

Hydroxychloroquine: New scientific study refutes the quack-in-chief

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This week, President Trump stunned journalists when he admitted that he was using hydroxychloroquine and thought it a “good idea” and had “heard a lot of good stories.” He also remarked that many frontline health workers and first responders were taking it. He insisted that the VA study was seriously flawed and claimed, once again, that “it doesn’t hurt people” and “you’re not going to get sick or die.” He even suggested that the White House doctor had agreed with his idea.

The National Institutes of Health updated its guidelines on May 12, stating that there is “insufficient clinical data to recommend either for or against” the use of hydroxychloroquine or chloroquine. Even the FDA has moved, after having granted emergency use authorization for the medications, to caution against the use of these drugs outside of trials.

The publication of the release of a multinational observational study by *The Lancet* pours cold water over President Trump’s quackery. It would be instructive to review the timeline and research into the use of hydroxychloroquine and COVID-19.

On Friday, *The Lancet* published their multinational registry analysis of the use of hydroxychloroquine or chloroquine with or without azithromycin for the treatment of COVID-19, compared with those who received only supportive care. In the observational study of 96,032 patients hospitalized across six continents at 671 different hospitals, the authors found that there was “a significant increase in the risk of in-hospital mortality with the four treatment regimens compared with the control group.”

Worrisome, in their findings, was the incidence of dangerous heart rhythms in patients taking azithromycin with hydroxychloroquine and chloroquine that ranged from 4.3 to 8.1 percent. In comparison, such events occurred in only 0.3 percent of the control group. The groups that only received hydroxychloroquine or chloroquine, without azithromycin, had similar risks for ventricular arrhythmia.

Most significantly, while 9.3 percent of patients in the control group died in the hospital, 18 percent died in the group receiving hydroxychloroquine, 16.4 percent in the chloroquine group, 23.8 percent in the group receiving hydroxychloroquine with antibiotics and 22.2 percent in the group with chloroquine and antibiotics. In scientific jargon—and considerable understatement—the report concluded, “we were unable to confirm a benefit of these medications used alone or with a macrolide antibiotic [azithromycin], on in-hospital outcomes for COVID-19.”

The weight of the evidence suggests that the use of

hydroxychloroquine is not only ineffective but may be causing more harm by hastening the patient’s death. Arguably, observational studies carry biases, and these should be considered. Yet, *The Lancet* study showing the clinically significant result in worse outcomes (see figures 1 and 2) is based on the evidence of a vast number of participants that provides its validity. The fact that the virus causes injury to blood vessels and the circulatory system may enhance the side effect profiles of these medications. It becomes even more necessary to design trials that can provide the required evidence to treat COVID-19 while ensuring the safety of these medications. *The Lancet* study is only the most recent refutation of the claimed benefits of hydroxychloroquine, which the mad “scientist” in the White House shouts from his podium.

On April 21, a Veterans Administration study of hydroxychloroquine was posted on a preprint server that led to serious concerns about the safety of hydroxychloroquine and chloroquine in COVID-19 patients. In this study, 368 men hospitalized with COVID-19 were placed in three groups: 158 received supportive care, 113 received hydroxychloroquine with azithromycin antibiotic and 97 hydroxychloroquine alone. The risk of needing ventilation in the three groups was similar. But the groups receiving hydroxychloroquine alone or with the antibiotic, azithromycin, had a significant or a trend towards significance for risk of death at twice the rate.

This followed a randomized control trial from China published in April of 150 patients divided into two groups. The overall 28-day negative conversion rate of SARS-CoV-2 was similar in the two groups at 85.4 percent vs. 81.3 percent. Neither group converted faster than the other. However, adverse effects were worse in the hydroxychloroquine arm of the study, with 8.8 percent in the standard control arm and 30 percent in the hydroxychloroquine arm. By the end of the study period, the two arms also had similar alleviation of symptoms of the infection. However, the study was faulted for poor design and randomization process but provided further evidence against these medications’ efficacy.

Based on these studies, the Infectious Diseases Society of America wrote on April 14 that there was insufficient evidence to recommend any particular medication for the treatment of COVID-19 and that a considerable knowledge gap existed on the efficacy of the drug. They suggested that the use of hydroxychloroquine and azithromycin be prescribed under an investigative clinical trial.

On May 11, the *Journal of the American Medical Association* published an observational study looking at the association between the use of hydroxychloroquine and azithromycin with in-hospital mortality in patients with COVID-19 in New York state. With 25 hospitals participating, including 1,438 patients, the overall mortality was a staggering 20.3 percent. In those that did not use hydroxychloroquine, with or without azithromycin, the mortality incidence was 10 to 12 percent. For those taking hydroxychloroquine, the mortality incidence rose to 19.9 percent and was highest in the group that received both hydroxychloroquine and azithromycin, with 25.7 percent succumbing.

The WSWS has reviewed early studies on hydroxychloroquine which produced similar results, although the most recent findings are the most dire. There appears to be a perverse relationship between medical science and Trump administration policy: the more President Trump celebrates a possible medicine or vaccine, the more dubious it is likely to be.

Early in the course of the disease, when the pandemic was still primarily confined to Wuhan city in the Hubei province of China, therapeutics were urgently sought to mitigate the severity of COVID-19. On February 17, 2020, when there were 70,548 cases and 1,770 deaths on the mainland, the State Council of China held a news briefing indicating that the drug chloroquine had shown efficacy and sufficient safety in treating infected patients in multicenter clinical trials. These were based on clinical observations and not randomized trials that compared patients between the drug and a placebo. The selection of chloroquine had been selected based on in-vitro studies showing COVID-19 infection could be blocked.

The frequently cited Chinese observational study of 100 people had suggested that chloroquine was superior to supportive care in inhibiting the exacerbation of pneumonia, improving lung imaging findings, more rapid conversion to negative on viral testing, and shortening hospital stay. Yet, data for this study was not available and continues to remain unavailable for review by this author. However, one randomized Chinese study published in the *Journal of Zhejiang University*, a small trial of 30 patients, showed no difference in the duration of the hospitalization, time for fevers to break, and improvement in lung imaging.

By the first half of March, the pandemic was gaining a foothold in Italy and the rest of Europe. Concerns were growing about the epidemic in the US despite President Trump's constant assurances. Two studies cited from this period led to selecting hydroxychloroquine, brand name Plaquenil, instead of chloroquine in the treatment of COVID-19. The first study was published in *Clinical Infectious Disease* on March 9, 2020. The in-vitro study found that hydroxychloroquine shared the same mechanism of action as chloroquine. Still, its more tolerable safety profile had made it the preferred drug for the treatment of patients with autoimmune conditions or chloroquine-sensitive malaria. The authors also reported that hydroxychloroquine was more potent than chloroquine. "*In vitro*" means that the studies on the interaction of the drugs with the virus were done in the laboratory outside of their "biological context" in human beings. Though these *in-vitro* results appear promising, they do not necessarily

predict equivalent responses when the medications are administered to people.

The second paper cited was an Italian study published in March in the *Journal of Critical Care* titled, "A systematic review on the efficacy and safety of chloroquine for the treatment of COVID-19." It was an attempt to summarize the evidence for chloroquine as there was no known effective pharmaceutical treatment for COVID-19. The authors reported on six relevant articles—one narrative letter, one research letter, one editorial, one expert consensus paper in Chinese, one national guideline document in Dutch, and one in Italian—which include the above-mentioned studies. Hardly a compendium based on rigorous scientific investigation, by any standard.

In the conclusion, they write, "there is sufficient pre-clinical rationale and evidence regarding the effectiveness of chloroquine for the treatment of COVID-19 as well as evidence of safety from long-time use in clinical practice for other indications to justify clinical research on the topic." The World Health Organization endorsed the use of hydroxychloroquine only in randomized clinical trials to assess its benefit. Their present SOLIDARITY Trial is using these drugs as one of a five-arm investigation into various agents as therapeutic agents in the treatment of patients with COVID-19. But the WHO strongly discouraged its use outside of such studies and warned that the drug was in short supply as many physicians were prescribing the medication off label. The agency cited these medications' potentially dangerous side effects, which include damage to the eye's retina, low blood sugar, and dangerous ventricular arrhythmia (a potentially fatal heart rhythm), and congestive heart failure.

The president's irrational remarks undoubtedly threaten to harm and even cause the death of many patients with COVID-19, who if they had heeded sound medical advice would have certainly been spared. But Trump's personality only reveals the sociopathic character of the social system which he represents and defends: capitalism.

The corporate media for the most part expressed shock and disapproval of Trump's declaration that he was taking hydroxychloroquine. There is no such shock and disapproval, however, when corporate America and every state governor, Democrat and Republican alike, reopen the economy and order workers back to their jobs, dismantling social distancing and threatening the lives of countless thousands. From a scientific standpoint, both actions are unjustified, irrational and extremely dangerous



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