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
Immunosenecsnce	3
Total	90*

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

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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

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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.

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POS0054 THE IMPACT AND OUTCOME OF COVID-19 ON SYSTEMIC SCLEROSIS PATIENTS FROM THE EUROPEAN SCLERODERMA TRIAL AND RESEARCH GROUP (EUSTAR)

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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