Use of Tocilizumab in COVID-19

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NORTH MEMORIAL HEALTH

During the course of their illness, patients with COVID-19 can develop high levels of proinflammatory cytokines such as interleukin-6 (IL-6), which has been be associated with more severe disease.

Tocilizumab is an IL-6 receptor monoclonal antibody that can block the effects of IL-6 during the hyperinflammatory state of severe COVID-19. Multiple studies have been performed to determine if it may benefit patients with COVID-19.

The U.S. Food and Drug Administration (FDA) has issued an Emergency Use Authorization (EUA) to permit the use of tocilizumab for the treatment of COVID-19 in hospitalized patients.

KEY POINTS

From the Infectious Disease Society of America (IDSA):

> *"Among hospitalized adults with progressive severe or critical COVID-19 who have elevated markers of systemic inflammation, the IDSA guideline panel suggests tocilizumab in addition to standard of care (i.e. steroids) rather than standard of care alone."*

Potential risks of Tocilizumab use include prolonged immunosuppression leading to secondary bacterial infections, GI/bowel perforation, reactivation of latent TB, HBV and HCV.

Inclusion Criteria:

1. CRP > 7.5 mg/dL.

2. Within 48h of new high flow nasal canula or non-invasive ventilation. Clinician may consider use in mechanically ventilated patients if hospitalized within the past 24 hours.

3. COVID-19 positive with symptom onset </= 7 days. Reduction in mortality was more likely with symptom onset </= 7 days. Clinical judgement should be used in patients with rapid decline in respiratory symptoms and symptom onset between 7-10 days.

4. On steroids for treatment of COVID-19 pneumonia with disease progression despite steroid use. This will be determined by the clinician considering the disease course thus far as well as clinical and laboratory findings.

Exclusion Criteria

1. Hospitalized > 10 days or symptom onset > 10 days.

2. Active (non-COVID) infection – viral, bacterial, TB, or fungal. If the patient is believed to have developed such an infection after admission, Tocilizumab administration should then be stopped or withheld.

3. ALT/AST > 5x upper limit of normal.

4. Platelets < 50K/UL.

5. Imminent death.

If the patient is immunocompromised but would otherwise be a candidate for Tocilizumab, consider an Infectious Disease consult to review risks and benefits of giving this medication based on the patient's case.

***Tocilizumab can not be used in conjunction with baricitinib.**

References:

RECOVERY Collaborative Group. Tocilizumab in patients admitted to hospital with COVID-19 (RECOVERY): preliminary results of a randomised, controlled, open-label, platform trial. BMJ. 2021.

The REMAP-CAP Investigators. Interleukin-6 Receptor Antagonists in Critically Ill Patients with Covid-19 – Preliminary report. BMJ. 2021.

COVID-19 WORKGROUP FOR THE ACUTE MEDICINE CLINICAL PRACTICE COUNCIL

This team represents expertise in COVID-19. If you would like further information, please contact the work group lead, Cameron Berg, cameronberg@northmemorial.com.

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Revision History

This document is active and further recommendations are forthcoming. It will be updated as additions develop.

Revision	Description of Changes	Approvals	Date
1.0	Initial Document	Acute Medicine Clinical Practice Council	2/24/2021
2.0	Revision of inclusion and exclusion criteria	Acute Medicine Clinical Practice Council	08/13/2021