

Anti-inflammatories and anti-infectives for COVID-19

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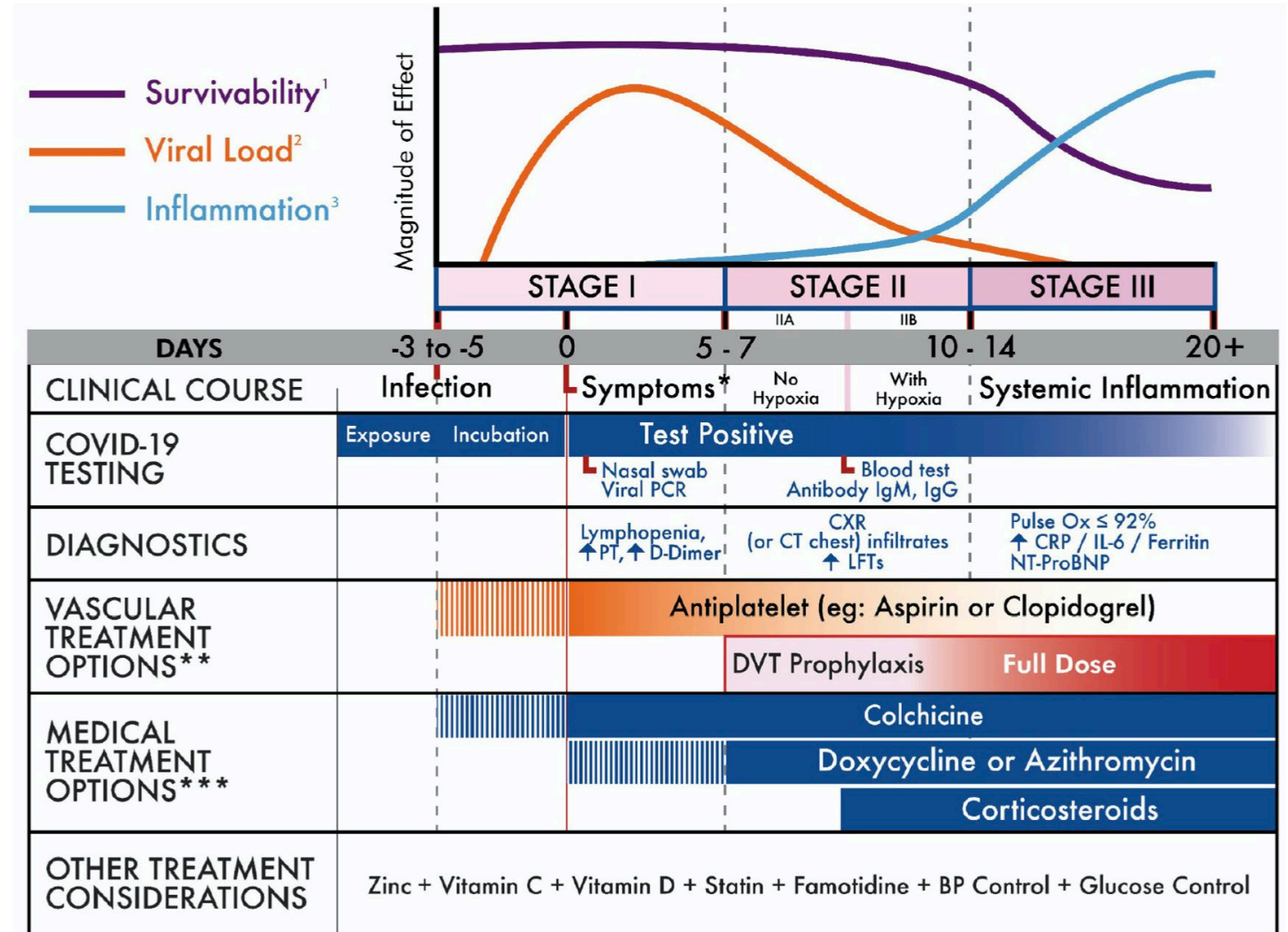
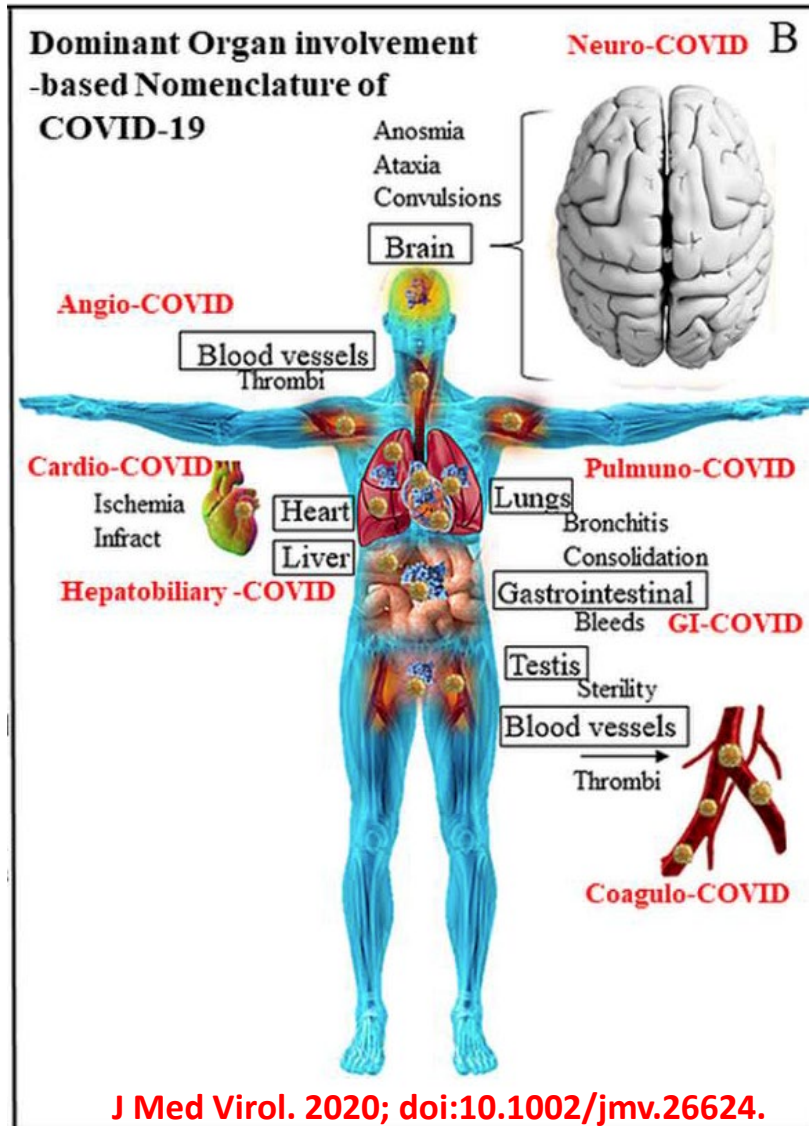
Groote Schuur Hospital

3rd June 2021



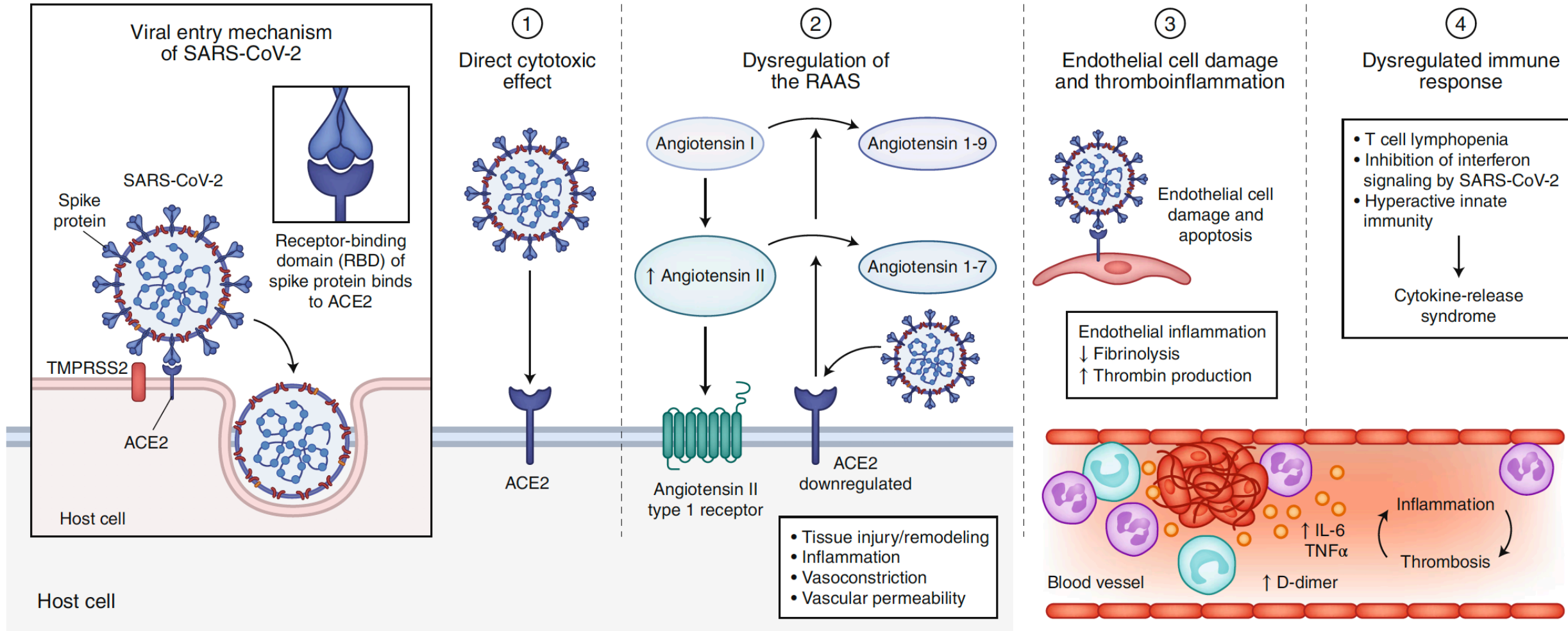
1938-2018

Multisystem and biphasic (viral replication-inflammation)



Front Med. 2020; 7:555301.doi: 10.3389/fmed.2020.555301.

COVID-19 Pathophysiology



Bacterial co-infections in COVID-19

Review

Bacterial coinfections in coronavirus disease 2019 [Trends Microbiol. 2021; S0966-842X\(21\)00094-9](#)

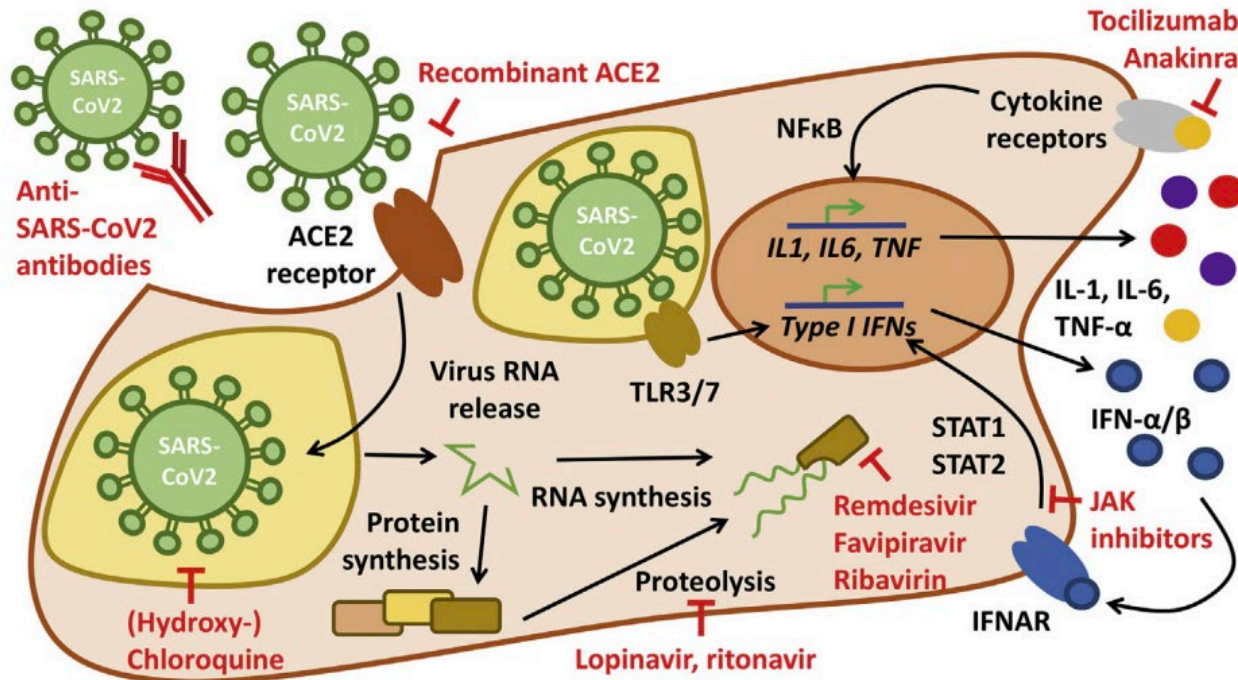
Rates of bacterial co-infections and antimicrobial use in COVID-19 patients: a retrospective cohort study in light of antibiotic stewardship [Eur J Clin Microbiol Infect Dis. 2021; 40:859-869](#)

Recommendations for antibacterial therapy in adults with COVID-19 – an evidence based guideline [Clin Microbiol Infect. 2021; 27:61-66.](#)

RESEARCH ARTICLE

PLOS ONE Prevalence and outcomes of co-infection and superinfection with SARS-CoV-2 and other pathogens: A systematic review and meta-analysis [PLoS ONE. 2021;16\(5\):e0251170.](#)

Anti-viral therapy for COVID-19



Remdesivir

- Nucleoside analogue prodrug active against RNA viruses
- Binds to viral RNA-dependent RNA polymerase & Inhibits viral replication through premature termination of RNA transcription.

From SOLIDARITY trial and ACTT-1 trial:

- **Individuals at high risk of hyperinflammation who are diagnosed early during illness ≤ 10 days & require supplemental oxygen, remdesivir shortens the time to recovery & reduces the risk of progression.**
This clinically important endpoint is cost-effective in some health-care settings.
- For patients with mild or moderately severe COVID-19 & no need for respiratory support, remdesivir does not offer significant benefit at day 28 and its use is not recommended.

medRxiv 2020.doi.org/10.1101/2020.10.15.20209817.

N Engl J Med. 2020; 383:1813-26.

Lancet 2020; 395:1569-78.

Anti-inflammatories

Dexamethasone in Hospitalized Patients with Covid-19

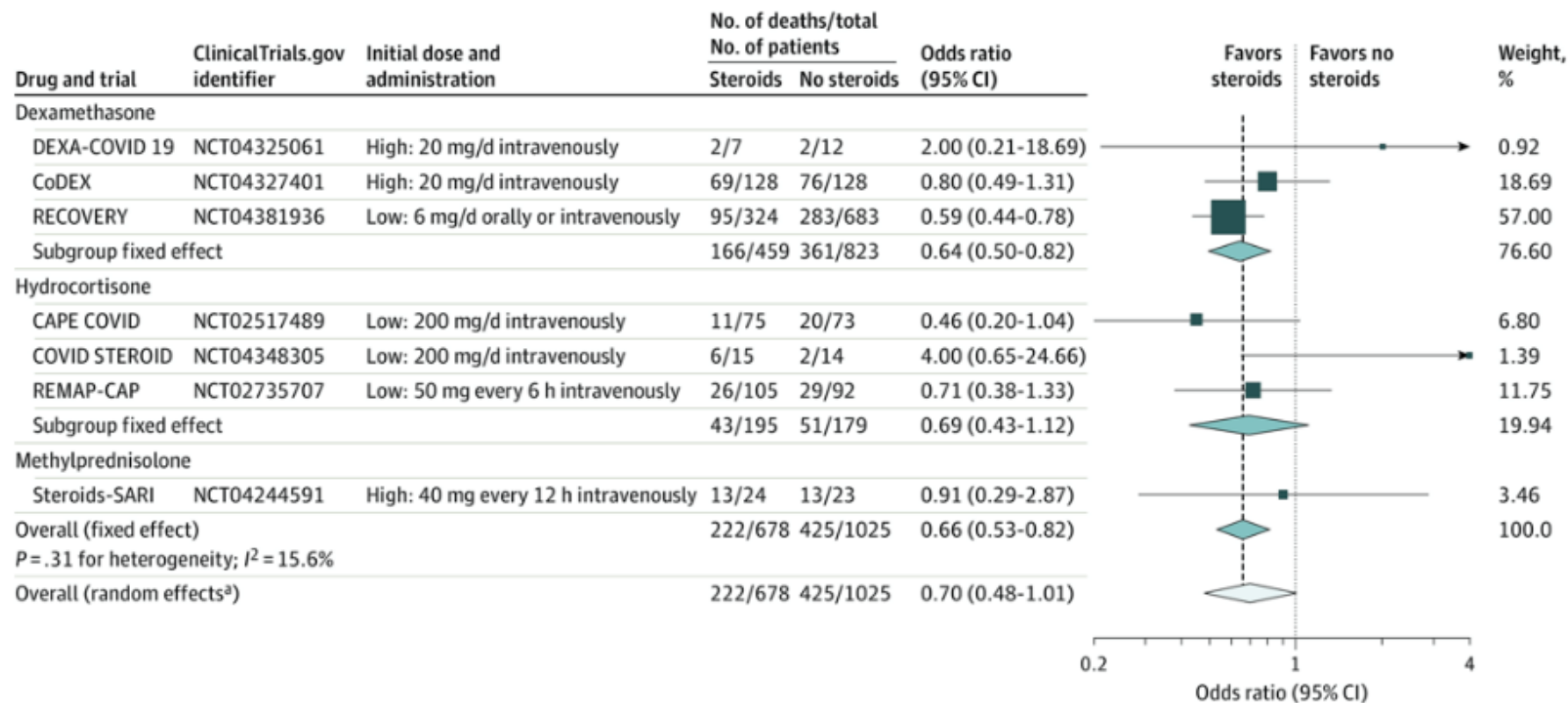
Respiratory Support at Randomization

Invasive mechanical ventilation

Oxygen only

No oxygen received
All Patients

Chi-square trend across



Association Between Corticosteroids and 28-Day All-Cause Mortality in Each Trial, Overall, and According to Corticosteroid Drug

N Engl J Med. 2021;384:693-704.

JAMA. 2020; 324(13):1330-1341.

**Tocilizumab in patients admitted to hospital with COVID-19
(RECOVERY): a randomised, controlled, open-label, platform trial**

[Lancet. 2021; 397\(10285\):1637-1645.](#)

ORIGINAL ARTICLE

**Baricitinib plus Remdesivir for Hospitalized
Adults with Covid-19**

[DOI:10.1056/NEJMoa2031994](#)

**Colchicine in patients admitted to hospital with
COVID-19 (RECOVERY): a randomised, controlled,
open-label, platform trial**

[medRxiv 2021.doi.org/10.1101/2021.05.18.21257267](#)

Conclusion

Therapies for Hospitalized COVID-19 patients

Established

Glucocorticoids

Anticoagulation

IL-6 Receptor antagonists- Tocilizumab

Remdesivir

Possible

- Colchicine
- Anticoagulation
- Convalescent plasma
- Janus kinase (JAK) inhibitor-
Baricitinib