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Identifying COVID-19 infection rates and outcomes in patients with systemic lupus erythematosus

Objectives
The risk of Covid-19 infection among patients with Systemic Lupus Erythematosus (SLE) is poorly understood. Patients with SLE often take medications which modulate the immune system. It is unclear if taking these medications may be associated with an increased or decreased risk of contracting COVID-19. This survey sought to investigate the rate of COVID-19 infection among our patients with SLE, to identify disease severity among infected patients, and to identify any correlation between prior treatment and the diagnosis of COVID-19.
Methods
We identified all patients with SLE seen in clinic between January 2018 and March 2020. Data were collected by chart review and by a telephone questionnaire. We recorded data on patient demographics, medication regimen, COVID-19 diagnosis and complications, and social distancing practices. A logistic regression analysis was performed to identify possible risk factors for developing COVID-19.
Results
245 patients with SLE were identified. 129 (52%) completed the telephone questionnaire. The COVID-19 status was known for 137 patients, either through chart review or by the telephone survey. 14 (10.2%) patients were diagnosed with COVID-19, of these 4 were hospitalized, 2 received intensive care-unit level of care, and 3 died. The odds of contracting COVID-19 were not significantly higher in patients treated with steroids (OR 1.08, 95% CI 0.36 to 3.28), hydroxychloroquine (OR 0.84, 95% CI 0.22 to 3.27), mycophenolate mofetil (OR 0.57, 95% CI 0.15 to 2.14), belimumab (OR 2.76, 95% CI 0.51 to 14.82), leflunomide (OR 3.08, 95% CI 0.30 to 31.77) or azathioprine (OR 1.01, 95% CI 0.20 to 4.94).
Conclusions
Immunosuppressive treatment was not associated with increased odds of contracting COVID-19. Our infection rate of 10.2% is within the range of total Brooklyn residents testing positive for COVID-19 (3.08% - 13.97%). Patients with SLE do not appear to have an elevated risk of COVID-19 compared to the general population.

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