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**Strongyloides risk mitigation for immunomodulation** *(off-label or clinical trial)*

Determine risk factor for Strongyloides
Foreign-born (resource-limited settings)

- Yes
  - Proceed with immunomodulation
  - Treat empirically for Strongyloides
  - see note if from Central / West Africa*
  - Write for ivermectin 200 micrograms / kg PO dose x 1 rounded to nearest 3 mg increment
  - Repeat dose next day

- No
  - Proceed with immunomodulation

* Those from West/Central Africa may be at risk for co-infection with other filarial nematodes, which should be excluded before ivermectin administration. Please send 2 large purple top tubes to parasitology (order as a Micro miscellaneous: "Microfilarial smear"). If questions regarding test results, please email Rocio Hurtado (rhurtado@partners.org).
Tuberculosis reactivation risk mitigation for steroids (considering or receiving)
if average daily dose equals or exceeds 20 mg prednisone or equivalent

Determine risk factors for tuberculosis
- Foreign-born (resource-limited settings / TB endemic countries)
- History of incarceration
- Persons experiencing homelessness

Yes

Determine planned course of steroids
- <2 days (e.g., post-extubation, stridor)
- Course unknown or plan > 2 weeks

<2 days (e.g., post-extubation, stridor)

Determine risk factors for tuberculosis

Negligible risk:
No further action

Obtain history & perform chart review (EPIC & CareEverywhere), document history and treatment in the chart

No hx of TB or no known screening

Send Tspot

Negative

Positive or indeterminate

Possible risk for reactivation

Steroid course <= 2 weeks

Lower risk: Ensure PCP f/u at discharge

Steroid course planned or extends > 2 weeks

Higher risk: Contact ID, consider PJP ppx

No testing or intervention, unless required by clinical protocol or trial

No
Tuberculosis risk mitigation for immunomodulation (off-label or clinical trial)

Determine risk factors for tuberculosis
- Foreign-born (resource-limited settings / TB endemic countries)
- History of incarceration
- Persons experiencing homelessness

Risk factors

No risk factors

Determine possible active tuberculosis prior to COVID-19
- Take history from patient (or family if patient unable)
- Any cough and/or unintentional weight loss for the 1-2 months prior to the onset of COVID sxs (unexplained by alternate condition such as seasonal allergies, lung disease, malignancy)?

Suspicious symptoms

No suspicious symptoms

Proceed with immunomodulation

Contact ID for advice

Obtain history & perform chart review (EPIC & Care Everywhere), document history and treatment in the chart

History of treated latent or treated active TB, or prior negative screening within 1 year

No further testing
Proceed with immunomodulation

History of latent TB, untreated*

No further testing
Proceed with immunomodulation
Refer to PCP for further follow-up

Prior screening negative > 1 year, Never screened or results unknown

Send T-Spot
Proceed with immunomodulation
If positive or indeterminate, refer to PCP for further follow-up

*Exception: Patients with latent TB must have received > 4 weeks of treatment to be considered for use of baricitinib

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## Risk mitigation for immunomodulation for COVID-19 (off-label or clinical trial)

<table>
<thead>
<tr>
<th>Who is at risk?</th>
<th>Hepatitis B virus HBSAg+, untreated</th>
<th>Strongyloides</th>
<th>Tuberculosis</th>
<th>Other comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bloodborne, sexual, perinatal risks</td>
<td>Bloodborne, sexual, perinatal risks</td>
<td>Foreign-born (resource limited countries)</td>
<td>Foreign-born (resource-limited countries) Persons experiencing homelessness History of incarceration</td>
<td></td>
</tr>
<tr>
<td>All COVID-19 patients are screened on admission</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No immunomodulation</td>
<td>Call ID or hepatology</td>
<td>No action required</td>
<td>Chart review (and history) in high risk pts to determine their TB infection status (e.g. if they have a prior history of latent TB and/or prior active TB and whether they were treated).</td>
<td></td>
</tr>
<tr>
<td>Steroids</td>
<td>With guidance from ID or hepatology, consider pre-emptive tenofovir or entecavir</td>
<td>Empiric ivermectin 200 mcg/kg rounded to nearest 3 mg x 1, repeat same dose next day1</td>
<td>Depends on duration of steroids See flowchart</td>
<td>Also be aware of herpes-virus (eg HSV, CMV, VZV) reactivation syndromes If prolonged steroids, consider PJP ppx.</td>
</tr>
<tr>
<td>IL-6 antagonists (tocilizumab)</td>
<td>With guidance from ID or hepatology, consider pre-emptive tenofovir or entecavir</td>
<td>Empiric ivermectin 200 mcg/kg rounded to nearest 3 mg x 1, repeat same dose next day1</td>
<td>Take history for possible active TB2 Check exclusion criteria if trial Send TSpot4 for those with prior screening negative &gt; 1 year ago, those never screened or results unknown See flowchart</td>
<td>Pts with a hx of latent TB infection without current, active TB disease are not excluded from off-label tocilizumab or ruxolitinib, but require &gt; 4 weeks of treatment for latent TB to be considered for baricitinib Note potential increased risk of Zoster</td>
</tr>
<tr>
<td>JAK inhibitors (ruxolitinib, baricitinib)</td>
<td>With guidance from ID or hepatology, consider pre-emptive tenofovir or entecavir</td>
<td>Empiric ivermectin 200 mcg/kg rounded to nearest 3 mg x 1, repeat same dose next day1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1Re empiric ivermectin -- note the following exclusion: if a patient is West or Central African, do not give empiric ivermectin due to the potential rare complication of larval migration with certain filarial nematodes. Screen the pt with a microfilarial smear (order as a miscellaneous micro test, 2 large purple top tubes) to exclude concomitant high-titer filarial nematodes. If questions, email Rocio Hurtado (rhurtado@partners.org).

2Re eliciting a history of active TB in a patient with COVID-19: inquire whether the pt had unexplained cough and/or weight loss in the 1-2 months preceding the onset of COVID-symptoms that is otherwise unexplained by other conditions or comorbidities (e.g. seasonal allergies, underlying lung disease, malignancy). Please contact ID if there are concerns that your patient may have concomitant active TB for additional guidance.

3Tspots can be sent 24/7 including weekends. The exception is on a holiday and the day before the holiday (in which case a Quantiferon can be ordered). Please note that due to lymphopenia, a significant proportion of IGRAs will be indeterminate. Post discharge, for indeterminate results repeat screening for TB infection can be done by the pt’s PCP once the acute illness is fully resolved.