

Consensus guidelines on immunomodulatory therapy (IMT) in times of COVID-19

Uveitis/rheumatological patients often receive immunomodulatory therapy (IMT), ranging from corticosteroids and conventional immunosuppressive agents to biologics. These drugs modulates/ suppress the immune system and hence are believe to make the patient potentially more susceptible to COVID-19 infection. This is a survey-based investigation designed to consolidate the expertise of international uveitis experts and rheumatologists on the approach to the management of patients with uveitis/rheumatologic diseases on IMT in times of COVID-19.

Patients are divided in 2 categories, defined based on

1. Patient's clinical signs and symptoms:

- **healthy patient** - defined as a patient with no signs of any infections and no apparent contact history with confirmed COVID-19
- **healthy patient who had contact** with an infected COVID-19 individual
- **sick patient COVID-19 suspected** - defined as a patient having or feeling clinical signs and symptoms of infection (including upper respiratory tract infection) with COVID-19 test not done/not available
- **sick patient COVID-19 positive** - defined as a patient having or feeling clinical signs and symptoms of infection (including upper respiratory tract infection) with a positive COVID-19 test

2. Risks factors:

- **Increased risk patients** - patients with uveitis or rheumatologic disease on immunosuppressives (not on biologics)
- **High risk patients** - defined as uveitis patients with one of the following risk factors: use of biologics; high doses of immunosuppressives; use of multiple immunosuppressants; active systemic disease associated with uveitis; presence of other co-morbidities or multisystem disease including heart, lung and/or renal involvement; neutropenia; smoking; pregnancy; older age; previous history of infection while on IMT;
- **Very high risk patients** - defined as patients with two or more risk factors

Experts will provide their inputs on how to manage the different categories of uveitis/rheumatological patients regarding the use of non steroidal anti-inflammatory drugs, systemic and local corticosteroids, immunosuppressive agents and biologics, to be administered for either ocular or rheumatological indications.

Preliminary info

Number of years of experience in Ophthalmology/Rheumatology

Number of years of experience in uveitis or rheumatology specialist practice

Number of patients with all forms of Uveitis or rheumatology you see per year

Number of uveitis or rheumatology patients on IMT you see per year

Your region of practice

INCREASED RISK PATIENTS

Uveitis/rheumatological patients on **conventional IMT**, namely monotherapy with MTX, AZA, MMF, Ciclosporin, Cyclophosphamide, Tacrolimus - **biologics excluded**

1. Corticosteroids

1.1 Oral corticosteroids

1.1.1 Patient not on oral corticosteroids

1.1.1.1 Would you recommend to start oral corticosteroids if

a. patient is healthy

Yes

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

1.1.2 Patient on low dose oral corticosteroids (10mg/day or less)

1.1.2.1 Would you recommend to maintain the dosage of oral corticosteroids as before if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

1.1.2.2 Would you recommend to decrease the dose of oral corticosteroids if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

1.1.2.3 Would you recommend to taper and stop oral corticosteroids if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

1.1.3 Patient on higher dose oral corticosteroids (>10mg/day)

1.1.3.1 Would you recommend to maintain the dosage of oral corticosteroids as before if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

1.1.3.2 Would you recommend to decrease the dose of oral corticosteroids if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

1.1.3.3 Would you recommend to taper and stop oral corticosteroids if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

1.2 Intravenous (IV) methyl prednisolone

2.2.1 Would you recommend to start IV methyl prednisolone if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

1.3 Local corticosteroids

1.3.1 In patients with severe acute uveitis, would you prefer local therapy (periocular or intravitreal steroids) to systemic therapy if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

1.3.2 In patients with severe acute uveitis on low doses of systemic steroids, would you recommend to consider local therapy (periocular or intravitreal steroids) instead of increasing the dose of systemic steroids if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

2. Conventional IMT

2.1 Would you recommend to start IMT if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

2.2 Would you recommend to maintain IMT (type of drug and dosage) as before if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

2.3 Would you recommend to decrease the dose of IMT if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

2.4 Would you recommend to stop IMT if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

HIGH RISK PATIENTS

Uveitis/rheumatological patients with one of the following risk factors:

- **use of biologics;**
- high doses of conventional IMT;
- use of multiple immunosuppressants (multiple conventional IMT or biologics plus conventional IMT);
- active systemic disease associated with uveitis;
- presence of other co-morbidities or multisystem disease including heart, lung and/or renal involvement such as interstitial lung disease/pulmonary fibrosis, pulmonary hypertension/pulmonary arterial hypertension, glomerulonephritis/renal impairment (any cause), liver disease, diabetes mellitus, ischaemic heart disease, other underlying lung disease (such as asthma, chronic obstructive pulmonary disease; COPD)
- neutropaenia;
- smoking;
- pregnancy;
- older age (>60 years);
- previous history of infection while on IMT;
- ACE inhibitors and ARBs.

1. Corticosteroids

1.1 Oral corticosteroids

1.1.1 Patient not on oral corticosteroids

1.1.1.1 Would you recommend to start oral corticosteroids if

a. patient is healthy

Yes

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

1.1.2 Patient on low dose oral corticosteroids (10mg/day or less)

1.1.2.1 Would you recommend to maintain the dosage of oral corticosteroids as before if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

1.1.2.2 Would you recommend to decrease the dose of oral corticosteroids if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

1.1.2.3 Would you recommend to taper and stop oral corticosteroids if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

1.1.3 Patient on higher dose oral corticosteroids (>10mg/day)

1.1.3.1 Would you recommend to maintain the dosage of oral corticosteroids as before if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

1.1.3.2 Would you recommend to decrease the dose of oral corticosteroids if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

1.1.3.3 Would you recommend to taper and stop oral corticosteroids if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

1.2 Intravenous (IV) methyl prednisolone

1.2.1 Would you recommend to start IV methyl prednisolone if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

1.3 Local corticosteroids

1.3.1 In patients with severe acute uveitis, would you prefer local therapy (periocular or intravitreal steroids) to systemic therapy if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

1.3.2 In patients with severe acute uveitis on low doses of systemic steroids, would you recommend to consider local therapy (periocular or intravitreal steroids) instead of increasing the dose of systemic steroids if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

2. Conventional IMT

2.1 Would you recommend to start IMT if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

2.2 Would you recommend to maintain IMT (type of drug and dosage) as before if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

2.3 Would you recommend to decrease the dose of IMT if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

2.4 Would you recommend to stop IMT if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

3. Biologics

3.1 Would you recommend to start biologics if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

3.2 Would you recommend to continue biologics as before if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

3.3 Would you recommend to stop biologics if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

4. Tocilizumab

4.1 Would you recommend to start Tocilizumab if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

4.2 Would you recommend to continue Tocilizumab as before if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

4.3 Would you recommend to switch to Tocilizumab if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

VERY HIGH RISK PATIENTS

1. Corticosteroids

1.1 Oral corticosteroids

1.1.1 Patient not on oral corticosteroids

1.1.1.1 Would you recommend to start oral corticosteroids if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

1.1.2 Patient on low dose oral corticosteroids (10mg/day or less)

1.1.2.1 Would you recommend to maintain the dosage of oral corticosteroids as before if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

1.1.2.2 Would you recommend to decrease the dose of oral corticosteroids if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

1.1.2.3 Would you recommend to taper and stop oral corticosteroids if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

1.1.3 Patient on higher dose oral corticosteroids (>10mg/day)

1.1.3.1 Would you recommend to maintain the dosage of oral corticosteroids as before if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

1.1.3.2 Would you recommend to decrease the dose of oral corticosteroids if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

1.1.3.3 Would you recommend to taper and stop oral corticosteroids if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

1.2 Intravenous (IV) methyl prednisolone

1.2.1 Would you recommend to start IV methyl prednisolone if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

1.3 Local corticosteroids

1.3.1 In patients with severe acute uveitis, would you prefer local therapy (periocular or intravitreal steroids) to systemic therapy if 2.3.1.1 alone if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

1.3.2 In patients with severe acute uveitis on low doses of systemic steroids, would you recommend to consider local therapy (periocular or intravitreal steroids) instead of increasing the dose of systemic steroids if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

2. Conventional IMT

2.1 Would you recommend to start IMT if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

2.2 Would you recommend to maintain IMT (type of drug and dosage) as before if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

2.3 Would you recommend to decrease the dose of IMT if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

2.4 Would you recommend to stop IMT if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

3. Biologics

3.1 Would you recommend to start biologics as before if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

3.2 Would you recommend to continue biologics as before if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

3.3 Would you recommend to stop biologics if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

4. Tocilizumab

4.1 Would you recommend to start Tocilizumab if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

4.2 Would you recommend to continue Tocilizumab as before if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

4.3 Would you recommend to switch to Tocilizumab if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

GENERAL RECOMMENDATIONS

1. Would you recommend to uveitis/rheumatological patients on conventional IMT or biologics

1.1 hand and personal hygiene

Yes

1.2 avoiding crowds

Yes

1.3 use of masks

Yes

1.4 avoid unproductive attendances at hospital

Yes

1.5 consider postponing long-term follow-up

Yes

1.6 self isolation

Yes

1.7 if really sick (with no symptoms of respiratory infection), see a doctor for urgent appointment (patients who need hospitalization for respiratory symptoms excluded)

Yes

2. Use of Non steroidal anti-inflammatory drugs (NSAIDs) in patients with scleritis

2.1 Would you recommend to start NSAIDs if

a. patient is healthy

Yes

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

2.2 Would you recommend to maintain NSAIDs (type of drug and dosage) as before if

a. patient is healthy

Yes

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

No

d. patient is sick COVID-19 positive

No

2.3 Would you recommend to decrease the dose of NSAIDs if

a. patient is healthy

No

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

2.4 Would you recommend to stop NSAIDs if

a. patient is healthy

No

b. patient is healthy but had contact

No

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

3. Use of Hydroxychloroquine

3.1 Would you recommend to start hydroxychloroquine if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

3.2 Would you recommend to continue hydroxychloroquine if

a. patient is healthy

Yes

b. patient is healthy but had contact

Yes

c. patient is sick COVID-19 suspected

Yes

d. patient is sick COVID-19 positive

Yes

4. Other suggestions

