

Tocilizumab

Tocilizumab is an anti-IL6 receptor mAb that may have a role in selected patients with COVID-19 who progress to or have hyperinflammatory response syndrome.

Criteria for use:

- Confirmed COVID-19 positive
- Critical illness associated with COVID-19 (respiratory failure requiring mechanical ventilation, shock, combined failure of other organs requiring ICU care)
- Evidence of two or more abnormality associated with cytokine release: D-Dimer > 1 mcg/mL, serum ferritin > 600 mcg/L, persistent fever > 38.3C, CRP > 100 mg/L, IL-6 ≥ 3x ULN
- Ordered/recommended by infectious diseases or pulmonology with review and approval by secondary provider(s) not directly involved in the patients care.
- ALT/AST < 5x ULN
- Platelet Count is ≥ 50,000/mm³
- Absolute Neutrophil Count (ANC) is ≥ 500/mm³
- No presence of active or strongly suspected bacterial or fungal infection. Stability of these infections with appropriate antibiotics/antifungals and proceeding with tocilizumab should be carefully weighed by ordering/consulting infectious diseases and/or pulmonology physician.
- Consider avoiding use for significantly elevated procalcitonin levels (i.e > 2 ng/mL), as this may represent an active bacterial infection
- History of untreated or inadequately treated TB, or latent TB infection
- Caution if high risk of GI perforation (primarily reported as a complication of diverticulitis)

Ordering Procedure:

- Lab: Quantiferon x 1, do not wait for results to initiate tocilizumab (prechecked)
- Tocilizumab: 400 mg IV once (8mg/kg if body weight < 50kg), infuse over 60 minutes, do not infuse other drugs in same line, protect from light
- Monitoring:
 - Infusion reaction, rare (routine use of pre-medications or prn rescue medications for reaction not recommended)
 - Signs and symptoms of new or worsening infection
 - CBC with differential and LFTs

References:

Mehta P, McAuley DF, Brown M, et al. COVID-19 considers cytokine storm syndromes and immunosuppression. Lancet 2020; March 12 published online:
[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30628-0/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30628-0/fulltext)

Zhao F, Yu T, Du R, et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Whan, China: a retrospective cohort study. Lancet 2020, March 9; published online:
[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30566-3/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30566-3/fulltext)

Xu X, Han M, Li T, et al. Effective treatment of severe COVID-19 patients with tocilizumab. Reprint report.
<https://t.co/2LmKN34HjM?amp=1>