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Abstract

COVID-19 has rapidly become a pandemic for which no antiviral drug or vaccine is yet available^{2–4}. Several clinical studies are ongoing to evaluate the efficacy of repurposed drugs that have demonstrated antiviral efficacy *in vitro*. Among these candidates, hydroxychloroquine (HCQ) has been given to thousands of individuals worldwide but definitive evidence for HCQ efficacy in treatment of COVID-19 is still missing^{6,7,17,18}. We evaluated the antiviral activity of HCQ both *in*

vitro and in SARS-CoV-2-infected macaques. HCQ showed antiviral activity in African green monkey kidney cells (VeroE6) but not in a model of reconstituted human airway epithelium. In macaques, we tested different treatment strategies in comparison to placebo, before and after peak viral load, alone or in combination with azithromycin (AZTH). Neither HCQ nor HCQ+AZTH showed a significant effect on the viral load levels in any of the tested compartments. When the drug was used as a pre-exposure prophylaxis (PrEP), HCQ did not confer protection against acquisition of infection. Our findings do not support the use of HCQ, either alone or in combination with AZTH, as an antiviral treatment for COVID-19 in humans.

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Supplementary information

Supplementary Tables

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