Bow Briefing Paper

Examining the Strategy of Chloroquine Prophylaxis to Prevent Covid-19

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Introduction

We are two months into the world's most significant pandemic in decades. In terms of public concern only HIV struck as deep to the heart of the British people in this way. COVID19 is huge and it is getting bigger, the cases increasing exponentially, with a roughly ten fold increase every 8 days. In two weeks we can expect 100,000 clinical cases, in three weeks 1 million without immediate action.

The UK was well aware of the science behind the virus before it arrived on our shores and before it started to rise exponentially two weeks ago. It hasn't yet done anything significant to clamp down on the spread, certainly by comparison to the response of many other nations. Six weeks ago the Bow Group put out the call for border restrictions, a public health information plan, and to ensure those already at high risk to be reminded of the need for vaccinations against pneumococcus and flu. This proposed roll out prophylaxis, vitamin D supplement and public health information is based on evidence of efficacy in existing practice with the aim of prevention against this deadly disease, and in no way obstructs current government policy.

I have been working in the field of politics and policy development (with a particular focus on health policy) for the past three years, but have been contacted to return to frontline clinical work, likely in emergency care, in the coming days. I am proud to join the fight against COVID19 but naturally am concerned of risks to my own health and that of my NHS colleagues. Concerns have been raised about risks to frontline staff and the lack of personal protective equipment. It is vital we avoid incapacitation of the workforce early on in the fight back. This has prompted me to consider the significance of risk reduction for all but especially frontline NHS staff, and chemoprophylaxis must be considered part of that. These medications and their use are well established and the proposed protocol is in effect shovel ready pending clinical approval.

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Disclaimer

We introduce this proposed strategy bundle only to facilitate professional and political discourse and do NOT propose that the general public obtain or take chloroquine unless directed by a licenced medical professional and without a valid prescription.

This is solely an article for discussion and is not a prescription, nor can it be used as a proxy to a prescription or otherwise as a clinical directive.

Key Facts

- The current mortality rate for declared and closed coronavirus cases is 10%*, with 20% developing severe pneumonia*. These figures have been consistent in China & Italy, which have had long-term exposure. Based on those figures if 80% of the UK population are infected (as the Chief Medical Officer has projected) without comprehensive remedial action 8-10 million people will potentially develop severe pneumonia and 3-4 million people will be at risk of dying. Globally that would translate to 1 billion being at risk of severe pneumonia and 400 million being at risk of death. *(Source,*Source)
- The UK currently has among the lowest number of hospital beds in Europe per citizen with 2.5 per 1000 people, or 167,600 beds*. 4123 beds are intensive care equipped with ventilators, or 6.6 per 100k people. 83% of intensive care beds are currently occupied with 600 available*. The European average is double at 12 intensive care beds per 100k people*.(*Source, *Source)
- Based on current rates of infection the UK will see reported cases rise to 10,000 within a week, and 1 million within a month.*(*Source)
- Chloroquine is an antimalarial drug that is cheap and has been in use for over 50 years.
- Prophylaxis is the use of a drug at a lower dose than for treatment of infection, to prevent that infection developing and to do so while keeping side effects to a minimum.
- Given mounting evidence published on the efficacy of the use of chloroquine derivatives for the treatment of COVID19, and China's COVID19 protocols published in English by the Japanese Society of Infection Prevention and Control,* we are taking the unprecedented step of publicly calling for the UK government to consider our proposed strategy for the formal mass prophylaxis against Sars-CoV-2, the virus behind COVID19. (*Source)
- We take this unusual step in the face of rapidly changing government attitude to the pandemic and to ensure a timely and open debate within the medical profession.
- We present a sample protocol for chemoprophylaxis of *Coronavirus* for discussion of the concept.

Summary

It is likely that all UK hospitals will be completely overwhelmed and will not even be able to offer care to the seriously ill and dying. Some western countries may fare slightly better in terms of beds & ventilators, but all will likely experience overwhelming demand.

Six weeks ago the Bow Group warned the arrival of coronavirus to Britain was inevitable, and urged the government to undertake remedial action in restricting border access and preparing the NHS and the public. Seven days ago the Bow Group called for a rethink on the government strategy on COVID including social measures to protect the most vulnerable including housing the homeless, direct funding of foodbanks, and ensuring the supply of domestic utilities.

Coronavirus will have a major long-term impact on the UK and global economies, causing shortages and unrest.

All of these elements make this likely to be the worst national crisis Britain has faced since WW2, and the worst domestic crisis we have ever faced. Urgent, extraordinary, and comprehensive action is therefore required.

Recommendations

We call on the government to consider the following two drugs to be considered as formal prophylaxis to be taken by the above groups either *en masse* or in a large scale randomised control trial. The ethics of either choice would be considered by medical experts.

1. A single 500mg dose of chloroquine phosphate once weekly

AND

2. 10mcg Vitamin D

AND

3. National leaflet campaign with key information and home healthcare advice sent to all homes, including advice to stop smoking for the duration of the crisis.

Why are we suggesting this strategy?

1. Chloroquine and hydroxychloroquine have been shown to effectively treat COVID19 and reduce viral shedding in numerous publications, including a recent French trial by Raoult, and China's clinical protocol on COVID19. (See Figures 1, 2 below)

https://www.mediterranee-infection.com/wp-content/uploads/2020/03/Hydroxychloroquine_final_DOI_IJAA.pdf

https://www.nature.com/articles/s41421-020-0156-0

http://www.kankyokansen.org/uploads/uploads/files/jsipc/protocol_V7.pdf

2. Chloroquine phosphate at 500mg a week is well established in UK practice as prophylaxis for those travelling to areas where it remains effective against malaria. Its pharmacology, pharmacodynamics and pharmacokinetics are well understood, as are the side effect profile and cautions in use. It is cheap, effective, and safe.

3. Chloroquine prophylaxis is used by very large numbers of UK travellers abroad and its once weekly dose greatly aids compliance in taking it.

4. Chemoprophylaxis is common practice for preventing dangerous and hard to treat infections in immunosuppressed patients against agents such as *Pneumocystis jiroveci, Cytomegalovirus, and* HIV.

5. Vitamin D is an essential vitamin for good health including that of the immune system. The best way to ensure healthy levels is sunlight, but during the winter and periods of confinement the British Dietician's Association recommend 10mcg a day of Vitamin D to maintain levels. They have released general advice in addition to the Daily Mail.

https://www.bda.uk.com/resource/covid-19-corona-virus-advice-for-the-general-public.html

https://www.dailymail.co.uk/health/article-8119167/Must-read-tips-survive-self-isolation.html

6. We continue to press for a wide ranging public health information campaign to raise awareness (especially among those with impaired social access) on COVID19, including a national leaflet campaign.

7. We believe that the NHS could deliver the bundle of three interventions as a single pack by post or for collection at pharmacies for high risk groups, and therefore each intervention does not complicate any other being followed.

Figure 1: Raoult trial of chloroquine +/- azithromycin as treatment for SARS-CoV-2

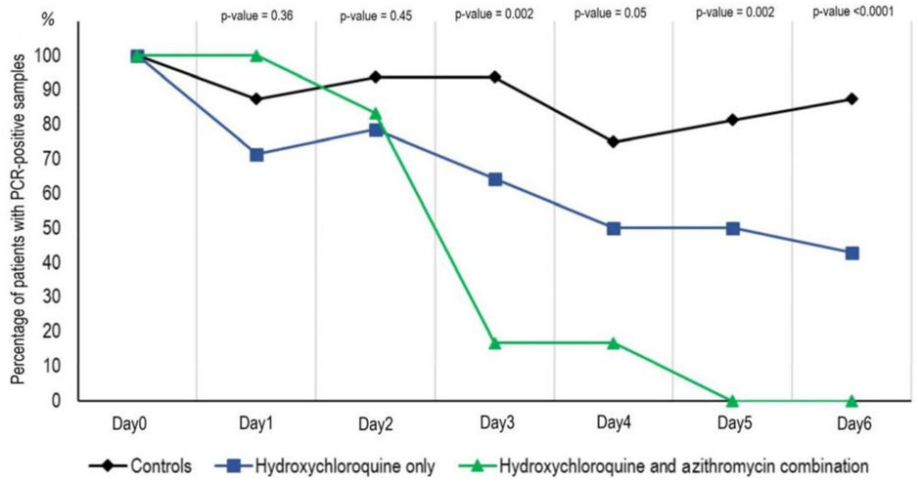
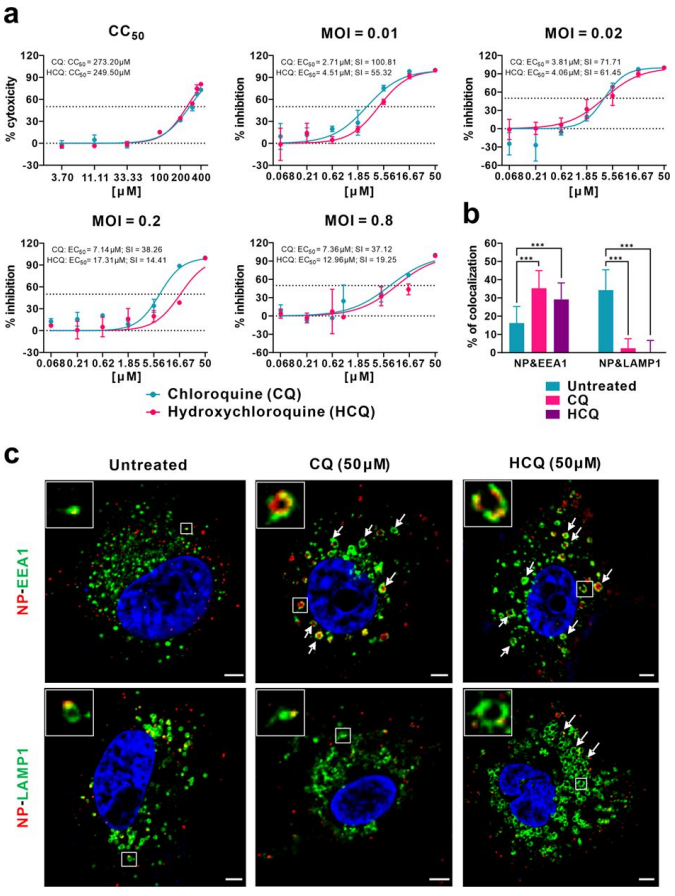


Figure 2: "Hydroxychloroquine, a less toxic derivative of chloroquine, is effective in inhibiting SARS-CoV-2 infection in vitro"



Target Groups

The Government has now begun to roll out social distancing protocols for those at highest risk of COVID-19. We are using these as the principle basis for our proposed strategy to avoid any confusion as to the target groups which include those below, taken directly from the government's regularly updated website. The ethics of any decision would have to be considered by medical experts, but we would advocate application of prophylaxis to those at highest risk.

- aged 70 or older (regardless of medical conditions)
- under 70 with an underlying health condition listed below (ie anyone instructed to get a flu jab as an adult each year on medical grounds):
- chronic (long-term) respiratory diseases, such as asthma, chronic obstructive pulmonary disease (COPD), emphysema or bronchitis
- chronic heart disease, such as heart failure
- chronic kidney disease
- chronic liver disease, such as hepatitis
- chronic neurological conditions, such as Parkinson's disease, motor neurone disease, multiple sclerosis (MS), a learning disability or cerebral palsy
- diabetes
- problems with your spleen – for example, sickle cell disease or if you have had your spleen removed
- a weakened immune system as the result of conditions such as HIV and AIDS, or medicines such as steroid tablets or chemotherapy
- being seriously overweight (a body mass index (BMI) of 40 or above)
- those who are pregnant

Those at particularly high risk include:

- people who have received an organ transplant and remain on ongoing immunosuppression medication
- people with cancer who are undergoing active chemotherapy or radiotherapy
- people with cancers of the blood or bone marrow such as leukaemia who are at any stage of treatment
- people with severe chest conditions such as cystic fibrosis or severe asthma (requiring hospital admissions or courses of steroid tablets)
- people with severe diseases of body systems, such as severe kidney disease (dialysis)

- in addition we believe frontline NHS staff should be considered to receive prophylaxis

Conclusion

We call upon the government to consider the application of this strategy immediately & begin its own research and trials in order to help reduce the spread of COVID19 cases, and to reduce demand on the NHS, as a supplement to existing policy.

The strategy draws together existing practice with new and emerging evidence of the treatment of COVID19 in other countries to create a simple to follow evidence based intervention that could save many lives.