Catholic Health System

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Quick Guide: Pharmaceutical Treatments for COVID-19 in Hospitalized Patients

1. Dexamethasone

Dexamethasone is the only pharmaceutical intervention to date with strong evidence for reducing mortality in patients with COVID-19. Dexamethasone dosed at 6mg daily for 10 days (IV or PO) is associated with a significant reduction in mortality in patients with COVID-19 that exhibit hypoxia (defined as an oxygen saturation of <94% on room air).[1]

Recommended indication for use of Dexamethasone

- Oxygen saturation below 94% on room air
- Duration of therapy is 10 days
- 6 mg daily dosing can be provided PO or IV
- Therapy should not be discontinued before 10 days unless there is an adverse event

2. Remdesivir

There is limited evidence that remdesivir can reduce the duration of illness in a select group of hospitalized individuals with COVID-19.

Recommended indication for use of Remdesivir:

- Oxygen Saturation below 94% on room air BUT NOT requiring any of the following: BIPAP, Mechanical Ventilation, ECMO
- Maximum duration of therapy is 5 days.
    - If the patient is sufficiently recovered for discharge before that time, the drug should be discontinued and the patient should be discharged.
    - If patients initiated on remdesivir subsequently require BIPAP, Mechanical Ventilation or ECMO, the drug should be continued to complete the treatment course.
- Dosing: 200 mg IV X 1 then 100 mg daily up to 5 days
    - Contraindicated with GFR<30
    - Monitor CrCl, LFT's and PTT on therapy

3. Convalescent Plasma (CP)

There is mixed evidence on the efficacy of CP for the treatment of COVID-19. Some studies suggest a mortality and duration of illness benefit.

Recommended indication for use of Convalescent Plasma

- SARS-CoV-2 IgG levels should be obtained prior to ordering CP.
- CP may be considered in hospitalized patients that test negative for SARS-CoV-2 IgG antibodies.
- The patient or healthcare proxy must be provided with the FDA emergency use authorization patient sheet as part of the consent process for giving CP. The consent for can be found here: https://www.fda.gov/media/141479/download
- CP should be ordered as a single unit of fresh frozen plasma. Comment in the order for the blood bank should clearly state: "**COVID-19 Convalescent Plasma**".

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Clinical Research Study for the Treatment of COVID-19 at Catholic Health

The study is a Phase 2, double blind, randomized, placebo-controlled study to evaluate a compound called CSL312 in COVID 19.

Background: Coagulation factor XII (FXII) is the principal initiator of the plasma contact phase system. FXII is converted to activated coagulation factor XII (FXIIa), leading to the production of bradykinin (BK). BK binds to receptors which activate various intracellular signaling pathways that dilate vessels, induce chemotaxis of neutrophils, and increase vascular permeability and fluid efflux. FXIIa also initiates the intrinsic coagulation pathway through cleavage and subsequent activation of coagulation factor XI (FXI). FXII has potent proinflammatory and procoagulant activities as well.

The study drug called CSL312 is a **FXIIa inhibitor.**

The study hypothesis is that FXII inhibition attenuates progression of SARS-CoV-2-related respiratory disease toward severe pneumonia and ARDS. The study will test whether FXII-targeted interventions will attenuate vascular leakage and expression of inflammatory mediators associated with progressive COVID 19 pneumonia and ARDS. FXII inhibition additionally may have a beneficial effect on DIC through attenuation of intrinsic coagulation-driven thrombosis and hypercoagulability seen in COVID 19.

To be a candidate for the study, the patient must have:

1. Positive for coronavirus-2 (SARS-CoV-2) infection confirmed by a clinically acceptable test
2. Chest computed tomography (CT) scan or X-ray results must confirm pneumonia
3. Plus at least **1** of the following:
    a. Respiratory rate of greater than 30 breaths per minute
    b. SpO2≤ 93% on room air
    c. Ratio of arterial partial pressure of oxygen to fraction of inspired oxygen (PaO2/FiO2) < 300
    d. SpO2/FiO2) ratio < 218 (if PaO2/FiO2 ratio is not available)
    e. Radiographic Lung Infiltrates >50%

Importantly, patients who agree to participate in this study may continue to receive standard of care treatment including: Remdesivir, convalescent antibodies and dexamethasone or other steroids.

If you have any questions regarding this study or have a patient who might be eligible for participation in this study or any COVID research study, please have them call:

Lead study coordinator: Theresa Giambra, RN at 716-818-9635
Or
Principal Investigator: Brian Snyder, MD at 716-472-0573.

In the very near future, we will be studying 2 additional compounds for efficacy in the treatment of COVID 19 so if the inclusion criteria are not for a patient, they may be eligible for another study. Feel free to contact either of the above at any time.

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Treatments that should NOT be used:

Tocilizumab/IL-6 Inhibitors

The IL-6 inhibitor, Tocilizumab, was investigated as a possible treatment for COVID-19 in an effort to disrupt multisystem organ dysfunction and acute lung injury. Several randomized trials failed to show a benefit.

- Tocilizumab is **not** recommended for the treatment of COVID-19 due to lack of efficacy observed in three RCT's.

Hydroxychloroquine (+/- Azithromycin)

Numerous trials have failed to demonstrate any efficacy in the use of hydroxychloroquine with or without azithromycin for the treatment or prevention of COVID-19

- Hydroxychloroquine (+/- Azithromycin) is **not** recommended for the treatment or prevention of COVID-19 due to lack of efficacy observed in several RCT's and potential for significant adverse events.

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