Baricitinib Use 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, which have been associated with more severe disease.

Baricitinib (Olumiant) is a Janus kinase (JAK) inhibitor. Inhibition of JAKs prevent the activation of signal transducers and activators of transcription which regulate gene expression and intracellular activity, reduces serum IgG, IgM, IgA, and C-reactive protein.

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

Potential risks of baricitinib (Olumiant) use include prolonged immunosuppression leading to secondary bacterial infections, reactivation of latent TB, HBV, and HCV

KEY POINTS

Inclusion Criteria:

1. Elevated CRP, D-Dimer, LDH or ferritin (>ULN on day of evaluation for use).
2. Within 48h of new high flow nasal cannula or non-invasive ventilation (CPAP, BiPAP).
3. COVID-19 positive with symptom onset </= 10 days.
4. On steroids for treatment of COVID-19 pneumonia with disease progression despite steroid use.

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, baricitinib administration should then be stopped or withheld.
3. ALT/AST > 5x upper limit of normal, eGFR < 30 ml/min.
4. ANC <500 cells/µL (0.5 K/µL), ALC < 200 cells/µL. (0.2 K/µL)
5. On a strong OAT3 inhibitor & unable to hold (probenecid), on another JAK inhibitor or biologic disease modifying anti-rhematic agent. Received tocilizumab, or a monoclonal antibody for the treatment of COVID-19.
6. Recent (within 12 weeks), recurrent (>1), or active VTE.
7. Imminent death.

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

***Baricitinib cannot be used in conjunction with tocilizumab**

References:

Kalil AC et al. Baricitinib plus remdesivir for hospitalized adults with COVID-19. NEJM 2021 384(9): 795-807.

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	08/13/2021
2.0	Update to criteria for use	Acute Medicine Clinical Practice Council	8/25/2021