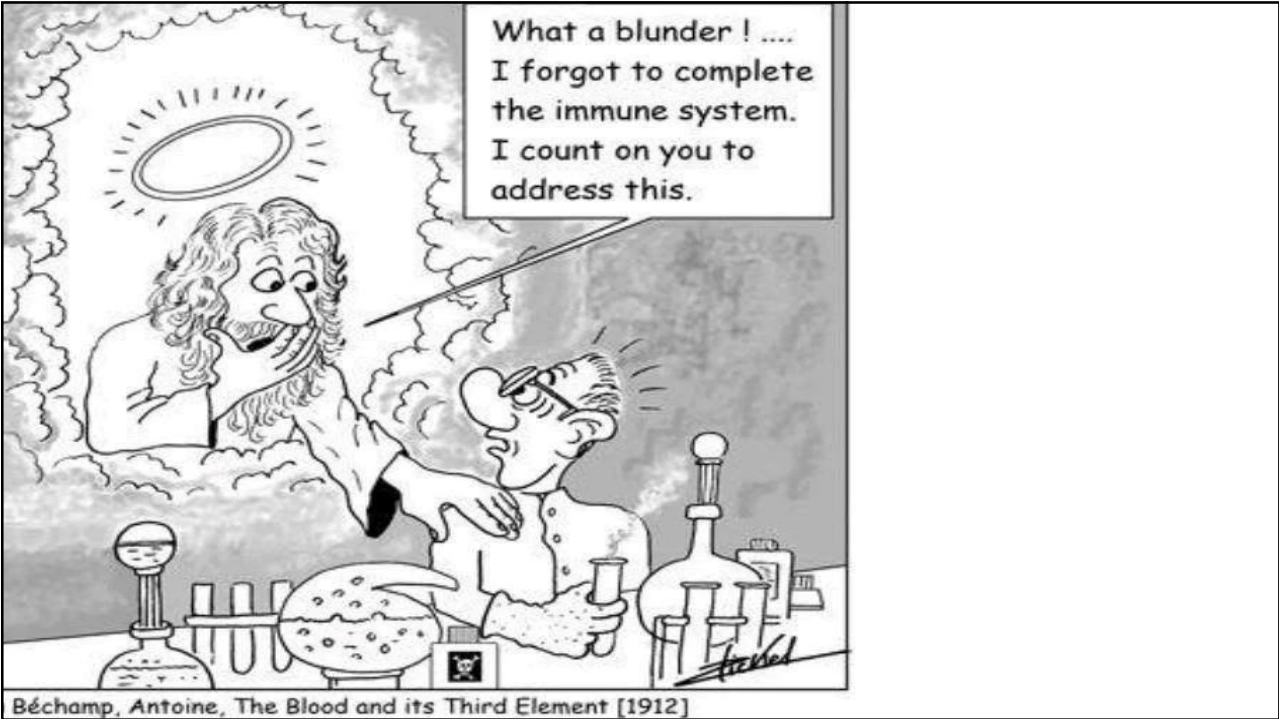


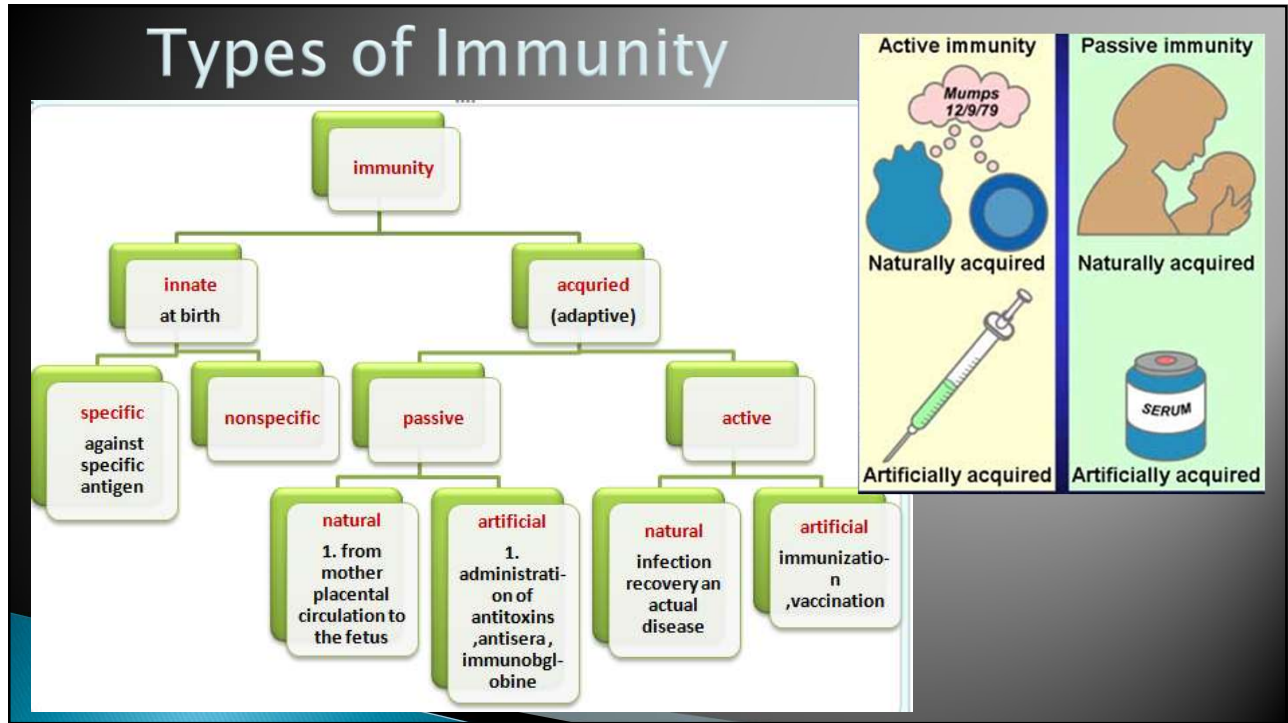
SARS-CoV-2 update

February 2021-2024
Rajko Bisevac, ND, ABAHP, FAARFM

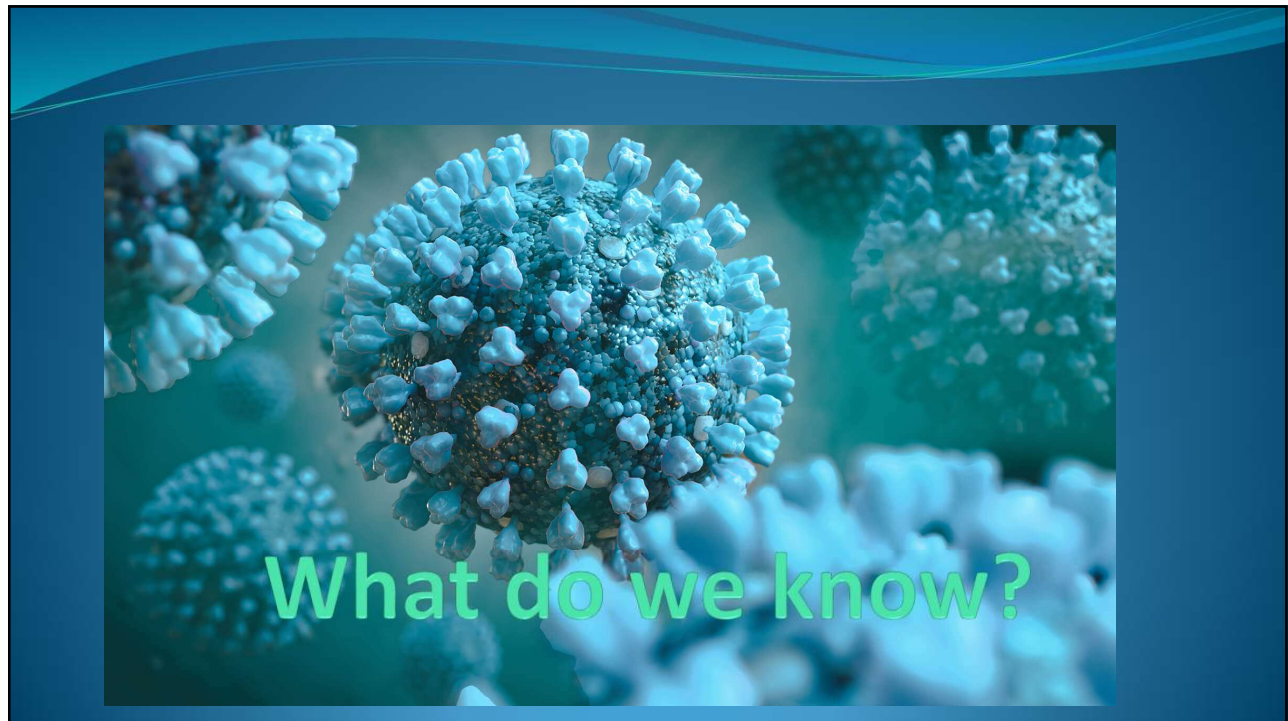
1



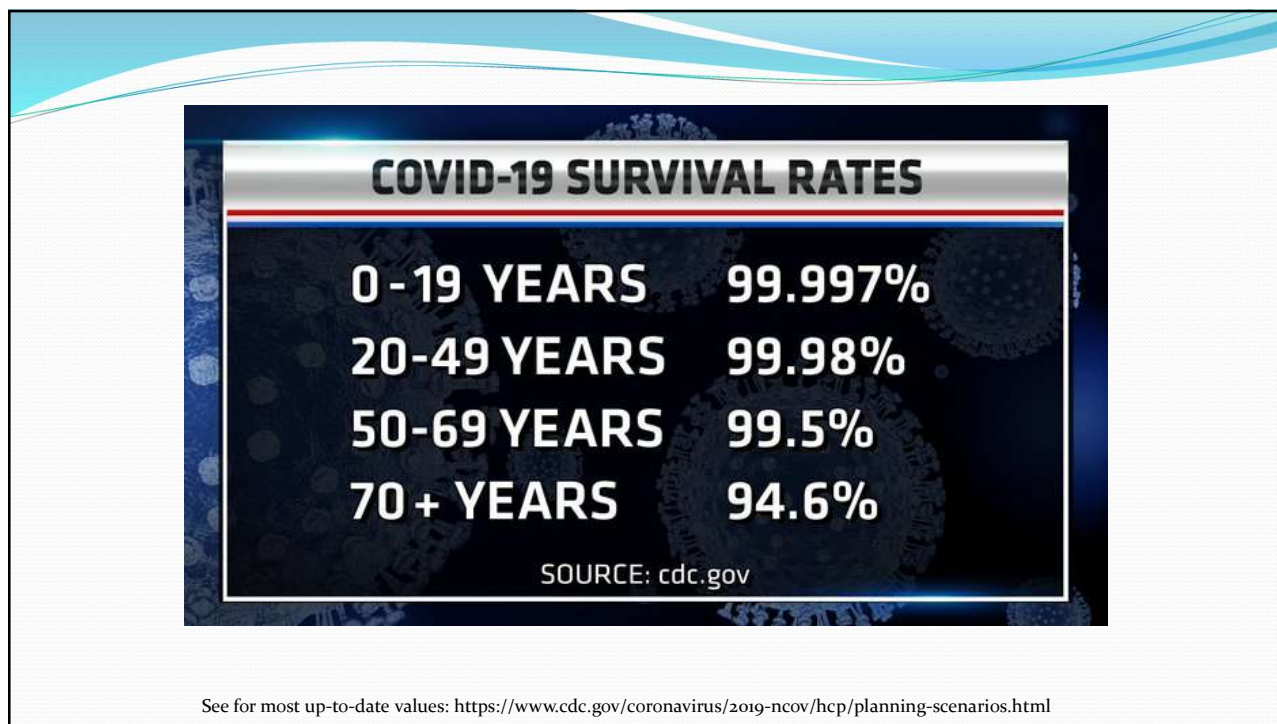
2



3



4



5

What do we know?

1. Common Symptoms
 - Fever
 - Cough
 - Headaches
 - Fatigue
 - Muscle or body aches
 - Loss of taste or smell
 - Sore throat
 - Nausea
 - Diarrhea
2. How it spreads
 - By respiratory droplets from an infected person or surface
3. Are masks effective?
 - Generally, no.
4. There is a negative correlation between vitamin D levels and severity of infection

| Severity | <=20 ng/ml (<=50 nmol/L) | 21-29 ng/ml (51-74 nmol/L) | >=30 ng/ml (>=75 nmol/L) |
|-----------------|--------------------------|----------------------------|--------------------------|
| Critical (N=48) | 52 | 4 | 0 |
| Severe (N=56) | 56 | 41 | 4 |
| Ordinary (N=59) | 34 | 58 | 7 |
| Mild (N=48) | 0 | 0 | 98 |

Chart Date: 4/21/2020
© 2020 GrassrootsHealth
Alipio MM, SSRN, 2020

GrassrootsHealth
Moving Research into Practice
www.grassrootshealth.net

6

Front Public Health. 2021; 9: 624559. PMID: PMC7973108
 Published online 2021 Mar 5. doi: [10.3389/fpubh.2021.624559](https://doi.org/10.3389/fpubh.2021.624559) PMID: [33748066](https://pubmed.ncbi.nlm.nih.gov/33748066/)

The Impact of Vitamin D Level on COVID-19 Infection: Systematic Review and Meta-Analysis

- **Conclusions:** In conclusion, low serum 25 (OH) Vitamin-D level was significantly associated with a higher risk of COVID-19 infection. The limited currently available data suggest that sufficient Vitamin D level in serum is associated with a significantly decreased risk of COVID-19 infection.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7973108/>

7

Article | Open Access | Published: 14 September 2021

An observational and Mendelian randomisation study on vitamin D and COVID-19 risk in UK Biobank

[Xue Li](#), [Jos van Geffen](#), [Michiel van Weele](#), [Xiaomeng Zhang](#), [Yazhou He](#), [Xiangrui Meng](#), [Maria Timofeeva](#), [Harry Campbell](#), [Malcolm Dunlop](#), [Lina Zgaga](#) ✉ & [Evropi Theodoratou](#) ✉

Scientific Reports 11, Article number: 18262 (2021) | [Cite this article](#)

- New research from Trinity College Dublin and University of Edinburgh has examined the association between vitamin D and COVID-19, and found that ambient ultraviolet B (UVB) radiation (which is key for vitamin D production in the skin) at an individual's place of residence in the weeks before COVID-19 infection, was strongly protective against severe disease and death.

<https://www.nature.com/articles/s41598-021-97679-5>
<https://scitechdaily.com/more-evidence-that-vitamin-d-protects-against-severe-covid-19-disease-and-death/>

8

What do we know?

5. SARS-Cov-2 binds to ACE2 receptors
6. Vitamin D increases expression of ACE2 receptors, maintains immune system homeostasis, and prevents development of autoimmune processes
7. As seen with other coronaviruses, having COVID once results in long-term immunity in most people.
8. Children are spared due to immature respiratory epithelium.

9

EARLY TREATMENT – IMMUNE SYSTEM COVID-19 DO WE DEVELOP IMMUNITY?

- ▶ **Li QinGyuan**, director of pneumonia prevention and treatment at China Japan Friendship Hospital in Beijing, those who have been infected with Covid-19 develop a protective antibody.
- ▶ **Dr Stephen Gluckman**, an infectious diseases physician at Penn Medicine, the medical director of Penn Global Medicine – “having the disease once results in immunity in most individuals – as is seen with other coronaviruses.”
- ▶ As seen with other coronaviruses, having COVID once results in long-term immunity in most people.

10

Immune system support

- **Vitamin D₃ (Bio D Mulsion Forte)** - Receptors for vitamin D are found on the surface B cells, T cells, and white blood cells. These cells are capable of synthesizing the active vitamin D metabolite. Vitamin D can modulate both the TH₁ and the TH₂ arms of the immune system.
- **Zinc (Zn Zyme Forte)** - This mineral is a co-factor for up to 300 enzyme systems. It has been shown to be clinically effective in protecting against coronavirus infections. "Some 90% of the population consume diets deficient in zinc," according to Denham Harmond M.D., Ph.D. considered to be the Father of the Free -Radical Theory of Aging.
- **Vitamin C (Bio C Plus)** - This is one of the most powerful and important nutrients for humans. It is a water-soluble, chain-breaking antioxidant that interacts with glutathione and alpha-lipoic acid, and regenerates Vitamin E, leading to increased activity of macrophages, the white blood cells that remove pathogens from your system.
- **Quercetin (Bio FCTS)** - This is a plant-based antioxidant that works to drive zinc into the cell. It has a similar mechanism of action as HCQ to improve immune system functioning.
<https://pubs.acs.org/doi/full/10.1021/jf5014633>
- **N-acetyl-L-cysteine** - NAC has antioxidant, anti-inflammatory and immune-modulating characteristics that may prove beneficial in the treatment and prevention of SARS-Cov-2.
2. <https://pubmed.ncbi.nlm.nih.gov/33177829/>

11

What do other doctors say?

Dr. Simone Gold, MD - Prophylactic HCQ protocol:

- Hydroxychloroquine 400 mg. twice a day on the first day + elemental zinc 50 mg. daily then
- Hydroxychloroquine 400 mg. weekly + zinc 50 mg. daily

Dr. Teryn Clark, MD - Wellness protocol:

- Quercetin 500 mg twice daily
- Zinc 50 mg daily
- Vitamin D 2000 IU daily
- Melatonin 3-6mg nightly

<https://www.americasfrontlinedoctors.com/treatment-protocols/>

Dr. Dietrich Klinghardt, MD, PhD also suggests the above lists and:

Vitamin D, Propolis spray, Calendula, Liquorice, Skullcap, Rosemary, Andrographis, Artemisinin (Dysbiocide) Dandelion

<https://klinghardtinstitute.com/wp-content/uploads/2020/03/Dr-Klinghardt-Corona-2020-UK-19th-March-2020.pdf>



12

BRIDGE... TRADITIONAL/FUNCTIONAL

- ▶ Hydroxychloroquine Rx
- ▶ Azithromycin Rx
- ▶ Zinc

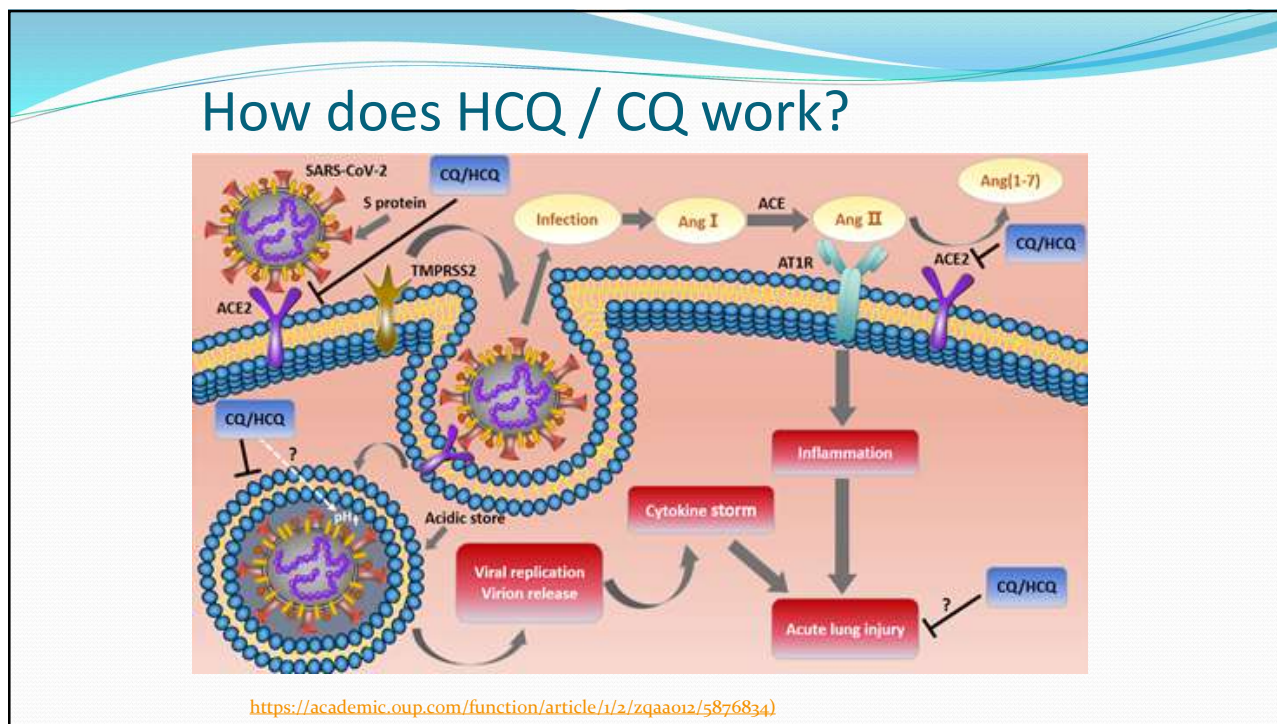
- ▶ All three seem to work and have surprising mechanism how they work.

13

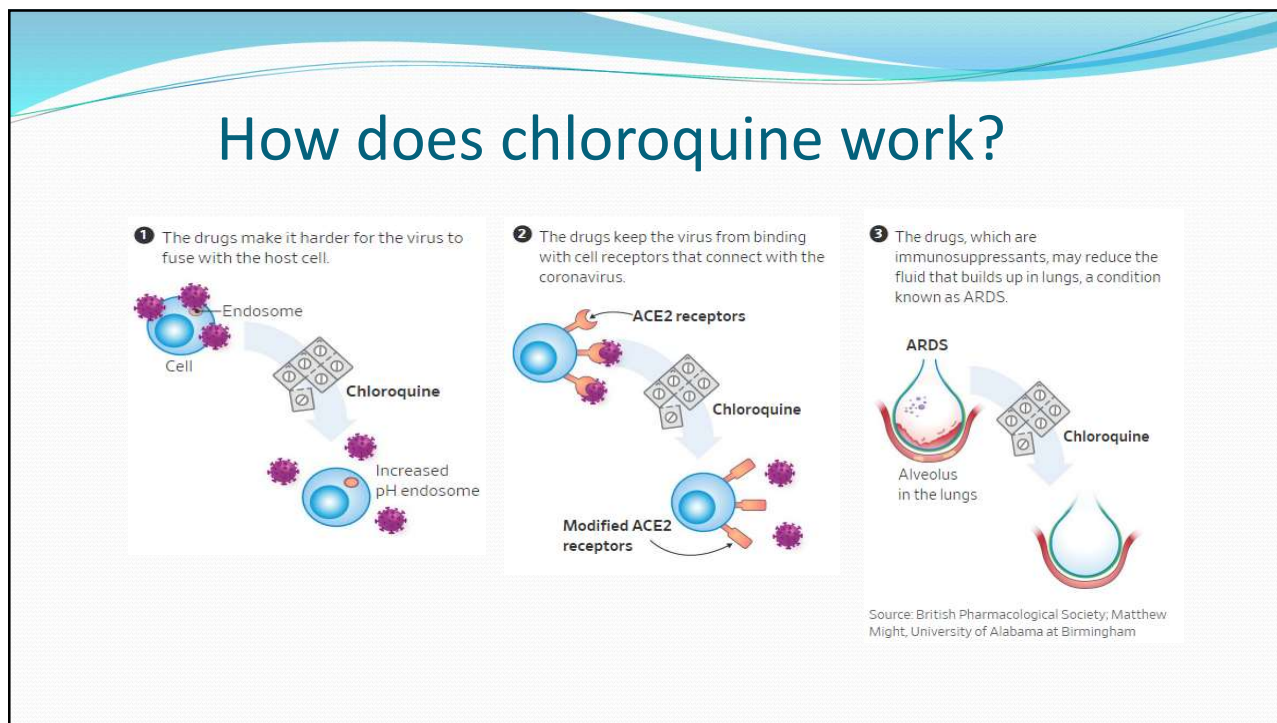
AFRICA - MYSTERY

- **“Most African countries missed a target to vaccinate 10 % of their people.”** Sept 30.2021.
- **“African continent has accounted for just 4.1% of the total of 4.3 million deaths due to COVID-19. Earlier on in the pandemic, scientists had predicted a COVID-19 catastrophe in Africa, which is much more severe than what has actually been observed across the continent.”**
- Africa vaccinated less than 10% yes had only 4.1% of the problems!
- QUININE - SUNDAY DRUG?

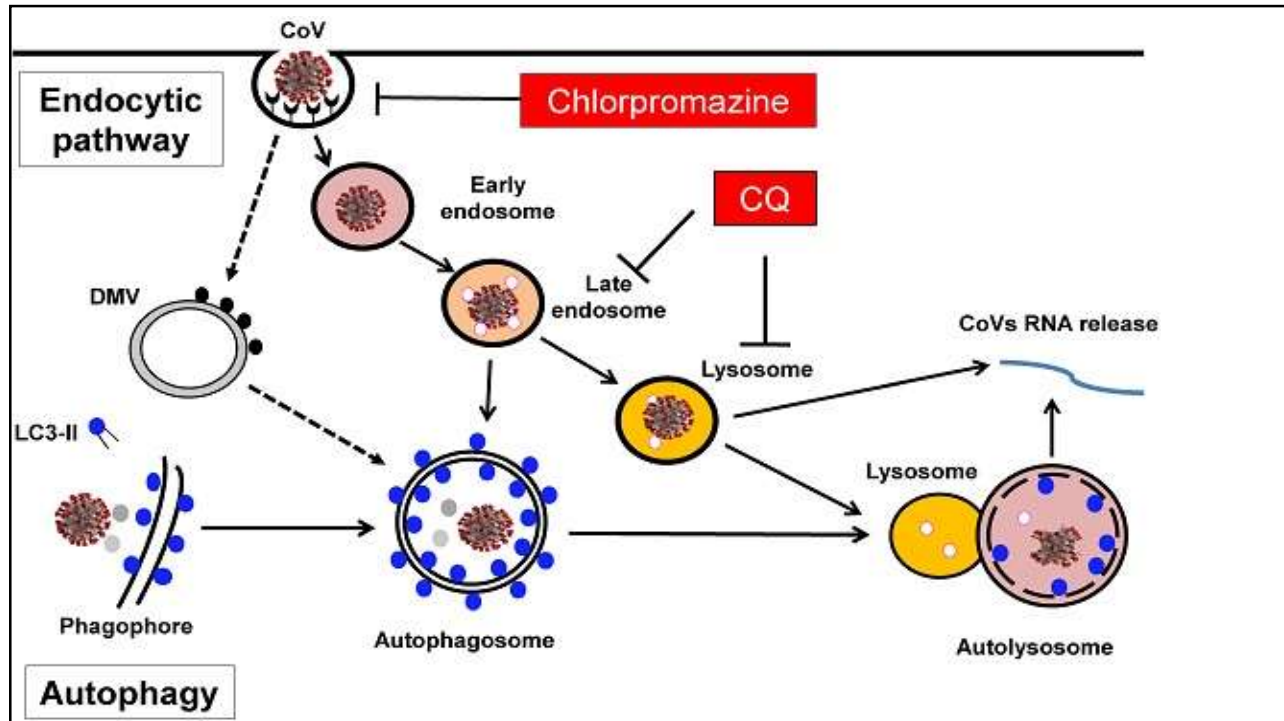
14



15



16



17

SARS-CoV-2 spike protein hidden as pH changes

- As antiviral action, the chloroquine analogs have been shown to inhibit acidification of endosome during the events of replication and infection.

<https://www.news-medical.net/news/20200707/SARS-CoV-2-spike-protein-hidden-as-pH-changes.aspx>

18

VIRUSES – MODUS OPERANDI

- ▶ **Targeting the Endocytic Pathway and Autophagy Process as a Novel Therapeutic Strategy in COVID-19**
- ▶ <https://www.ijbs.com/v16p1724.htm> (International Journal of Biological Sciences, 2020)
- ▶ Key element in viral infection is the process of viral entry into the host cells. In the last two decades, there is increasing understanding on the importance of the endocytic pathway and the autophagy process in viral entry and replication. As a result, **the endocytic pathway including endosome and lysosome has become important targets for development of therapeutic strategies in combating diseases caused by CoVs**

19

ENDOSOMES

- ▶ Endosomes play key roles in the cellular infection cycles of many viruses. Initially implicated in **virus entry**, recent research has demonstrated that endosomes can also be required at other stages in **viral replication**.
- ▶ Endosomes can provide platforms for viral nucleic acid replication and **virus assembly**, or play roles in modulating anti-viral immune responses.
- ▶ **Viruses exploit various attributes of endosomes such as the low luminal pH**, unique trafficking properties, cellular location and composition. In turn, viruses have become remarkable tools for analyzing endosome function.

20

VIRAL PATHWAYS MECHANISM

- ▶ Since the analogs have interesting biochemical properties, these drugs are found to be effective against a wide variety of viral infections.
- ▶ Shown to inhibit **acidification of endosome** during the events of replication and infection.
- ▶ **Immunomodulatory** effects of analogs have been beneficial to patients with severe **inflammatory complications** of several viral diseases.
- ▶ One of the successful targeting strategies is the **inhibition of HIV replication** by the analogs in vitro which are being tested in several clinical trials. This review focuses on the potentialities of chloroquine analogs for the treatment of **endosomal low pH dependent emerging viral diseases**.

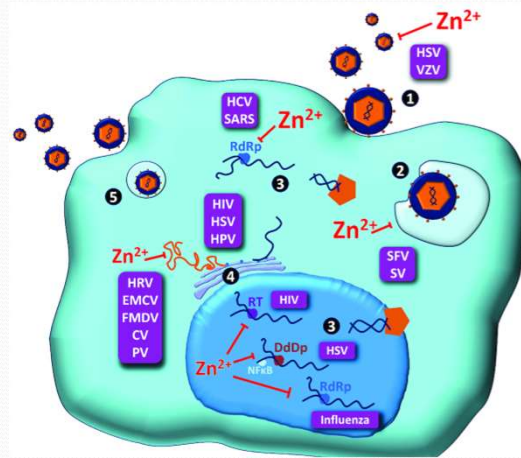
21

QUININE, HCQ, CHLOROQUINE

- Targeting endosomal acidification by chloroquine analogs as a promising strategy for the treatment of emerging viral diseases
 - Pharmacology Research & Perspectives 2017 Feb;
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5461643/>

22

HCQ / CQ acts as a zinc ionophore



23

Chloroquine is a Zinc Ionophore

- “Free zinc ions are more concentrated in the lysosomes after addition of chloroquine, which is consistent with previous reports showing that **chloroquine inhibits lysosome function**. The combination of chloroquine with **zinc enhanced chloroquine's cytotoxicity** and induced apoptosis in A2780 cells. Thus chloroquine is a zinc ionophore.”
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4182877/>
- The main **function of lysosomes** is to help with cell metabolism by ingesting and dissolving unwanted parts of the cell, cell debris, or foreign substances that have entered the cell.
- A **zinc ionophore** is a chemical which carries zinc ions through the cell membrane. Elemental zinc cannot pass through the cell membrane on its own. Once zinc is inside the cell, it can inhibit the RNA polymerase activity of coronaviruses, i.e. it blocks viral replication.

24

Clinical study of HCQ + Azithromycin

- International Journal of Antimicrobial Agents
- June 30, 2020
- “Our survey shows that hydroxychloroquine treatment is significantly associated with viral load reduction/disappearance in COVID-19 patients and its effect is reinforced by azithromycin.”
- 100% of patients that received a combination of HCQ and Azithromycin tested negative and were virologically cured within 6 days of treatment.
- Azithromycin added to HCQ was significantly more efficient for virus elimination
- <https://www.sciencedirect.com/science/article/abs/pii/S0924857920300996?via%3Dihub>

25

Problems with most HCQ studies:

- Huge, toxic doses given
- No Zinc is given
- The combination is given to patients too late, i.e. after the cytokine storm has begun
- Issues with data collection

26

HCQ + Azithromycin + Zinc:

Outcomes in hospitalized Covid-19 patients

- May 8, 2020
- “Zinc sulfate increased the frequency of patients being discharged home, and decreased the need for ventilation, admission to the ICU, and mortality or transfer to hospice for patients who were never admitted to the ICU.”

- NYU Grossman School of Medicine

<https://www.medrxiv.org/content/10.1101/2020.05.02.20080036v1.full.pdf>

This further confirms the theory that the combination of HCQ and Zn has an antiviral effect. Antiviral medications work by **blocking the replication of viruses**. Once the cytokine storm begins, and the virus has reached its peak in an individual, antiviral medications are useless.

27

Observational Study on 255 Mechanically Ventilated Covid Patients at the Beginning of the USA Pandemic, May 31, 2021

- The study showed that hydroxychloroquine, combined with zinc, increased the survival rate of severely ill Covid-19 patients by **200 percent**.
- Doses used = 80 mg/kg of HCQ with > 1 gm AZM

<https://www.medrxiv.org/content/10.1101/2021.05.28.21258012v1>

28

HCQ

- Countries where HCQ is widely available, which are typically third world countries that have malaria or citizens who travel to malaria-endemic regions, have 1-10% of the death rates of first world nations where HCQ is severely restricted.
- HCQ availability correlates with COVID-19 death rates. We see this across the world and amongst USA states.
- A typical headline from the Washington Post April 6, 2020 was that Africa was going to be decimated by this virus. "Coronavirus presents a crisis for Africa" and per the UN: "Pandemic crisis may kill up to 3.3 million Africans." (It is 1-2% of that.)
- Contrary to expert predictions and media headlines, the lowest death rates from COVID-19 are in the poorest countries with no masking, no social distancing, limited medical care, no ICUs ... but with easy access to hydroxychloroquine/chloroquine.

29

There is a dramatic difference in saving lives in countries allowing early and prophylactic use of hydroxychloroquine compared with the United States:

| Country | HCQ Policy | Mortality rate per COVID-19 case | COVID-19 deaths per 1M population |
|-------------|---|----------------------------------|-----------------------------------|
| U.K. | HCQ is discouraged and mostly unavailable | 14% | 628 |
| Italy | HCQ's value was not known for the many initial casualties | 14.5% | 573 |
| France | HCQ is officially disfavored | 18.5% | 454 |
| U.S.A. | FDA interferes with access to HCQ | 5.2% | 370 |
| Russia | HCQ is encouraged | 1.4% | 56 |
| India | HCQ is used prophylactically | 3.2% | 10 |
| Turkey | HCQ is used as early treatment | 2.6% | 59 |
| Israel | HCQ is encouraged | 1.5% | 33 |
| South Korea | HCQ is encouraged | 2.3% | 5 |

<https://aapsonline.org/judicial/aaps-v-fda-hcq-6-22-2020.pdf>

30

GOLDMINE

- #1 HCQ and analogs, vitamin D, Zinc
- #2 PROTEOLYTIC ENZYMES

31

PROTEOLYTIC ENZYMES – Goldmine #2

Fight viruses in 3 ways:

1. The overproduction of fibrin from chronic inflammation caused by environmental toxins and highly processed foods can, over time, block blood flow and trap red blood cells, preventing oxygen from reaching tissues and waste from being removed. **Proteolytic enzymes dissolve excess fibrin** and are the body's only defense against fibrin. The body's own production of proteolytic enzymes drastically decreases after age 27. DOI: 10.3390/biom3040923
2. **Proteolytic enzymes help to control inflammatory processes** by lowering elevated **inflammatory markers** and boost many components of the immune system to fight infections. <http://dx.doi.org/10.4236/aer.2015.31001>
3. The outer protein coating on a virus, the capsid, protects the virus and helps it to attach to a host cell and multiply. Viruses also have protein spikes that extend from their outer layer to help the virus infect new cells. **Proteolytic enzymes have a cleaving effect on the capsid as well as the protein spike** thus able to break them down. DOI: 10.36478/jeasci.2018.3125.3130

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7501082/>

32

ULTIMATE PROTOCOL

- Vitamin D: Bio-D-Mulsion, Bio-D-Mulsion Forte, Bio-DK Caps, Bio-DK-Mulsion
- Proteolytic Enzymes: Intenzyme Forte, Bromelain Plus CLA, Bromelain Plus
- QUININE, HCQ
- Vitamin C: Bio-C Plus, Bio-C Plus 1000
- Zinc: Zn-Zyme, Zn-Zyme Forte, Aqueous Zinc
- Quercetin: Bio-FCTS
- EGCG: EGCG-200mg
- Melatonin: Melatonin-B6/Mg, Alpha-Theta Ultra PM
- Curcumin: CurcumRx, KappArest
- Dysbiocide – anti-dysbiotic
- FC-Cidal – herbal antimicrobial, antiviral formula
- Immune Support Packs – comprehensive support for natural immune response

33

Where are you going to
place your bets?

Your immune system or
experimental agents?.....

34