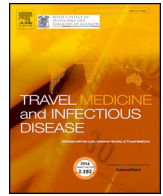




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Malaria prophylaxis approach during COVID-19 pandemic

Dear Editor,

Malaria drugs chloroquine and hydroxychloroquine are currently being evaluated in a number of clinical trials as active treatments against SARS-CoV-2 virus. They are also postulated for pre and post-exposure prophylaxis for the prevention of COVID-19. It has been recently shown that both molecules inhibit in-vitro the entry of the virus in the cell, and they can stop the cytokine storm derived from the infection alongside impeding T cell activation [1,2]. In particular, hydroxychloroquine is a drug with an excellent safety profile, even for pregnant women. Furthermore, hydroxychloroquine has been successfully used during decades for the management of rheumatologic diseases modulating inflammation and organ damage [3].

Our research group in Hospital Clínic Barcelona-ISGlobal is currently conducting a randomized double-blinded controlled clinical trial to evaluate the efficacy of low doses of hydroxychloroquine as pre-exposure prophylaxis to avoid SARS-CoV-2 infection in high-risk health care workers (NCT04331834). The trial will test the safety and efficacy of hydroxychloroquine against placebo and it will determine whether hydroxychloroquine is effective in reducing the risk of acquiring SARS-CoV-2 infection.

According to WHO [4], experience from previous outbreaks such as Ebola outbreak in 2014, epidemics as COVID19 could lead to an important increase of malaria cases and deaths in low and middle income countries. This is caused by the sudden cut of malaria programmes of prevention, detection and treatment as well as an increased difficulty or limitation to access to health facilities, especially in vulnerable parts of Sub-Saharan Africa. It is also expected that the same countries will suffer the spread of SARS-CoV-2 with unknown consequences.

If hydroxychloroquine is found to be effective to prevent SARS-CoV2 infection, the drug could be used in low doses to prevent international travelers to acquire both COVID-19 and malaria. Moreover, this integrated strategy could be useful for control and prevention malaria programmes in malaria endemic countries.

One of the drawbacks to this strategy could be drug resistance.

During the 80s, chloroquine lost its therapeutic efficacy for *Plasmodium falciparum* malaria on almost every continent, including Africa. Currently, *P.falciparum* parasites are already susceptible in some areas as Central America and there is increasing evidence of *P.falciparum* susceptibility in many African countries. Recent studies conducted in Zambia [5] or Uganda [6] demonstrated in vivo the stability of chloroquine sensitivity in the continent.

To conclude, chloroquine but especially hydroxychloroquine could be a promising drug for the near future to deal with malaria and COVID-19 threats in travelers, visiting friends and relatives including population at risk of both diseases.

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Natalia Rodriguez-Valero*, Isabel Vera, Montse Roldan Torralvo, Teresa De Alba, Elisabeth Ferrer, Daniel Camprubi, Alex Almuedo Riera, Ruth Sotil Gallego, Magdalena Muelas, Maria Jesus Pinazo, Jose Muñoz
ISGlobal, Hospital Clínic - Universitat de Barcelona, Barcelona, Spain
E-mail address: natalia.rodriguez@isglobal.org (N. Rodriguez-Valero).

* Corresponding author.

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