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Review Article

Algerian National Recommendations for Chronic Inflammatory Rheumatism during COVID-19

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Abstract

Patients suffering from chronic inflammatory rheumatism are vulnerable; they have an increased risk of bacterial and viral infections, related to the systemic and dysimmune inflammation of the chronic disease and the use of various immunosuppressive therapies.

This risk explains the practice of periodic preventive vaccination adopted by all. As a result, patients with chronic inflammatory rheumatism (RIC) are more likely to contract COVID-19 and present severe forms.

As with various international societies, the members of the two Algerian rheumatology societies (SAR "Algerian Society for Rheumatology" and LAAR "The Algerian League Against Rheumatism") propose these recommendations. They include general and preventive measures relating to the different situations encountered; management of patients without signs of Covid-19 (SCov-), management of suspected cases (SCov+), management of confirmed cases (SCov+) and management of newly diagnosed cases, recommendations for specific situations, those relating to pregnant women and vaccinations.

Keywords: *Chronic Inflammatory Rheumatism (ICR); Comorbidities; Coronavirus; COVID-19; SARS-CoV-2; Angiotensin Converting Enzyme 2 (ACE2); cDMARDs Chemical Background Treatments; bDMARDs Biological Background Treatments*

Introduction

Covid -19 Pandemic was one of the challenges faced health system globally and locally. The challenges for Rheumatoid arthritis patients globally and for Algeria specially were as following.

Patients nature

- The condition is characterized by high circulating levels of TNF-α and IL-6, and, like gout, could potentially lead to an increased immune response to SARS-CoV-2. Rheumatoid arthritis is also associated with a greater risk of cardiovascular disease.
- Barriers for treatment access.
- High risk of infection with Covid -19.
- Medication adherence.

Health system needs

- Health system capacity for treatment immunocompromised with increase incidence for Covid -19 infection.
- Modification treatment plans due to pandemic case.
- Availability of Resources.

Objective of the Study

The objectives of this recommendations are enhancement of patient's outcomes and resources enhancement through modifications of treatment plans and protocols based on availability of data.

Methods

Integration between International guidelines like (NHS, American college of rheumatology, European college of rheumatology and WHO). Local task force from Algerian Rheumatologist conducting expert meetings and survives for adaptation international guild lines based on local data and Dieses pattern in at Algeria.

National recommendations

Specialty patients to consider

- **Obligatory inpatients:** Continue to require admission and management, e.g. we must expedite treatment to avoid delay and minimise length of stay.
- **At-risk patients:** Patients with reduced immune responses.
- **Escalation matrix:** Overall chart for consideration of services.

Obligatory in-patients

- A consultant must be designated as 'lead consultant'. This duty can be for one day, a few days or even five days in small units. This is an essential role during crisis management. It cannot be performed by the consultant 'on-call' or the consultant in fracture clinic or the consultant in theatre. They must be free of clinical duties and the role involves co-ordination of the whole service

from emergency department (ED) to theatre scheduling and liaison with other specialties and managers.

- It can be very stressful during a crisis. Support each other and share the workload. Do not expect the clinical director to do all the co-ordination!
- A leadership team should support the lead and include relevant members of the multidisciplinary team (MDT).
- Establish a daily sitrep and dashboard with critical data to share across the workforce. That should include patient flows, work-force issues, stock levels and other key messages (eg state of coronavirus response, personal protective equipment (PPE) requirements).
- Make contingency plans for supply chain issues.

Recommendations 1: General and preventive measures

R 1.1: It is recommended to adopt barrier measures

- Social distancing
- Mandatory wearing of masks
- Hand hygiene (frequent washing with soap and water or use of a hydro-alcoholic solution...)
- Limit as much as possible or better to avoid movements.
- Avoid public transport, gatherings...

R 1.2: It is recommended to reorganize the structures of care and consultations

- Postpone and space out medical visits and check-ups, potential source of contamination.
- Favor alternatives: medical advice by telephone, teleconsultation, prescription renewal by mail or by the local public or private medical structure or by the pharmacist.
- Recommend, if necessary, containment, the importance of which will depend on the degree of risk stratification. It may be total for high risk patients.

Recommendations 2: Management of patients without signs of Covid-19 (SCov-)

R 2.1: It is recommended to identify patients at risk

Use the scoring system established by the British Society of Rheumatology (Table 2, in the appendix), which makes it possible to secure and prioritize patients at low or high risk of infection.

At-risk patients

The threat to those with reduced immune responses from being infected with coronavirus may require the Health authorities to do three things:

- Protect vulnerable individuals from the risk of infection.
- Reduce the risk of transmission between people attending clinical facilities.
- Free up capacity for inpatient and high-dependency care.

Patients who are receiving conventional disease-modifying drugs (cDMARDs), JAK inhibitors and biologics, but also patients with kyphoscoliosis. Many patients have multisystem disease including heart, lung and/or renal involvement which puts them at an additional risk. Rheumatology patients cover the whole age spectrum but we now have a significant number of patients on these drugs who are 80+, which probably adds a further level of risk when infected with coronavirus.

R 2.2: General rules

It is recommended to continue treatment in its entirety; stopping treatment increases the risk of relapse of the disease which makes the patient more vulnerable to bacterial and viral infections.

Can be used the:

- Analgesics: paracetamol without exceeding the dose of 3 g / day.
- Non-steroidal anti-inflammatory drugs (NSAIDs): If possible, replace them with paracetamol. Take only NSAIDs if it is necessary to control the symptoms of the rheumatic disease (Axial spondyloarthritis).
- Corticosteroids: If possible, gradually reduce the doses until a dose of less than 10 mg/day is obtained, prednisone equivalent in stable forms. Any abrupt stopping of corticosteroids carries a risk of acute adrenal insufficiency.
- Background conventional and biological treatments (cDMARDs and bDMARDs) continue them whatever the molecule.

R 2.3: Patients with a still active disease that is not sufficiently controlled

It is recommended to apply the T2T strategy:

- Use NSAIDs for a short period of time or
- Use corticosteroid therapy to control the flare-up.
- Switch to another synthetic DMARD, other than leflunomide,
- Use combo therapy or,
- Initiate a biotherapy excluding rituximab,
- Switch to another bDMARD avoiding rituximab for patients who were already on biotherapy.

R2.4: Management of exposed patients

Reminder of some definitions

Close contact

A close contact is a person who has shared the same living space as the person with symptoms.

Example: A person from the same family sharing the same room, or a person who has had direct face-to-face contact within one meter of the case when coughing, sneezing or talking, or a class and/or office neighbor and a neighbor of the case on public transport.

Co-exposed person

A co-exposed person is defined as having been subjected to the same exposure risks as the confirmed case (stay, travel).

It is recommended to

- Perform a routine screening test for CoVID-19 by RT-PCR
- Maintain analgesics, non-steroidal anti-inflammatory drugs (NSAIDs), methotrexate (MTX), hydroxychloroquine (HCQ), salazopyrine (SSZ), etc.
- Temporarily stop immunosuppressants (azathioprine, endoxan, etc.), bDMARDs except anti IL6 and anti JAK, until getting the tests results or after 14 days without symptoms if it is impossible to perform the screening tests.

Recommendations 3: Management of suspected cases (SCov +)

It is recommended to:

- Test for CoVID-19 using the RT-PCR technique,
- Isolate the patient and protect the family,
- Stop NSAIDs and replace them with paracetamol without exceeding the dose of 3 g/d,
- Maintain corticosteroids, regardless of the case at non-immunosuppressive doses < 10 mg/day prednisone equivalent,
- Temporarily suspend cDMARDs except hydroxychloroquine and salazopyrine
- Temporarily suspend bDMARDs except anti IL6 and anti JAK.

Recommendations 4: Management of confirmed cases (Cov+)

Confirmed case definition: Any person with clinical signs of acute respiratory infection of any severity with a fever or a feeling of fever, without any other identified etiology that can fully explain the symptomatology and who has travelled to or stayed in an area where transmission is active within 14 days before the date of onset of clinical signs, or any person with an acute respiratory infection of any severity within 14 days of one of the following exposures: close contact with a confirmed or probable case of Covid-19, while the latter was symptomatic, or any person who has worked or stayed in a hospital service for the management of Covid-19 infection cases.

It is recommended

- To send patients to a referral service in order to start treatment in accordance with the national experts' recommendations, implemented on March 23rd, 2020. (www.sante.gov.dz),

- To limit the use of NSAIDs to spondyloarthritis and replace them with paracetamol…,
- To maintain corticosteroids and attempt a gradual reduction to non-immunosuppressive doses, i.e. below (<) 10 mg/day prednisone equivalent,
- To temporarily suspend the cDMARDs, except the HCQ and SSZ,
- To suspend the bDMARDs except the anti-IL6 and anti-JAK,
- Consider resuming treatment after the patient has been asymptomatic, usually 2 to 3 weeks after the onset of the infection.

Recommendations 5: Management of newly diagnosed cases. It is recommended

To use paracetamol in doses not exceeding 3 g/d:

- To use if necessary, NSAIDs in low doses and for a short period of time,
- To use, if necessary, corticosteroids at doses < 10 mg/day prednisone equivalent,
- To recommend cDMARDs alone: MTX or SSZ,
- To prioritize the prescription of hydroxychloroquine for patients suffering from systemic lupus and Gougerot-Sjogren syndrome; there is no scientific data justifying the use of hydroxychloroquine as a prophylactic treatment in immunocompromised or immunosuppressed subjects,
- To avoid leflunomide because of the induced prolonged immunosuppression,
- To delay the initiation of bDmards and, if necessary, to take into account the risk factors of the patient and the condition in question,
- To give preference to treatments with a short half-life,
- To give preference to subcutaneous/intravenous forms.

Recommendations 6: Pregnant women

Strict adherence to the general measures (R 1.1) is recommended, especially in the third trimester of pregnancy.

Recommendations 7: Special situations

R 7.1: Prescription of Rituximab

- Due to lymphocyte depletion, increased risk of secondary infections, risk of re-infection and vaccine ineffectiveness, it is recommended to delay initiation and / or retreatment with Rituximab.

R 7.2: Local gestures

	Prevalence of COVID-19 infection and associated available hospital resources			
	Low (equivalent to winter pressures)	Medium (ITU beds start to be in short supply, still reasonable number of hospital beds)	High (no ITU beds, theatre pods being used, very low hospital beds, capacity increased by emergency discharges as per mass casualty plans, elective operating stopped)	Very high (as per high but also reduced capacity for emergency surgery)
All services: outpatient clinics	New patients: continue as usual Follow-up: reduce long- interval (>3 months) follow- up visits	New patients: continue as usual Follow-up: cut non-essential follow-up visits; adjust templates to minimise waiting times; option for telephone or video consultation instead of face-to- face consultation	New patients: cut all but urgent clinic attendances; new patients with suspected inflammatory arthritis including autoimmune connective tissue disease and vasculitis should be seen, other new patients to be triaged by consultant to determine if they need to be seen Follow-up patients: to be given option of telephone or video consultation unless absolutely necessary to see face to face	New patients: cut all but urgent clinic attendances; new patients with suspected inflammatory arthritis including autoimmune connective tissue disease and vasculitis should be seen, other new patients to be triaged by consultant to determine if they need to be seen Follow-up patients: to be given option of telephone or video consultation unless absolutely necessary to see face to face
Patients on conventional DMARDs, JAK inhibitors and biologics	Maximise blood tests out of hospital where local resources allow Minimise attendances in clinics Use telephone/ video consultations if possible	Home delivery of oral systemic drugs/provide FP10 prescriptions for readily available drugs; possibly issue prescriptions for longer durations, e.g.4 months instead of 3 months Schedule appointments to avoid patients waiting for treatments Maximise use of home care administration		

Table 1

- There are no contraindications to local corticosteroid infiltrations or other local treatments, local procedures can be carried out with the usual precautions.

Recommendations 8: Vaccination

It is recommended to

- Check the vaccination calendar and

		On case-by-case basis, determine if patient could reduce any of their medication	On case-by-case basis, determine if patient could reduce any of their medication	On case-by-case basis, determine if patient could reduce any of their medication
Day case units	As usual	Screen patients to check if treatment could be deferred, e.g. patient stable and on regular rituximab infusions	Screen patients to check if treatment could be deferred, e.g. patient stable and on regular rituximab infusions Denosumab must not be deferred but zoledronate could be deferred up to 6 months	Screen patients to determine benefit versus risk with delay in treatment Denosumab must not be deferred but zoledronate could be deferred up to 6 months
Rheumatology advice lines (consider providing extra cover from home by nurses needing to self-isolate)	Key; prompt response required	Key; prompt response required	Key; prompt response required Management of disease flare: have a lower threshold for issuing acute prescriptions where appropriate, e.g. colchicine for gout or prednisolone for RA flare, preferably on FP10	Key; prompt response required Management of disease flare: have a lower threshold for issuing acute prescriptions where appropriate, e.g. colchicine for gout or prednisolone for RA flare, preferably on FP10
On-call service (hospitals where rheumatology out-of-hours on-call service is not available currently, should consider an on-call rota)	Ensure good liaison with acute services and be involved in the management of rheumatology patients admitted with coronavirus In case of consultants needing to self-isolate but otherwise well, they could provide second-on on-call service and give advice on the phone	Ensure good liaison with acute services and be involved in the management of rheumatology patients admitted with coronavirus In case of consultants needing to self-isolate but otherwise well, they could provide second-on on-call service and give advice on the phone	Ensure good liaison with acute services and be involved in the management of rheumatology patients admitted with coronavirus In case of consultants needing to self-isolate but otherwise well, they could provide second-on on-call service and give advice on the phone	Ensure good liaison with acute services and be involved in the management of rheumatology patients admitted with coronavirus In case of consultants needing to self-isolate but otherwise well, they could provide second-on on- call service and give advice on the phone In case of a significant number of consultants off work, consider liaising with nearby hospital on- call service and use virtual regional MDT meeting facility

Table 2

- Advise vaccination against influenza and pneumococcus.

Escalation matrix

Risk factors	Score
Corticosteroid dose ≥ 20 mg/d (prednisone or equivalent) for more than 4 weeks.	3
Corticosteroid dose ≥5 mg/d but <20mg/d (prednisone or equivalent) for more than 4 weeks	2
Cyclophosphamide regardless of the VO or IV dose during the last 6 weeks	3
Use of only ONE immunosuppressive*, biological** or synthetic background treatment***.	1
Two or more immunosuppressive treatments*, biological** or synthetic background treatment***.	2
Presence of one of the following risk factors: age > 70, Diabetes, history of lung disease, history of ischemic heart disease or high blood pressure.	1
Hydroxy chloroquine, sulfasalazine alone or in combination	0
*Conventional immunosuppressive treatment: azathioprine, leflunomide, methotrexate, mycophenolate (mycophenolate mofetil or mycophenolic acid), ciclosporine, cyclophosphamide, tacrolimus, sirolimus. **Biological/targeted synthetic background treatments: rituximab (within the last 12 months); anti TNF (etanercept, adalimumab, infliximab, golimumab, certolizumab); tociluzimab; abatacept; belimumab; anakinra; secukinumab; ixekizumab; ustekinumab; sarilumumumab; canakinumab; ***Targeted synthetic background treatments: all anti-JAK, baricitinib, tofacitinib. Score ≥3: patients to protect Score >2: self-isolation or maintaining social distancing with reservations Score ≤ 1: Maintaining social distancing by respecting community measures	

Table 3

Appendix

Risk stratification in patients with autoimmune rheumatic diseases (according to the British Society of Rheumatology, BSR).

Other considerations

- We should avoid unproductive attendances at hospital.
- Senior decision-making at the first point of contact should reduce or even prevent the need for further attendances.
- Clinicians may need to work in unfamiliar environments or outside their sub- specialist areas. They will need to be supported.
- The possibility of a seven-day service may need to be considered.
- Using virtual clinic (VC) will not reduce ED workload. Hospitals using this system may need to switch during the crisis to the system outlined above.

- The patient information used in VC will be very effective in reducing follow-up visits.
- Consider postponing long-term follow-up patients until the crisis has passed.
- CT scanning may be limited as it is the investigation of choice for coronavirus pneumonitis [1-19].

Conclusion

During Pandemic situation modifying treatment protocols to achieve the fallowing objectives minimise risk of infection for high risk patients, reducing pressure on system capacity through modifying patient journey and treatment lines though enhancement of leadership standards and skills might have positive impact on health systems and health care resources including Health care professionals.

Conflicts of Interest

None related to these recommendations.

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