associated with this including the presence of other co-morbidities, underlying RA disease activity and the use of immunosuppressive medications.

Disclosure of Interests: Arani Vivekanantham: None declared, Edward Burn: None declared, Sergio Fernandez-Bertolin: None declared, Maria Aragon: None declared, Talita Duarte-Salles: None declared, Daniel Prieto-Alhambra Grant/research support from: Dr. Prieto-Alhambra reports grants and other from AMGEN, grants, non-financial support and other from UCB Biopharma, grants from Les Laboratoires Servier, outside the submitted work; and Janssen, on behalf of IMI-funded EHEDEN and EMIF consortiums, and Synapse Management Partners have supported training programmes organised by DPAs department and open for external participants.

DOI: 10.1136/annrheumdis-2021-eular.3160

POS0054

THE IMPACT AND OUTCOME OF COVID-19 ON SYSTEMIC SCLEROSIS PATIENTS FROM THE EUROPEAN SCLERODERMA TRIAL AND RESEARCH GROUP (EUSTAR)

A. M. Hoffmann-Vold¹, C. Brunborg², F. Tirelli³, P. Carreira⁴, N. Del Papa⁵, A. Mekinian⁶, M. Vonk⁷, A. Ghollo⁸, G. De Luca⁹, M. De Santis¹⁰, C. Campochiaro⁹, C. Mihai³, P. Airo¹¹, M. G. Lazzaroni¹¹, E. Zanatta¹², R. Foti¹³, Y. Allanore¹⁴, D. Furst¹⁵, M. Matucci-Cerinic¹⁶, A. Gabrielli¹⁷, O. Distler³. ¹Oslo University Hospital, Rheumatology, Oslo, Norway; ²Oslo University Hospital, Centre for Biostatistics and Epidemiology, Research Support Services, Oslo, Norway; ³University Hospital Zurich, University of Zurich, Rheumatology, Zurich, Switzerland; ⁴12 de Octubre University Hospital, Rheumatology, Madrid, Spain; ⁵ASST G. Pini-CTO, University of Milan, Rheumatology, Milan, Italy; ⁶Hôpital Saint Antoine, Internal Medicine, Paris, France; ⁷Radboud University Medical Center, Rheumatology, Nijmegen, Netherlands; ⁸University of Verona, Rheumatology, Verona, Italy; ⁹IRCCS San Raffaele Hospital, Vita-Salute San Raffaele University, Immunology, Rheumatology, Allergy and Rare Diseases, Milan, Italy; ¹⁰IRCCS Humanitas Research Hospital, Rheumatology and Clinical Immunology, Milan, Italy; ¹¹ASST Spedali Civili di Brescia, Rheumatology and Clinical Immunology, Brescia, Italy; ¹²University of Padova, Rheumatology, Padova, Italy; ¹³A.O.U. Policlinico S. Marco, Rheumatology, Catania, Italy; ¹⁴Cochin Hospital, Université de Paris, Rheumatology, Paris, France; ¹⁵University of California in Los Angeles, Rheumatology, Los Angeles, United States of America; ¹⁶University of Florence, Rheumatology, Florence, Italy; ¹⁷Università Politecnica delle Marche, Scienze Cliniche e Molecolari, Ancona, Italy

Background: Coronavirus disease-19 (COVID-19) has been a major clinical challenge worldwide. Sex, age and comorbidities have been associated with worse outcome in the general population. Systemic sclerosis (SSc) is a severe, autoimmune disease with frequent multi-organ involvement.

Objectives: To assess the impact of COVID-19 and to determine factors associated with worse outcome in SSc patients from the European Scleroderma Trial and Research (EUSTAR) database.

Methods: SSc patients from the EUSTAR database with COVID-19 were prospectively collected between 15.03.-31.12.2020. Two outcomes were chosen: (1) hospitalization; and (2) severe outcome defined as either non-invasive ventilation, mechanical ventilation/extracorporeal membrane oxygenation (ECMO) or death. General risk factors assessed were sex, age and number