EJR European Journal of Rheumatology

DOI: 10.5152/eurjrheum.2020.20060

Short Communication

The impact of COVID-19 on rheumatology clinical practice and university teaching in Sydney, Australia

Ken Cai[1], Jianna He[1], Peter KK Wong[1, 2], Nicholas Manolios[1, 3]

Introduction

Coronavirus disease-2019 (COVID-19) infection has to date been confirmed in 184 countries and declared a global pandemic by the World Health Organisation (1, 2). With cases rapidly increasing worldwide, Australian health authorities have responded with a wide range of measures to slow disease spread. These are having an enormous impact on medical practice, teaching and vocational training in hospitals and universities (3, 4). The government has implemented travel restrictions that prevent all non-Australian citizens and non-residents from entering Australia. Australians have also been advised not to travel at this time locally or overseas. Newly-enacted legislation limits public gatherings to a maximum of two people and everyone has been encouraged to remain at home unless shopping for essential goods, receiving medical care, exercising or travelling to essential work (5).

These measures have resulted in universities and hospitals moving to online teaching. Hospitals have closed clinics, cancelled elective surgery and redeployed staff. Rheumatology training has been disrupted by trainee redeployment, postponement of exams and cessation of face-to-face teaching. The Australian Department of Health has identified at-risk groups to include people over the age of 60 years, Aboriginal and Torres Strait Island people over the age of 50, people with chronic conditions (renal failure, coronary heart disease or congestive cardiac failure, lung disease, poorly controlled diabetes and poorly controlled hypertension) and those of any age with significant immunosuppression (6).

This has prompted responses from the Royal Australasian College of Physicians (RACP) and the Australian Rheumatology Association (ARA) (7, 8), particularly around changes to clinical practice and definitions of people vulnerable to COVID-19. The ARA, which is the peak representative body for rheumatologists in Australia, has been in constant communication keeping its constituents informed on clinical issues, telehealth, billing, medication supply (particularly hydroxychloroquine) and developing resources for members, patients and general practitioners (8, 9). Here we report on the changes occurring in hospitals, private practices, universities, and rheumatology training in Australia.

Effects on delivery of rheumatology care in public practice

Our Rheumatology Department is located in Westmead Hospital, an approximately 1000-bed teaching hospital that has been at the forefront of treating COVID-19 patients from the start of the Australian outbreak. It serves as the hub of the Western Sydney Local Health District (LHD), the largest and most culturally diverse LHD in the state of New South Wales (NSW) with a catchment population of over one million people. The hospital admitted NSW's first COVID-19 patients to the dedicated isolation unit, and treated the first Australian patient in its Intensive Care Unit (ICU). Every possible resource has being marshalled to deal with the pandemic. Elective surgery has been cancelled, resources (including personal protective equipment, PPE) have been centralised and plans are in place to redeploy staff to areas of need. At time of writing, there were seven COVID-19 positive patients in Westmead ICU, seven patients in the isolation unit and approximately 250 people with COVID-19 who were sufficiently well to be in self-isolation at home in the LHD but receive regular follow-up. A COVID-19 screening ("fever") clinic has been established on-site to test both staff and members of the public. Given the propensity of COVID-19 to cause fatal viral pneumonia, we have a 24-hour on-site anaesthetic intubation service for these patients.

The day-to-day operations of our hospital have changed substantially. There are daily meetings of the Westmead COVID-19 Clinical Expert Advisory Group, followed by an Operations Meeting with Hospital Executive and then the LHD Executive. Supplies of consumables, including PPE are monitored daily and use of these resources has been aligned with recommendations from the Clinical Excellence Commission (10). All staff and visitors entering the hospital will soon be screened with questions and have their temperature checked. Anyone suspected of COVID-19 infection will be immediately referred to the on-site screening clinic and not allowed to attend work. Staff are encouraged to work from home as much as possible. Patient visits are also limited to one visitor at a time

ORCID iDs of the authors:
K.C. 0000-0001-8312-1219;
J.H. 0000-0001-5363-7062;
P.K.K.W. 0000-0002-2182-1815;
N.M. 0000-0002-6525-7830.

Cite this article as: Cai K, He J, Wong PKK, Manolios N. The impact of COVID-19 on rheumatology clinical practice and university teaching in Sydney, Australia. Eur J Rheumatol 2020; 7(Suppl 2): S91-3.

[1] Department of Rheumatology, Westmead Hospital, Sydney, Australia
[2] Rural Clinical School, The University of New South Wales, Coffs Harbour, Australia
[3] School of Medicine and Health, The University of Sydney, Sydney, Australia

Address for Correspondence: Ken Cai; Department of Rheumatology, Westmead Hospital, Sydney, Australia

E-mail: ken.cai@health.nsw.gov.au

Submitted: April 09, 2020
Accepted: April 13, 2020
Available Online Date: April 15, 2020

and children are discouraged from entering the hospital. Surgical "scrubs" have been procured for medical staff. They have been advised to change into and out of these clothes on arriving and leaving work so as to avoid unnecessary attention and to minimise anxiety to fellow travellers.

As a Rheumatology Department, we have switched approximately 80% of outpatient appointments to telephone consultations. This has worked surprisingly well (including the need for conference calls when interpreter services are required) and patients have been very understanding. Outpatient clinic face-to-face consultations are limited to new urgent patients. Due to concern about COVID-19 exposure, many patients have cancelled their appointments. Inpatient ward rounds and consultations are performed with 2-3 medical staff only and appropriate social distancing is respected. Until now, the Pharmaceutical Benefits Scheme (PBS) in Australia has mandated that biologics applications require a joint count to be conducted in-person by the treating rheumatologist. However, under current circumstances, this stipulation has been relaxed. The ARA has asked the PBS to also remove the requirement for pathology tests as many patients are afraid to leave their homes and the government has enacted emergency legislation confining people to their homes unless a pressing reason exists to leave (5). The ARA has requested the PBS allow streamlined approval of biologics by telephone rather than the current 2-3 page hardcopy application which exists for all originator biologics. Biologics continue to be prescribed and there is no current evidence to suggest they increase the risk of contracting the infection. Unfounded rumours in the media regarding the potential curative effect of hydroxychloroquine (Plaquenil) has compromised the supply of this drug and many patients have had difficulty obtaining supply. It has been disappointing to read reports of a surge in prescriptions of this medication when no clinical data exists so far to supports its use in COVID-19 (11). As the approximately 40 deaths from COVID-19 so far in Australia have all been in those ≥ 65 years of age, we have sought to limit exposure to infection of our more "senior" colleagues by removing them from the on-call roster. Our regular radiology, histology, research and unit meetings have had to be cancelled. However, we will soon recommence some of these via videoconference.

Effects on delivery of rheumatology care in private practice

For rheumatologists working in private practice, there has been a paradigm shift in how they provide care to patients due to COVID-19. Traditional face-to-face care has rapidly transitioned to telehealth services (telephone or video-based). Since March 13, COVID-19 Medicare item numbers for telehealth have permitted vulnerable or isolated patients to be reviewed at home. This has proven to be invaluable for many of our patients who are unable to leave home or feel unsafe to do so. Some face-to-face consultations have continued for urgent problems and new patients. A temporary change to the requirement to allow for self-reported joint assessments for PBS biologics applications has been well received by those in private practice (12). Being a "hands-on" speciality, performing telehealth consultations has been a new experience for most Australian rheumatologists.

We know very little of the impact of COVID-19 in rheumatology patients. Led by an Australian rheumatologist, the COVID-19 Global Rheumatology Alliance is an international collaboration looking to investigate COVID-19 outcomes among patients with rheumatic diseases, particularly those on immunosuppressive therapies (13). Those in private practice look forward to contributing to this initiative. Many of our consultations have involved reassuring our patients about the lack of evidence to support discontinuing immunosuppression. The ARA has developed an information sheet for rheumatology patients around COVID-19 (9). The initial experience from Italy has been reassuring (14) and we await further data from the COVID-19 Global Rheumatology Alliance registry.

One cannot discuss the effects of COVID-19 without reference to the immense financial implications of this pandemic. Many of our patients have become unemployed and increasingly dependent on social security to support them through this difficult period. A 2018 survey of 238 ARA members identified almost two-thirds of rheumatologists worked in private practice (15). A large proportion of these rheumatologists operate their own practice and have ongoing business expenses including staff wages, practice fees, and other operational costs. With the reduction in income due to government-mandated compulsory "bulk-billing" of telehealth patients deemed "vulnerable to COVID-19", many of our colleagues are concerned they may have to reduce staff, and temporarily or even permanently close their businesses. Despite lack of evidence to date, the Australian Government has defined those "vulnerable to COVID-19" to include patients prescribed biologics and most Disease Modifying Anti-rheumatic Drugs (DMARDs), as well as those taking high-dose prednisone (≥20 mg of prednisone per day, or equivalent for ≥14 days) (6). As a high proportion of rheumatology patients will meet this definition, there is significant anxiety amongst private practice rheumatologists regarding the financial viability of their businesses, many of which may require economic support through recently introduced Australian Government initiatives to retain employees and keep businesses open (16). The ARA has written to the Government to advocate for this definition to be corrected (17).

Effects on teaching and research

The evolving pandemic is challenging for all universities, particularly for faculties such as Medicine that rely on the healthcare system for student teaching. The University of Sydney Medical Program has been very quick to act to decrease the spread of COVID-19 and support Government measures on social isolation. There has been a major shift to online and video-enabled classes, elimination of large group and most small group teaching, modification of assessment requirements, and reduction in face-to-face clinical teaching. A training program is being developed for final-year students to act as Assistants in Medicine, aiming to assist medical teams on the wards and elsewhere. A number of graduation ceremonies were postponed due to restrictions on social gatherings. The university provides regular updates to student and teachers via email, website bulletins, webinars, School-specific learning management platforms (Canvas) for current students and within-organisation social networks (Yammer). COVID-19 has greatly impacted University revenue. Staff have therefore been encouraged to take outstanding annual leave to reduce University financial liabilities.

All lectures and tutorials are now delivered online and there is a move to also deliver as much of the clinical course work online, including clinical skills teaching. Recent feedback shows that the School of Medicine has had great success with virtual small group work and students meeting together in a larger webinar format to share findings. Students with hospital placements have had very limited access to patients, with most hospital learning opportunities such as elective surgery, clinics and academic meetings being cancelled or numbers restricted. Student placements have changed as outpatient clinics reduce the number of patients seen, consultations shift to telehealth, ward rounds are restricted to as few people as possible, and some private hospitals discontinue student placements. There are difficulties for students completing MD research projects that require patient access and many may have to rescope their projects. Senior staff members have had some difficulty with these changes due to lack of familiarity in using video technology for teaching, although this has been minimised by access to resources and support to manage classes remotely. As teachers, we continue to support the professional growth of our students and once these restrictions ease, we will ensure they get an

opportunity to physically examine patients to improve their clinical skills and meet requirements for graduation and medical registration.

There has been a major disruption to hospital research activities. On advice from the New South Wales (NSW) Office of Health and the Westmead Hospital Executive, recruitment to all clinical trials or clinical research activities has been suspended for the next eight weeks. Except for potentially life-saving therapies or COVID-related research, no new clinical studies will be approved until after October this year.

Effects on rheumatology training

There has been similar disruption to rheumatology training. At our hospital, inpatient management has remained largely unchanged, but outpatient clinics have mostly transitioned to telehealth. Patients are asked to examine their own joints (e.g. measuring and recording the diameter of their wrist to assess joint effusion, counting the number of gouty tophi, etc.). Only necessary investigations that directly impact management are being arranged. Most non-urgent investigations are postponed to reduce patient exposure to COVID-19. While face-to-face patient exposure has reduced, fortnightly consultant-led teaching is still occurring with social distancing measures. The NSW Rheumatology monthly meetings and trainee teaching sessions have moved to online.

As a cohort, rheumatology trainees do have questions around training accreditation, particularly if pandemic restrictions extend beyond the next few months. We have had reassurance from the RACP Advanced Training Committee that Trainee concerns have been noted and will be addressed. The Divisional Clinical Examination for Basic Physician Trainees has been postponed until next year. Basic Physician Trainees have been informed they can apply for provisional Advanced Training positions for next year. However, this brings new challenges of balancing transition into Advanced Training and preparation for the Divisional Clinical Examination.

Our LHD's response to COVID-19 has been swift and comprehensive. Rheumatology trainees have received continuous updates and education by the Clinical Superintendent. New clinical protocols are communicated in a timely manner. This includes Advanced Life Support algorithms for COVID-19 patients, PPE training, and End-of-Life Care for COVID-19 patients. Like most frontline healthcare workers around the globe we are acutely aware of the worldwide PPE shortage. We are reassured that our LHD is trying to secure new supplies. At the same time we are actively trying to preserve scarce resources such as N95 masks for colleagues, such as anaesthetic and ICU staff, who are more likely to perform aerosolised procedures. Finally, the junior medical staff (including rheumatology trainees) face redeployment to other clinical roles as our hospital prepares for a surge in COVID-19 patients. It is uncharted territory; the sense of uncertainty and nervousness is palpable around the hospital. No one has ever faced a pandemic before! Regardless, we are grateful to have the luxury of planning ahead having seen the situation evolve overseas.

Conclusion

Most aspects of rheumatology practice and teaching have changed since the onset of the COVID-19 pandemic. We continue to work and teach, modifying our approach as we learn from countries such as Italy, Spain and the United States. However, it is almost certain that we as individuals, and our societies will be indelibly affected by this pandemic.

Conflict of Interest: The authors have no conflict of interest to declare.

Financial Disclosure: The authors declared that this study has received no financial support.

References

1. World Health Organisation. WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020. 2020. Available from: URL: https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020.
2. John Hopkins University. Coronavirus COVID-19 global cases by the center for systems science and engineering (CSSE). 2020. Available from: URL: https://coronavirus.jhu.edu/map.html.
3. Australian Government Department of Home Affairs. COVID-19 - English. 2020. Available from: URL: https://www.homeaffairs.gov.au/covid-19/Pages/covid-19-english.aspx-?lang=english.
4. Australian Government Department of Health. Australian health sector emergency response plan for novel coronavirus (COVID-19). 2020. Available from: URL: https://www.health.gov.au/sites/default/files/documents/2020/02/australian-health-sector-emergency-response-plan-for-novel-coronavirus-covid-19_2.pdf.
5. New South Wales Government. Public health (COVID-19 restrictions on gathering and movement) order 2020. 2020. Available from: URL: https://www.legislation.nsw.gov.au/_emergency/Public Health (COVID-19 Restrictions on Gathering and Movement) Order 2020.pdf.
6. Australian Government Department of Health. Advice for people at risk of coronavirus (COVID-19). 2020. Available from: URL: https://www.health.gov.au/news/health-alerts/novel-coronavirus-2019-ncov-health-alert/advice-for-people-at-risk-of-coronavirus-covid-19.
7. Royal Australasian College of Physicians. RACP COVID-19 response - as at 01 April 2020. 2020. Available from: URL: https://www.racp.edu.au/docs/default-source/default-document-library/covid-19/racp-covid-19-response-external-report.pdf?sfvrsn=b773e81a_4.
8. Australian Rheumatology Association. Advice for GPs and other health professionals caring for patients with rheumatoid arthritis, SLE and other autoimmune diseases in the COVID-19 crisis. 2020. Available from: URL: https://rheumatology.org.au/gps/documents/AdviceforGPAHPcaringforpatientswithRheumatatic-Disease230320final_.pdf.
9. Australian Rheumatology Association. Important information for people with rheumatoid and other inflammatory arthritis, SLE and other autoimmune diseases in the COVID-19 (Coronavirus) pandemic. 2020. Available from: URL: https://rheumatology.org.au/downloads 20200326 COVID-19 advice v3.pdf.
10. Clinical Excellence Commission. Application of PPE in response to COVID-19 pandemic. 2020. Available from: URL: http://www.cec.health.nsw.gov.au/__data/assets/pdf_file/0006/572883/Application-of-PPE-in-Response-to-COVID-19-19-March-2020-V1.4.pdf.
11. Mannix L. Dentists banned from prescribing potential COVID-19 drug to self, family. 2020 March 24. Available from: URL: https://www.smh.com.au/national/dentists-banned-from-prescribing-potential-covid-19-drug-to-self-family-20200324-p54db2.html.
12. Australian Rheumatology Association. Request for changes to the current biological and targeted DMARD restrictions - cosigned letter from ARA and Arthritis Australia. 2020. Available from: URL: https://rheumatology.org.au/members/documents/27Mar20ltrtoPBAC-CMO.pdf.
13. Robinson PC, Yazdany J. The COVID-19 Global Rheumatology Alliance: c-Collecting data in a pandemic. Nat Rev Rheumatol. 2020 April 02. doi: 10.1038/s41584-020-0418-0. [Online ahead of print]. **[Crossref]**
14. Monti S, Balduzzi S, Delvino P, Bellis E, Quadrelli VS, Montecucco C. Clinical course of COVID-19 in a series of patients with chronic arthritis treated with immunosuppressive targeted therapies. Ann Rheum Dis. 2020 April 02. doi: 10.1136/annrheumdis-2020-217424. [Online ahead of print]. **[Crossref]**
15. Australian Rheumatology Association. Workforce survey executive summary 2019. 2019. Available from: URL: https://rheumatology.org.au/members/documents/WorkforceSurveyExecutiveSummary-websiteMay2019.pdf.
16. Australian Taxation Office. Support for businesses and employers. 2020. Available from: URL: https://www.ato.gov.au/General/COVID-19/Support-for-businesses-and-employers/.
17. Australian Rheumatology Association. Minister for Health and CMO re Chronic conditions that increase the risk of serious illness from COVID-19. 2020. Available from: URL: https://rheumatology.org.au/members/documents/20200406 06Apr20 ltr to MoH-CMO.pdf.