

Strategies to support the COVID-19 response in LMICs

A virtual seminar series

Resource Page

Therapeutics Landscape for COVID-19

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Summary/Key Points:

- Remdesivir
 - o Mechanism: adenosine nucleoside analog
 - o Basis: cell/animal model in MERS-CoV, SARS-CoV, etc.
 - o Clinical trial: over 18 days, 68% improvement in oxygen support & 57% extubation. 23% serious adverse events & 13% death
 - Grein J, et al. N Engl J Med. doi: 10.1056/NEJMoa2007016 (2020).
- Lopinavir/ritonavir
 - o Mechanism: protease inhibitor
 - o Basis: cell model in MERS-CoV, SARS-CoV, etc.
 - o Clinical trial: faster resolution of fever but no difference in time to clinical improvement, mortality, viral clearance
 - Cao B, et al. N Engl J Med. doi: 10.1056/NEJMoa2001282 (2020). , Ye XT, et al. Eur Rev Med Pharmacol Sci. 2020;24(6):3390-339
- hydroxychloroquine
 - o Mechanism: inhibits viral fusion by alkalinizing endosome, interferes with receptor glycosylation
 - o Basis: cell model in SARS-CoV
 - o Clinical trial: faster resolution of fever and cough, but no difference in viral clearance or other clinical outcomes
 - Chen Z. medRxiv preprint doi: <https://doi.org/10.1101/2020.03.22.20040758>
- Hydroxychloroquine + azithromycin
 - o Clinical trial: faster viral clearance
 - Gautret P and Lagier JC et al. Int J Antimicrob Agents (2020), doi: <https://doi.org/10.1016/j.ijantimicag.2020.105949>. Kim AHJ, Sparks JA et al. Ann Intern Med. Doi:10.7326/M20-1223
- Observational cohort
 - o tocilizumab: 19% discharge by time of paper submission
 - Xu X, et al. <http://www.chinaxiv.org/abs/202003.00026> (Accessed 4/19/2020).
 - o siltuximab: 33% improvement
 - Gritti G, et al. <https://www.medrxiv.org/content/10.1101/2020.04.01.20048561v2.full.pdf>