

COVID-19

June 22, 2020

Recommendation regarding the use of Ivermectin as a treatment for COVID-19

A recent study (1) informed that ivermectin was successfully used *in vitro* for the treatment of SARS-CoV-2 in experimentally infected cells and two preprint publications (2,3) on observational clinical studies reported the apparent utility of ivermectin to treat patients with COVID-19 needing mechanical ventilation. However, neither of these studies were peer-reviewed nor formally published and one of them (3) was later retracted.

The Pan American Health Organization (PAHO) compiled an evidence database of potential COVID-19 therapeutics for which a rapid review was carried out of all COVID-19 *in vitro* (lab) and *in vivo* (clinical) human studies published from January to May 2020 (4). This review concluded that the studies on ivermectin were found to have a high risk of bias, very low certainty of evidence and that the existing evidence is insufficient to draw a conclusion on benefits and harms.

Though the effectiveness of ivermectin is currently being evaluated in various randomized clinical trials, the World Health Organization (WHO) excluded ivermectin from its co-sponsored “Solidarity Trial” for Covid-19 treatments (5), an effort to find an effective treatment for COVID-19.

The Mectizan® (ivermectin) Expert Committee Statement on Potential Efficacy of Ivermectin on COVID-19 (6) emphasized that the laboratory results showing efficacy of ivermectin to reduce viral loads in laboratory cultures, at dosage levels far beyond those approved by the FDA for treatment of parasitic diseases in humans, are not sufficient to indicate that ivermectin will be of clinical benefit to reduce viral loads in COVID-19 patients. Chaccour et al. (7,8) caution against using *in vitro* findings as more than a qualitative indicator of potential efficacy and emphasize that “...due diligence and regulatory review are needed before testing ivermectin in COVID-19.”

Despite this, ivermectin is incorrectly being used for the treatment of COVID-19, without any scientific evidence of its efficacy and safety for the treatment of this disease (7-9). Injectable ivermectin formulated for veterinary use has also wrongly been used for treatment of COVID-19, according to some reports (9).

WHO and PAHO encourage the use of unproven therapies to be undertaken in the context of a randomized clinical trial (RCT). WHO’s position on off-label use of treatments for COVID-19 can be found at <https://www.who.int/news-room/commentaries/detail/off-label-use-of-medicines-for-covid-19>

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For all the reasons mentioned and in accordance with the organization's position on use of medicines without scientific evidence of their benefit for COVID-19 (10), PAHO advises against using ivermectin for any other purposes different than for those which use is authorized for.

References

1. Caly L, Druce JD, Catton MG, Jans DA. The FDA-approved drug ivermectin inhibits the replication of SARS-CoV-2 in vitro. *Antiviral research*, 2020.
2. Patel, A, Desai S. Ivermectin in COVID-19 Related Critical Illness (April 6, 2020). Available at <http://dx.doi.org/10.2139/ssrn.3570270>.
3. Patel A, Desai S, Grainger DW, Mehra MR. Usefulness of Ivermectin in COVID-19 Illness. Department of Bioengineering, University of Utah, Salt Lake City, UT; HCA Research Institute, Florida (2020).
4. PAHO. Ongoing living updates of potential COVID-19 therapeutics: Summary of rapid systematic reviews. June 16 2020. Available at: <http://www.paho.org/en/documents/ongoing-living-update-potential-covid-19-therapeutics-summary-rapid-systematic-reviews>
5. World Health Organization. 2020. "Solidarity" clinical trials for COVID-19 treatments. Available at: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/global-research-on-novel-coronavirus-2019-ncov/solidarity-clinical-trial-for-covid-19-treatments>
6. Mectizan Expert Committee Statement on Potential Efficacy of Ivermectin on COVID-19. Available at <https://mectizan.org/>
7. Chaccour CJ, Brew J, García A. Ivermectin and COVID-19: How a Flawed Database Shaped the Pandemic Response of Several Latin-American Countries. Available at: <https://www.isglobal.org/en/healthisglobal/-/custom-blog-portlet/ivermectin-and-covid-19-how-a-flawed-database-shaped-the-covid-19-response-of-several-latin-american-countries/2877257/0%20#>
8. Chaccour C, Hammann F, Ramón-García S, Rabinovich NR. Ivermectin and COVID-19: Keeping rigor in times of urgency. *Am J Trop Med Hyg.* 2020; 102: 1156–7. Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7253113/>
9. Offord C. Surgisphere Sows Confusion About Another Unproven COVID-19 Drug. *The Scientist* June 16, 2020. Available at: <https://www.the-scientist.com/news-opinion/surgisphere-sows-confusion-about-another-unproven-covid19-drug-67635#.XuvRkGUQfjI.email>
10. PAHO. Safety of COVID-19 Patients and Use of Medicines without Scientific Evidence of Their Benefit, 26 May 2020. Available at: <https://iris.paho.org/handle/10665.2/52256>