Hydroxychloroquine prophylaxis for SARS-CoV-2 infection among healthcare workers

Sir,

Ever since the SARS-CoV-2 infection crisis has affected the human, the popularity of hydroxychloroquine (HCQ) as prophylaxis has been in limelight. The article by Chatterjee et al.1 is very timely and gives a ray of hope. While the authors have done commendable job, it is felt that the data and results need to be taken cautiously and a few facts need to be clarified before we accept it wholeheartedly.

First, the methodology of participant selection needs critical attention. The authors include only symptomatic healthcare workers (HCWs) who were tested positive or negative in cases and controls. As a good number of individuals with SARS-CoV-2 infection are asymptomatic, the inclusion of only symptomatic HCWs is unlikely to represent the entire HCWs taking and/or not taking HCQ as prophylaxis.

Second, the authors failed to find the benefit of HCQ in the univariate analysis. However, a subgroup of the HCWs who took HCQ for four or more maintenance doses showed a significant decline in getting infected. These findings should also be analyzed with respect to the work environment and procedures. The data on number of HCWs working in the intensive care units caring for confirmed patients and doing endotracheal intubation, sample collection, suctioning, etc., who took HCQ till four or more maintenance doses and either got infected or not, should have been presented for better acceptance.

Third, the authors’ finding of low and minor adverse events is encouraging for the use of HCQ. However, it is felt that haemolysis and QT prolongation also need to be considered in the risk and benefit of prophylaxis2. While it is agreed that the prevalence of glucose-6-phosphate dehydrogenase (G-6 PD) deficiency is variable and the safety of prolonged HCQ is established, the complications arising from G-6 PD deficiency and prolonged QT caused by HCQ are serious and need to be weighed against the minimal decline in the odds of getting infected, even if any.

Finally, there are conflicting data from studies on the efficacy of HCQ in averting new infections. While a Korean non-randomized study including 189 patients and 22 HCWs showed a benefit of HCQ in post-exposure prophylaxis (PEP)3, a randomized, double-blind, placebo-controlled, multicentric, multi-national trial enrolling 821 asymptomatic participants with 87.6 per cent of the participants having a high-risk exposure to a confirmed COVID-19 contact failed to find the benefit of PEP of HCQ4. Therefore, although the findings of four and more maintenance doses having declining odds reiterate the recommendation for prophylaxis, the dilemma related to the efficacy of HCQ is not yet over. Further study including all asymptomatic and symptomatic participants, especially HCWs working in high-risk areas and involved in high-risk procedures, will be required. Till then, HCQ prophylaxis can be under close observation and scrutiny.

Conflicts of Interest: None.

Habib M.R. Karim1,* & Ghazal Ahmed2
Departments of 1Anaesthesiology & Critical Care & 2Dermatology, Venerology & Leprosy, All India Institute of Medical Sciences, Raipur 492 099, Chhattisgarh, India
*For correspondence: drhabibkarim@gmail.com

Received July 1, 2020

References
1. Chatterjee P, Anand T, Singh KJ, Rasaily R, Singh R, Das S, et al. Healthcare workers & SARS-CoV-2 infection in India:
A case-control investigation in the time of COVID-19. Indian J Med Res 2020; 151: 459-67.

2. Rathi S, Ish P, Kalantri A, Kalantri S. Hydroxychloroquine prophylaxis for COVID-19 contacts in India. Lancet Infect Dis 2020; S1473-3099(20)30313-3.

3. Lee SH, Son H, Peck KR. Can post-exposure prophylaxis for COVID-19 be considered as an outbreak response strategy in long-term care hospitals? Int J Antimicrob Agents 2020; 55: 105988.

4. Boulware DR, Pullen MF, Bangdiwala AS, Pastick KA, Lofgren SM, Okafor EC, et al. A randomized trial of hydroxychloroquine as postexposure prophylaxis for COVID-19. N Engl J Med 2020; NEJMoa2016638.