COVID-19: prevention & treatment measures (Most are non-drug/over-the-counter in nature)

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Back in March of 2020 I began tackling Covid-19. By this I mean I dug into the scientific literature and then pulled out the most promising ways to both prevent & manage C19 infections (By manage I include thwarting viral replication & spread in the body).

**Here are 2 prevention measures of merit IMO:**

**Easy to make at home science-based nasal spray that interferes with virus attachment to nasal membranes** University of Birmingham scientists introduce a carrageenan-based nasal spray for COVID-19 eleven (11) months after I showed my readers how to make their own spray at-home (Fancy that!) | For Seekers & Other Heretics (wordpress.com)

**Virus killing masks** University of Toronto scientists created a face mask that “deactivates” the COVID-19 virus in minutes (And it is on the market!) | For Seekers & Other Heretics (wordpress.com)

**Remediating an active (acute or chronic) Covid-19 infection:** These therapeutic agents should not be used without the approval of a duly licensed MD or DO.

Early on in my quest for ways to remediate a Covid-19 infection I came across a study titled “D, L-lysine acetylsalicylate + glycine Impairs Coronavirus Replication” in the Journal of Antivirals & Antiretrovirals (December 2016). This paper was written by 3 scientists at the Institute of Medical Virology in Giessen, Germany,

From the abstract: Here we show that D, L-lysine acetylsalicylate + glycine sold as “Aspirin i.v. 500mg®” (LASAG), which is an approved drug inter alia in the treatment of acute pain, migraine and fever, impairs propagation of different CoV including the highly-pathogenic MERS-CoV in vitro”.

You can access the paper by clicking this link [D, L-lysine acetylsalicylate + glycine Impairs Coronavirus Replication (longdom.org)]

This was a benchtop or lab study involving a drug (LASAG) traditionally given patients by intravenous means.

Curious, I got to wondering if an oral version of the intravenous drug might prove effective in helping prevent mild to moderate Covid-19 infections from progressing to the point hospitalization.

With this said, the level of LASAG required according to the German scientists is toxic. This is for their paper:

Even though cell viability is not impaired by the applied LASAG concentrations, the antiviral action of LASAG in cell culture lies in a millimolar range, likewise to the antiviral action of ASA against IV [38]. To achieve a 20 mM LASAG concentration in the blood, 6.53 gl/L would be needed, which is toxic [75]. The Cmax in the blood after applying 500 mg ASA i.v. is 54.25 mg/L and 4.84 mg/L after oral application [76]. Nevertheless, treatment of patients with a CoV caused severe acute respiratory syndrome via inhalation might allow achieving locally effective LASAG concentrations. Results from a clinical study investigating the effectiveness of
inhaled lysineacetylsalicylate in the treatment of asthma showed, that patients that received a dosage of 720 mg of inhaled LASAG twice a day over a two-week period did not experience any significant side effects [77]. Also, a dose escalation study of inhaled LASAG in humans for the clinical development of an antiviral treatment of IV infections demonstrated that inhalative doses up to 750 mg LASAG were safe and well tolerated without serious adverse events [78]. Furthermore, administration of aerosolic ASA via intubation directly into the trachea resulted in increased survival rates of mice infected with a lethal dose of IV [38].

What intrigued me was some of the pathways LASAG impacted so as to reduce viral replication. From the paper: ASA is a multi-target compound [69] not only blocking NF-κB activation, but also interfering with several other cellular factors, such as cyclooxygenase 1/2 (COX1/2) a main enzyme in the synthesis of inflammation mediators [70,71] or AMPK/mTOR [72]. However, the researchers also found that “HLs indicates that the inhibitory effect of ASA on COX1/2 activity does not seem to be important for HCoV-229E propagation.”

In the Discussion section of the paper, we read:

Here we show that LASAG, which is an approved drug, impairs propagation of HCoV-229E and of the highly pathogenic MERS-CoV in vitro. Our results demonstrate that inhibition of virus-induced NF-κB activity early in the viral replication cycle via LASAG coincides with (i) reduced viral titers, (ii) decreased viral protein accumulation and viral RNA synthesis and (iii) impaired formation of viral replication transcription complexes. It should be mentioned that upon NF-κB inhibition (BAY11-7082) DeDiego et al. did not observe any virus titer reduction of the betacoronavirus SARS-CoV [41] which was adapted to murine cell lines. However, it cannot be excluded that this system of a mouse-adapted SARS-CoV in a murine cell line might not reflect the situation of human CoV or wild type SARS-CoV infection of human cells. Despite the possibility that other cellular factors, which are also targeted by LASAG might affect CoV propagation, the results obtained with the NF-κB inhibitor (BAY11-7082) and the COX1/2 inhibitor (Lornoxicam) further support the notion that NF-κB inhibition is a likely reason for the anti-CoV effect of LASAG. To elucidate the NFκB-specific effect, further analysis will be needed. It should be noted that similar results were obtained for the treatment of influenza virus (IV) infection with ASA. Here, the COX inhibitor Indomethacin also had no effect on the virus titer in cell culture [38].

The inhibition of NF-kappaB as a way to inhibit the covid-19 virus held special significance for me as I have worked with potent nondrug NFκB (NF-kappaB) inhibitors at various times and settings since the 1980s. Many plant compounds especially had proven very powerful in reducing inflammation links to NFκB activation, something buttressed by published studies on them over time, e.g., curcumin, parthenolide, celastrol, trans-resveratrol, epigallocatechin gallate (EGCG), fisetin, quercetin, and many more.

Not being a physician what I did was work up a protocol and share it with MDs and DOs who had the training & background to judge whether to use it and, when they did, to access outcomes.

Long story short: Very few mild to moderate Covid-19 patients on the combination I worked out progressed to the point of needing hospitalization.
Here is what these people were taking:

**Alpha-lipoic acid** - 2-time release 300 mg tablets three to four times daily

*time release alpha-lipoic acid - Google Shopping*

**Ascorbic acid (buffered to ease stomach irritation)** - 5 grams dissolved in water and drank three or more times daily (Most volunteers mixed and drank 5 grams of buffered C whenever symptoms such as lung congestion became noticeable/flared up)

*buffered C powder - Google Shopping*

**Cepharanthine 1 mg capsules** - 2 capsules after each meal.

*Buy Cepharanthin tablets 1 mg from Japan for alopecia online at sale price. - Japan Health Center (bio-japan.net)*

**Cepharanthine - Wikipedia**

**Liposomal micellized quercetin (softgels)** - 1 softgel with or after meals.

Quercetin tends to be poorly absorbed in some forms on the market. However, bioabsorption goes up when quercetin is in a nanoliposomal and/or micellized form.

*Natural Factors Quercetin LipoMicel Matrix 60 Liquid Softgels | Google Shopping*

**Nano liposomal curcumin** - 1 teaspoon two to three times daily (Taken straight up or mixed with water)

*nano liposomal curcumin - Google Shopping*

**EGCG capsules** - Two (400 mg) ECGC capsules with or after meals

*Now Foods EGCG Green Tea Extract 400 mg - 180 Veg Capsules | Google Shopping*

*Green Tea: Uses, Side Effects, Interactions, Dosage, and Warning (webmd.com)*
DIETARY

**Rosa de Castillo + Bay Leaf Tea** Most volunteers drank 3 or more cups of this each day.

*Rosa de Castillo 1/2 Kg (1,10 Pound | Libra) NATURAL | eBay*

*Rosa de Castillo tea - Bing - Shopping*

*Amazon.com: Eat Well Premium Foods - Turkish Bay Leaves Whole 6 oz Bag, Bulk, 100% Natural Dried Bay Leaf : Grocery & Gourmet Food*

*Bay Leaf: Uses, Side Effects, Interactions, Dosage, and Warning (webmd.com)*

**Buckwheat cereals, soba noodles, other forms** (Rich source of rutin)

*buckwheat cereal - Google Shopping*

**Citrus Fruits & other foods (rich in hesperidin)**

*Showing all foods in which the polyphenol Hesperidin is found* - Phenol-Explorer (phenol-explorer.eu)

*dried peppermint - Google Shopping*

*Hesperidin and SARS-CoV-2: New Light on the Healthy Function of Citrus Fruits (nih.gov)*

*COVID-19: food compounds that inhibit a key enzyme in SARS-CoV-2 gene expression and replication | For Seekers & Other Heretics (wordpress.com)*

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**IF RESPIRATORY SYMPTOMS THREATEN OR APPEAR**

In cases in which respiratory symptoms threaten or appear, discuss the use of one or more of these with your MD or DO

**4-methylumbelliferone (4-MU)** A prescription drug in the US (*Hymecromone*).

**Hymecromone - Uses, Side-effects, Reviews, and Precautions - TabletWise**

It is sold as a dietary supplement in many countries: *Buy 4MU Supplement (4MU-Pro) Online - The Longevity Specialists*


*Presence of hyaluronan in lung alveoli in severe Covid-19: An opening for new treatment options? (jbc.org)* PDF (Full paper): *SB-JBCJ200719 15418..15422*
Hyaluronan is abundant in COVID-19 respiratory secretions | medRxiv

4-methylumbelliferone treatment and hyaluronan inhibition as a therapeutic strategy in inflammation, autoimmunity, and cancer - PubMed (nih.gov)

Liu Shen pills and/or tea

"Liu Shen" - Google Shopping

Liu Shen capsule shows antiviral and anti-inflammatory abilities against novel coronavirus SARS-CoV-2 via suppression of NF-κB signaling pathway (nih.gov)

FOR THOSE WITH PULMONARY SYMPTOMS/DISTRESS

A curious thing popped up among long-haulers with lung symptoms – many reported that eating fresh oranges eased their symptoms. There was speculation that the vitamin C in the oranges was easing pulmonary inflammation. This made no sense to me as a typical medium-sized orange is about 70 mg and most people I knew using oral ascorbic acid required 500 mg or more to ease their lung distress. This suggested to me that something else in oranges in addition to or other than vitamin C was providing symptomatic relief. I zeroed in on bioflavonoids (rutin, hesperidin, etc.). Bottom line: I found that 1-gram tablets of (Lemon) bioflavonoids (Nature’s Life) taken 3-6 times daily in divided doses significantly curtailed pulmonary symptoms in volunteers. Note: I have no commercial or other interest in Nature’s Life. This product was selected for testing due to its ready availability online and reasonable retail price).
CIRCULATIONAHA.120.047830 (2).pdf - D, L-lysine acetylsalicylate + glycine (LASAG)

Evidence that α-lipoic acid inhibits NF-κB activation independent of its antioxidant function - PubMed (nih.gov)

The Immunomodulatory Effect of Alpha-Lipoic Acid in Autoimmune Diseases - PubMed (nih.gov)

The effect of alpha-lipoic acid on inflammatory mediators: a systematic review and meta-analysis on randomized clinical trials - ScienceDirect

α-Lipoic acid is a potent inhibitor of NF-κB activation in human T cells - ScienceDirect

Vitamin C inhibits NF-kappa B activation by TNF via the activation of p38 mitogen-activated protein kinase - PubMed (nih.gov)

Vitamin C suppresses TNF alpha-induced NF kappa B activation by inhibiting I kappa B alpha phosphorylation - PubMed (nih.gov)


Flavonols as potential antiviral drugs targeting SARS-CoV-2 proteases (3CLpro and PLpro), spike protein, RNA-dependent RNA polymerase (RdRp) and angiotensin-converting enzyme II receptor (ACE2) (nih.gov)


Cepharanthine: An update of its mode of action, pharmacological properties and medical applications (nih.gov)

Cepharanthine - an overview | ScienceDirect Topics

A critical review: traditional uses, phytochemistry, pharmacology and toxicology of Stephania tetrandra S. Moore (Fen Fang Ji) | SpringerLink

Cepharanthine – At least 80 research studies have now been published on Cepharanthine which have demonstrated its remarkable effects on the body and it is an officially approved medicine by the Japanese Ministry of Health.

Tea polyphenols inhibit the activation of NF-κB and the secretion of cytokines and matrix metalloproteinases by macrophages stimulated with Fusobacterium nucleatum | Scientific Reports (nature.com)

Tea Polyphenols EGCG and Theaflavin Inhibit the Activity of SARS-CoV-2 3CL-Protease In Vitro (hindawi.com)

Green tea catechins suppress NF-κB-mediated inflammatory responses: relevance to nutritional management of inflammation | British Journal of Nutrition | Cambridge Core
The tea catechin epigallocatechin gallate inhibits NF-κB-mediated transcriptional activation by covalent modification. Archives of Biochemistry and Biophysics - X-MOL (x-mol.com)

Protective Effect of Epigallocatechin-3-Gallate (EGCG) in Diseases with Uncontrolled Immune Activation: Could Such a Scenario Be Helpful to Counteract COVID-19? - PubMed (nih.gov)

Inhibition of Nuclear Factor κB Activation and Cyclooxygenase-2 Expression by Aqueous Extracts of Hispanic Medicinal Herbs (nih.gov)

Liu Shen capsule shows antiviral and anti-inflammatory abilities against novel coronavirus SARS-CoV-2 via suppression of NF-κB signaling pathway (nih.gov)


Lianhuaqingwen exerts anti-viral and anti-inflammatory activity against novel coronavirus (SARS-CoV-2) (nih.gov)

Presence of hyaluronan in lung alveoli in severe Covid-19: An opening for new treatment options? (jbc.org)

4-Methylumbelliferyl glucuronide contributes to hyaluronan synthesis inhibition (nih.gov)