

## Short Article

# Role of Hydroxychloroquine in covid -19 suspect

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**Abstract:** Rapid transmission of corona virus throughout the globe has put many more on risk of contracting this virus so prevention & prophylaxis became an important part of this pandemic so the role of Hydroxychloroquine is being discussed here. The CDC On March 24th, both Hydroxychloroquine have in vitro activity against SARS-CoV-2, and other coronaviruses, with HCQ having higher potency against SARS-CoV-2. The drug also raised the risk of heart problems. But based on the available evidence, it has been opined that HCQ is relatively safe, when certain contraindications are avoided, and has some beneficial effect as a prophylactic option.

**Keywords:** hydroxychloroquine, SARS-CoV-2, Prophylaxis.

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## INTRODUCTION

The COVID-19 pandemic, also known as the 2020 coronavirus pandemic, is an ongoing global pandemic of coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The outbreak was first identified in December 2019 in Wuhan, China. On January 30, 2020 WHO Director General declared this outbreak a Public Health Emergency Of International Concern, WHO announced COVID-19 outbreak as a pandemic on 11 March 2020. Rapid transmission of virus throughout the globe has put many more on risk of contracting this virus so prevention & prophylaxis became an important part of this pandemic so the role of Hydroxychloroquine is being discussed here.

### ICMR Defined Suspect as

- All symptomatic individuals with H/O International/National travel in last 14 days.
- All symptomatic contacts of lab confirmed cases.
- All symptomatic Health care providers.
- All hospitalized patients with SARI (fever and cough and SOB)
- Asymptomatic direct and high risk contacts of a confirmed case (should be tested once between day 5 and day 10 after contact)
- Symptomatic refers to fever/cough/Shortness of breath.

### International Review

- The CDC on March 24th, both Hydroxychloroquine have in vitro activity against SARS-CoV-2, and other coronaviruses, with HCQ having higher potency against SARS-CoV-2.
- On April, 20 FDA has issued a safety communication cautioning against the use of HCQ or Outside of hospital setting / clinical trial due to risk of arrhythmias.
- On 13<sup>th</sup> April a study performed to systematically review the role of CQ/HCQ total of 45 articles were screened, in which 3 in vitro pre-clinical studies and 2 clinical opinions were included. The preclinical studies & clinical opinions advocated prophylactic use.
- No original clinical studies on prophylactic role of CQ or HCQ were available.

### WHO temporarily suspended HCQ in Solidarity Trial?

According to study published by Lancet, Scientists linked drug have higher death rates under Solidarity. (26<sup>th</sup> may) Out of 96,000 patients (mean age=53.8yrs, 46.3% women, 14,888 were treated, 3016 received HCQ, Compared with mortality in control group 9.3% HCQ mortality was 18%. The drug also raised the risk of heart problems. Patients were

randomly selected to be treated with HCQ alongside 3 other experimental drugs. For now only the HCQ has been placed on pause.

Hydroxychloroquine was put on hold temporarily by WHO.

#### **Multinational Registry analysis Retraction**

Was published in lancet on May 22<sup>nd</sup>, an independent audit of provenance & validity of Data had been commissioned by authors.

- Issued expression of concern to alert readers to fact about serious questions brought to their attention and said to update about further information. Independent 3rd party peer reviews were launched to evaluate origination of database elements (to replicate the analysis presented in paper). Full dataset was not transferred due to client agreements & confidentiality requirements. Peer review process was withdrawn. Due to unfortunate development, authors requested that the paper be retracted.
- 3<sup>rd</sup> June, WHO board reviewed available mortality data and found no reasons to modify the solidarity trial." DG told investigators to resume their work.

#### **WHO & ICMR-Dosage Difference**

- ICMR written to WHO citing differences found in dosage standards between Indian and International trials .Higher drug dosage can lead to more side effects.
- Dosage in International trials was massive 800mg x 2 loading doses 6 hours apart followed by 400mg x 2 doses/day for 10 days, making total dose 9600mg over 11 days. As per protocols set by the Indian Govt. to treat severe coronavirus patients, total dosage administered to patient in 5 days, amounts to 2400 mg.

#### **Revised advisory on the use of HCQ as prophylaxis for SARS-CoV-2 infection Dated 22 may 2020**

Safety Profile According to ICMR, Data on assessment of HCQ prophylaxis among 1323 HCW

Adverse drug reactions were

- Nausea in 8.9%
- Abdominal Pain in 7.3%
- 3) Hypoglycemia in 1.7% 4) Cardiovascular effects in 1.9% & Vomiting 1.5%.

Out of 214 reported instances of ADR, 7 were serious individual case safety reports with prolongation of Qt interval in 3 cases.

A retrospective case-control analysis at ICMR Found significant dose response relationship between the number of prophylactic doses taken and frequency of occurrence of infection Of SARS-CoV-2 infection in symptomatic HCW.

#### **Exclusion/contraindications for Hydroxychloroquine use**

- Retinopathy
- Hypersensitivity to HCQ or 4-aminoquinoline compounds
- G6PD deficiency
- Pre-existing cardiomyopathy and cardiac rhythm disorders.
- Children < 15 years of age and in pregnancy and lactation.

Rarely drug causes cardiovascular side effects such as cardiomyopathy Rhythm disorders. In such situation drug needs to be discontinued.

#### **Dosage and categories**

In Asymptomatic household contacts of laboratory confirmed cases 400 mg twice a day on Day 1, followed by 400 mg once weekly for next 3 weeks; to be taken with meals

In All Asymptomatic HCW involved in containment and treatment of COVID-19 & in All asymptomatic HCW working in non-COVID hospitals/non-COVID areas of COVID hospitals/blocks Asymptomatic frontline workers, such as surveillance workers deployed in containment zones. Paramilitary/police personnel involved in COVID-19 related activities 400 mg twice a day on Day 1 followed by 400 mg once weekly for next 7 weeks; to be taken with meals

#### **Monitoring**

ECG to be done for Estimation of QT interval before prescription, In case new cardiovascular symptoms occurs, If prophylaxis continuing beyond 8 weeks, Anytime during the course of prophylaxis.

## **CONCLUSION**

Based on the available evidence, it has been opined that HCQ is relatively safe, when certain contraindications are avoided, and has some beneficial effect as a prophylactic option.

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