

The plight of patients with lupus nephritis in Wuhan, China

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The number of cases of SARS-CoV2 infection is rising rapidly globally. Severe disease and high fatality are observed in older patients and with comorbid conditions (1). However, little is known about patients with rheumatic disease in the epidemic areas. Patients with rheumatic diseases are subject to societal lockdown, enforced quarantine, leading to inaccessibility to healthcare. Also, their immunosuppressed state heightens the fear of contracting COVID-19. Here we report the outcomes of a cohort of 101 patients with lupus nephritis (LN) including 2 confirmed COVID-19 cases during of surge of the outbreak of COVID-19 from January to February 2020 in Wuhan, China.

We conducted a study by questionnaires and telephone interviews in March 2020. Questionnaires were sent to 160 patients with LN followed up in the Department of Nephrology in Renmin Hospital of Wuhan University, China. The questionnaire included age, gender, duration of disease, the classification of lupus nephritis, follow-up, use of medications, relapse of disease, quarantine, and infection of COVID-19. The study was approved by the Ethics Committee of Renmin Hospital of Wuhan University (WDRY2020-K149) and informed consent obtained from patients.

There were 101 responses from questionnaires and telephone interviews. The median age of respondents was 42-year-old, of which 88% (89/101) were female. The number of LN classification I, II, III, III/V, IV, IV/V, V and unknown was 6, 3, 6, 2, 12, 11, 13 and 48, respectively. Sixty percent (61/101) were not able to attend the rheumatology outpatient appointments due to close of clinic and shut-down of transportation during the sudden unprecedented lockdown in Wuhan, and 13% (13/101) had to consult physicians online. Twenty-five percent (25/101) of the patients discontinued medications (Table 1), of which 13 patients did so due to limited access to healthcare. Five patients (5%) patients experienced disease flare.

Five patients were quarantined and tested for COVID-19. Two patients were confirmed to have contracted COVID-19. Both had mild symptoms and did not require supplemental oxygen. Patient A was a 23-year-old female with class IV LN diagnosed 2 months ago. She was receiving mycophenolate mofetil (MMF) 750 mg/day, hydroxychloroquine (HCQ) 200 mg/day, methylprednisolone 44 mg/day and irbesartan 150 mg/day. Notably, the immunosuppressants were not discontinued. She was discharged well after 11-day hospital admission. Patient B was a 25-

year-old female diagnosed with class III LN one year ago. She was on MMF 1.5g/day and prednisone 15mg/day. She was not on HCQ due to transient blurred vision half a year ago. MMF and prednisolone were temporarily held off on the day of diagnosis with COVID-19, and she was discharged well after 14 days of hospitalization.

In summary, nearly 60% of patients with LN had limited access to healthcare, and resulted in a significant portion of patients discontinuing medications. In this cohort, two patients contracted COVID-19 with mild disease. Patients with LN are threatened with interruption of continuity of care. Access to medical advice and care is needed for these vulnerable populations in the global COVID-19 pandemic. First, patients require guidance for immunosuppressants use as abrupt discontinuation may result in a flare of the disease. There are no evidence to suggest that immunosuppressed people at higher risk of infection or develop more severe disease if contract COVID-19 (1). While the role of steroids is controversial (2, 3), certain rheumatology medications such as chloroquine, hydroxychloroquine (4, 5) and baricitinib (6) may have beneficial anti-inflammatory and anti-viral activity. Second, enforced quarantine in epidemic areas with overwhelmed healthcare resources will complicate clinic attendance. In the Department of Rheumatology, Allergy and Immunology at Tan Tock Seng Hospital in Singapore, outpatient appointments were massively reshuffled at the early stages of COVID-19 outbreak in January 2020. The discontinuation of healthcare was therefore minimalized. The care for patients rheumatic disease should not be compromised in the era of the pandemic of COVID-19.

Table 1: Medication usage prior to and during COVID-19 epidemic in 101 patients with lupus nephritis

	Prior to COVID19**	Discontinued during COVID19**	Continued during COVID19**
Corticosteroids	95 (94%)	4 (4%)	91 (90%)
Hydroxychloroquine	52 (51%)	8 (8%)	44 (44%)
Myocphenolate Mofetil	17 (17%)	4 (4%)	13 (13%)
Cyclosporine/Tacrolimus	12 (12%)	5 (5%)	7 (7%)
Lefunomide	2 (2%)	0 (0%)	2 (2%)
Azathioprine	1 (1%)	0 (0%)	1 (1%)
Anti-hypertensive*	25 (25%)	5 (5%)	20 (20%)

* Angiotensin-converting enzyme inhibitors and Angiotensin II Receptor Blockers

** number of patients (percentage of patients)

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