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MEDICAL CENTER

COVID PHARMACOTHERAPY

Pharmacy

DEXAMETHASONE

Early evidence of benefit seen with low dose dexamethasone in severe COVID infections.

- Use is recommended in patient who require supplemental oxygen or ventilator support.
- Dose recommended is a low dose regimen of 6mg daily for 10 days.
- Why is it recommended?
  - The preliminary report suggested a reduction in 28 day mortality among hospitalized patients. This benefit was not seen in patients that did not require either oxygen or ventilator support. Hence it's suggested restriction to use in those patients.

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REMDESIVIR

Available to patients with severe COVID -19 infection defined as (SpO_2 ≤94 percent on room air, requiring supplemental oxygen, mechanical ventilation, or ECMO).

- Medication is available through the Emergency Use Authorization (EUA) and is distributed by allocation to hospitals based on state/county data. Supply is limited

How does it help?

- Acts as a place holder and competes for incorporation into RNA of the virus, this leads to viral RNA replication delays and termination.

- Exclusion criteria
  - ALT > or = to 5x the upper limit of normal. There have been case reports of ALT levels increase rapidly once placed on this drug, so individuals with poor liver function are to be excluded.
  - Poor kidney function eGFR <30mL/min. The pharmacokinetics in renal impairment have not been studied yet, but the formulation contains cyclodextrin a component in other medications that accumulates with renal impairment.
    - It may be used in this patient population if the potential benefit outweighs the risk at physician discretion
  - Should not be used in combination with hydroxychloroquine or chloroquine, drug interactions possibly exist that result in Remdesivir failure.

- Benefit of Remdesivir?
  - Reduction in time to recovery, but currently data has no confirmed whether it has a reduction in mortality.

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REMDESIVIR CONTINUED

Important info

- Because medication is used under an EUA, education must be provided to patient or caregiver with the "Fact Sheet for Patients and Parent/Caregivers". This must be documented in the patient's medical record that the patient/caregiver has been:
  - Given the Fact Sheet for Patients and Parents/Caregivers prior to administration
  - Informed of the alternatives to receiving Remdesivir
  - Informed that Remdesivir is an unapproved drug that is authorized for use under EUA

Dosing

- Loading dose on day one of 200mg IV, followed by 100mg IV on days 2-5.

Side effects

- Most commonly nausea, vomiting, and increases in ALT.
  - Less common were anemia, acute kidney injury, fever, hyperglycemia, and GI disturbances.

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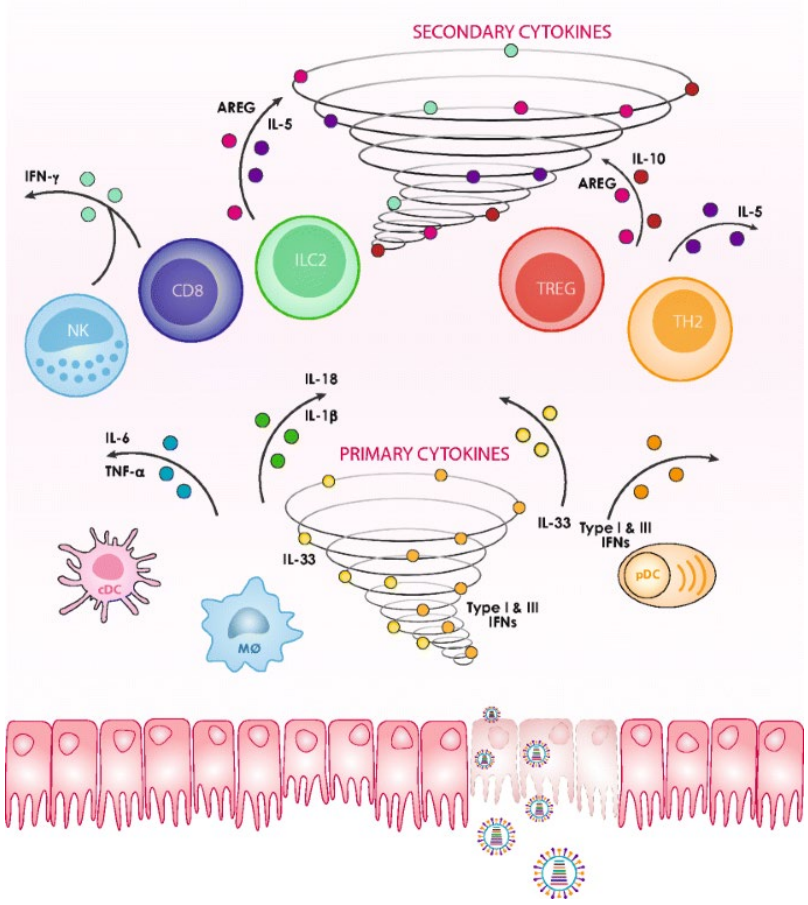
IL-6 PATHWAY INHIBITORS

COVID-19 has been associated with elevated inflammatory markers (D-dimer, ferritin) and elevated cytokines. This includes the cytokine IL-6 which has been associated with critical and fatal COVID-19.

IL-6 inhibitors are hypothesized to block this pathway and thus prevent disease progression. The use of Tocilizumab is being evaluated in randomized trials for COVID-19.

While there is some data describing a decreased risk of invasive mechanical ventilation, it has also been associated with secondary infections.

Use should be limited to salvage therapy if considered until more trials have been completed.



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HYDROXYCHLOROQUINE /CHLOROQUINE

Use in hospitalized patients is currently no longer recommended by the FDA which revoked the emergency use authorization for these medications due to conflicting data in regards to potential benefits vs risks.

It's use is recommended to be limited to the context of a clinical trial because of a greater level of uncertainty or potential for toxicity.

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OTHER MEDICATIONS

NSAIDs (Non Steroidal Anti-inflammatory Drugs)

There is very little data in regards to the risk of this class of medication in the setting of COVID.

- Acetaminophen is the preferred agent for fever if possible.
  - NSAIDs may be used if needed at the lowest effective dose. There are currently no recommendations to discontinue the use of this class if the patient takes for other chronic conditions, unless there are other reasons to stop them (GI bleed etc.)

Use of nebulized medications should be avoided if possible.

- Recommend the use of metered dose inhaler if possible to avoid the risk of aerosolization of COVID.

Ace inhibitors/ARB's

- Treatment should be continued in patient's that routinely take these medications if there are no other reasons to discontinue (kidney injury/hypotension).
- These medications are not being used as a potential treatment for COVID-19.

Statins

- Should be continued in hospitalized patients who are already taking them, as many patients with severe COVID-19 have heart disease/diabetes/and other indications which call for use of statins.

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