

P057 WHAT IS THE COURSE OF SARS-COV-2 INFECTION IN PEOPLE WITH AUTOIMMUNE CONDITIONS ON IMMUNOMODULATORS IN COMPARISON TO PEOPLE WITHOUT AUTOIMMUNE DISEASE?

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Background/Aims

The pathogenesis and outcomes of COVID-19 in patients with autoimmune disease remains poorly understood. We aimed to evaluate clinical features and antibody mediated immunity against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in subjects with autoimmune disease, compared to those without.

Methods

Patients who developed COVID-19 were identified through the audit department/clinician identification. In total, there were 48 subjects with autoimmune disease and confirmed COVID-19. Of these patients, 6 had sadly died. In recruited patients, clinical data regarding COVID-19 symptoms, treatment and outcomes were collected. Blood was taken for quantitative serology testing against SARS-CoV-2 using the Mologic test kit. A binary logistic regression was used to compare serology results in subjects with and without autoimmune diagnoses.

Results

Our sample included 103 participants. 26 subjects with autoimmune disease and confirmed COVID-19 were recruited, the most common diagnoses being rheumatoid arthritis (27%), psoriatic arthritis (19%) and inflammatory bowel disease (15%). 21 of 28 participants were on immunomodulatory medications including 16 on conventional synthetic disease modifying anti-rheumatic drugs (DMARDs), four on biologic DMARDs and one on tacrolimus. We age- and gender-matched these subjects to 26 without autoimmune disease with confirmed SARS-CoV-2 infection. 17 further subjects reported viral-symptoms during the COVID-19 pandemic but had negative serology. 30 subjects had rheumatic conditions but denied symptoms suggestive of COVID-19. 4 of the asymptomatic patients tested positive for COVID-19 on serology. 23 stored serum samples, obtained before 2019, were all negative for antibodies against SARS-CoV-2. In patients with confirmed COVID-19, clinical features and serology were compared in those with and without autoimmune disease. Logistic regression showed a significant impact of COVID-19 severity on antibody titres in people with and without autoimmune disease ($p=0.003$ and <0.001 respectively). In both mild and severe disease, autoimmunity had no effect on antibody titres ($p=0.253$ and 0.119 respectively).

Conclusion

People with and without autoimmune disease presented with similar symptoms of COVID-19. In our sample, subjects with autoimmune disease were less likely to be hospitalised or require respiratory support. Serology revealed no difference in antibody titres against SARS-CoV-2 in participants with and without autoimmune disease.

P057 TABLE 1: A comparison of the clinical features of COVID-19 in patients with and without autoimmune disease

	Participants with auto-immune disease (n = 26)	Participants without autoimmune disease (n = 26)
Average age	58	55
Male to female ratio	10:16	10:16
Ethnicity	White 50% Black 23% Asian 27%	White 62% Black 12% Asian 15% Other 4%
Co-morbidities	Hypertension 35% Diabetes 19% Obstructive lung disease 12% Interstitial lung disease 12% Ischaemic heart disease 4%	Hypertension 23% Diabetes 20% Obstructive lung disease 15% Interstitial lung disease 0% Ischaemic heart disease 12%
Most common symptoms of COVID-19 infection	Malaise 73% Cough 73% Fever 70% Dyspnoea 62%	Malaise 84% Cough 85% Fever 77% Dyspnoea 65%
Level of care required during acute illness	Home 39% Ward 57% Intensive Care Unit 4%	Home 27% Ward 58% High Dependency Unit 15%
Respiratory support	None 65% Oxygen therapy 30% Non-invasive ventilation 0% Invasive ventilation 5%	None 46% Oxygen therapy 38% Non-invasive ventilation 15% Invasive ventilation 0%

Disclosure

K. Biddle: None. **S. Koushesh:** None. **D. Clark:** None. **S. Krishna:** None. **S. Webb:** None. **K. Patel:** None. **R. Pollok:** None. **N. Sofat:** None.