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COVID-19 antiviral and neutralising antibody therapy for non-hospitalised immunosuppressed patients with rheumatic diseases in clinical practice

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Background:
Several antiviral and neutralising antibody treatments are available to reduce the risk of severe COVID-19 in vulnerable patients, though real-world data concerning the use of these drugs in such populations remain lacking.

Aim:
We aimed to assess the characteristics, treatment and clinical outcomes of non-hospitalised patients with COVID-19 and an established diagnosis of a rheumatic musculoskeletal disease (RMD), as referred for assessment to our rheumatology centre.

Methods:
Patients were referred from the regional COVID Medicines Delivery Unit (CMDU) for same-day telephone assessment by a consultant rheumatologist at Newcastle Hospitals based on their postcode and usual treating rheumatology unit. Treatment was offered to patients with an active RMD and symptomatic SARS-CoV-2 infection (confirmed by PCR or lateral flow) within 5 days of symptom onset (extendable to 7 days at clinician discretion), according to local implementation of the prevailing NHS interim clinical commissioning policy (initially molnupiravir or sotrovimab, followed by addition of nirmatrelvir/ritonavir from 10th February 2022 onwards). Clinical details were contemporaneously documented at the time of assessment, with retrospective clinical records review to identify subsequent hospital attendances and deaths. The study was registered with Newcastle Hospitals as a clinical service evaluation (13757) with Caldicott approval (9595).

Results:
Between 17th January 2022 and 30th June 2022, 507 patients were referred for assessment, of which 30 were excluded from analysis (27 patient data opt-out, 3 missing data). Of the remaining 477 patients (median [IQR, range] age 59 (45-70, 19-92) years, 74% female, 94% ≥ 3 vaccine doses), 248 were eligible for treatment: 80 (32%), 98 (40%) and 57 (23%) received nirmatrelvir/ritonavir, sotrovimab, or molnupiravir respectively. Sixteen patients who were potentially eligible for antivirals did not receive treatment: 12 due to patient choice, 3 due to being asymptomatic by time of assessment, and one due to hospital admission immediately after assessment.

Clinical outcomes were largely favourable: 27 (6%) patients required emergency hospital assessment within 28 days of assessment; further clinical information was available for 22 of

these patients, of whom 15 attended due to COVID-19 symptoms and 6 required hospital admission. One patient died 3 months after infection due to comorbid follicular lymphoma.

Conclusion:
In summary, our data demonstrate the feasibility of a rapid-access assessment and treatment pathway for the outpatient treatment RMD patients with COVID-19, with overall positive clinical outcomes.