In Times of Covid 19

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BSEM Blog

"It is no measure of health to be well-adjusted to a profoundly sick society." J Krishnamurti

We had hoped that by now, we would have some semblance of clarity regarding the current extraordinary situation and a modicum of certainty about the road beyond the crisis. Despite increasing talk of lifting restrictions and other countries easing citizens back into a freer state of affairs, here in the UK the official advice is on-going distancing, hygiene and personal protective gear for an undetermined time.

Since the time of the last newsletter, much has come to pass with contradictory and confusing information on the airwaves regarding the clinical picture, the provenance and emergence of the problem. Mainstream media report on a narrow band of the spectrum of information, strictly channeled through daily briefings and coordinated on an international level. The clinical picture continues to change. Even more confusion reigns over how to deal with it,

especially going forward into the 'post-corona' state. We have not had any definitive reports on how the virus arose and spread with a clear dismissal of any questioning of the official version as a distraction. Whether the virus mutated spontaneously, was emerged from a seafood market by randomly jumping species from bats to humans, or from a BSL4 virology laboratory in Wuhan, the origin of the outbreak has been mired in controversy. It is worthwhile looking at how the peer reviewed medical literature has documented the evolution of the problem since SARS-1.

1. The Evolving Clinical Picture of CV19 Disease

The clinical picture of COVID-19 related disease started off as pneumonia and ARDS and very soon changed into a clinical chimera of a multi system inflammatory disorder. The initial recommended treatments with early invasive intubation and ventilation actually caused much harm and increased death rates. It took the keen observations of a number of colleagues from intensive care units around the world and their courage to speak out to open our eyes to the fact that patients were dying of silent hypoxaemia. The treatment protocols were based on the hypothesis that patients were dying of ventilator failure but in effect it became apparent that the problem was due to a pulmonary perfusion problem requiring non-invasive continuous or intermittent oxygenation with pronation.
Modelling is suggesting that the hypoxia found in late-stage COVID-19 may be due to a form of porphyria. This matches the non-ARDS aspects of the disease being noted.
(https://chemrxiv.org/articles/COVID19_Disease). "The study results show that ORF8 and surface glycoproteins could combine to the porphyrin to form a complex, respectively. At the same time, ORF1ab, ORF10, and ORF3a proteins could coordinate attack the haem on the 1-beta chain of haemoglobin to dissociate the iron to form the porphyrin. The attack will lead to less haemoglobin to carry oxygen and carbon dioxide." This may explain the very high ferritin levels reported in patients.

Further information now also suggests microangiopathy and thrombosis as significant in the pathophysiology of the condition. Each day new clinical presentations in different organs make an appearance in medical reports: COVID coronary disease; renal microvascular thromboses and FSGS like syndrome; liver and gut hypoperfusion due to microthrombi; vasculitic skin lesions, Kawasaki-like syndrome in children, strokes etc..... There is greater

definition in the antecedents for poor prognosis. It is now clear that inflammatory states such as obesity and diabetes reduce the resilience of potential victims of the infection. At the very least, the medical fraternity is waking up to the importance of treating underlying inflammation in metabolic conditions. The role of vitamin D deficiency is starting to surface in the consciousness of the medical establishment thanks to the efforts of doctors of nutritional medicine. Sadly GPs have been told not to test Vitamin D levels in patients, instead to instruct them to purchase over the counter vitamin D supplements which may not be of sufficient strength to confer a clinical benefit.

Clinical Heterogeneity and Notification Bias

It is still difficult to determine the true number of cases and deaths attributed to the virus. This is both due to limitations of initial restrictions on testing as well as the heterogeneity of its presentation, mostly mild or asymptomatic and in a very small minority severe requiring intensive care, as confirmed by the Chief Medical Officer, Chris Whitty. The method of death certification has been steeped in controversy and there are significant differences in reported mortality rates between countries depending on how the deaths are reported. For example in Germany COVID 19 positivity does not necessarily result in death being certified as due to COVID and therefore the mortality levels are lower. Many health authorities from around the world have written to doctors instructing them to include COVID 19 in the death certificates of the deceased, even in the absence of positive test results, raising the number of reported mortality rates. This has been admitted to by Dr Birx in the US and Professor Patrick Vallance in the UK, who explained in a recent discussion that not all patients who have had COVID 19 on their death certificates have died of COVID 19.

Collateral Damage

The conflicting information has made it almost impossible for a sane strategy to balance the health needs of those at risk of the infection and the whole population's health, economic stability and our human and civil rights. This is coupled with the worrying data emerging of the increased number of deaths from those who cannot or will not access medical care. Many members of staff in hospitals and nursing homes have expressed their discomfort about DNR decisions based on age or mental capacity of patients without due process, solely based on the premise of saving the NHS's resources. Furthermore, an article in the BMJ of May 13th entitled "Covid-19: "Staggering number" of extra deaths in community is not explained

by covid-19", (https://www.bmj.com/content/369/bmj.m1931) includes the statement that ' "the huge number of unexplained extra deaths in homes and care homes is extraordinary. When we look back . . . this rise in non-COVID extra deaths outside the hospital is something I hope will be given really severe attention." He added that many of these deaths would be among people "who may well have lived longer if they had managed to get to hospital." ' This crisis has certainly challenged us with so many ethical questions and decisions.

Medical Myopia

From the perspective of ecological medicine, we have found the government and health agencies' response to the challenge lacking and devoid of joined up thinking. It seems from the assertions and policies of the said agencies, that medicine has little to offer by way of protection and prevention other than the hope of a future vaccine. This portrays a deep ignorance of the role of our immune system, at best viewing it as operating in a bubble. Nowhere in the mainstream media and the propaganda machines of the establishment do we hear anything about immunity and its links to lifestyle, nutrition, toxicity. Any voice that suggests such links is slammed down as a dissenting from the mask, soap, quarantine, future vaccine mantra.

The 'Immunity Bubble'

Immune function is deeply embedded within the biochemical and physiological matrix of living organisms and therefore amenable to modulation through interventions on all such levels. Whilst the scientific literature is rich with evidence of intricate interactions between immune function, microbiota, biochemistry, physiology and nutrition, in clinical practice little consideration is paid to these factors as effective levers for enhancing immunity, this to the detriment of the health of the population. Understanding this concept is particularly important at the time of an epidemic such as the one we are facing. The deterioration in immunity caused by poor living standards from incarceration, lack of sunlight, exercise and good food, increased tobacco and alcohol consumption, psychological consequences of isolation and fear, excessive hygiene and distancing is significant. Each of these factors are a major risk factor in both immune and general health but put together in the way the population have been experiencing it for the last two months, they become an explosive cause of disease per se and a major risk factor for poor immunity.

There is much more to restoring health and security to the population than what is being offered. It appears that our medical colleagues have forgotten that life is begotten and is maintained in community and that our immune system does not operate in in a bubble of isolation. The paradox of controlling a disease through separation means our greatest allies in fighting pathogens (teeming microbial communities on our skin, naso-pharynx and the whole length of the gut) are not recruited and utilised to full effect. Excessive hygiene, distancing and staying away from nature are individually and collectively detrimental not only to our health but also disrupt the bridge of protection that connects our microbiota and immune system to the very soil of our existence in nature.

By limiting our strategy for dealing with the pandemic to distancing and lockdown, we are in effect breeding a population with deteriorating innate immunity Just as with the overuse of antibiotics creating superbugs, excessive handwashing, aseptic and sterile living quarters will do more harm. All life thrives in relationship not in isolation. Even in conditions such as the current viral pandemic, the dynamics are more nuanced than that of a battle between an aggressor and a victim. Social contact, exchange of microbes, as well as physical contact all is necessary for health and the diversity of our microbial community is maintained through an interconnected personal and social network. Microbes are not our enemies. They represent our strongest partners in health in many ways not least by forming an effective and dynamic barrier as a vibrant ecosystem with high levels of biodiversity and pluripotentiality. Furthermore are they are a key training ground and modulator of our immune system. They regulate the flow and availability of nutrients that build mucus, cellular as well as charge barriers and fine- tune our immune response to an invading pathogen.

The Role for Nutritional Medicine

At every level, nutritional medicine can enhance and modulate immunity when we regard it in the context of our biodiverse inner and outer ecosystems. The myriad dietary, lifestyle and nutritional interventions available can protect patients as we contemplate the easing of movement restrictions and in preventing a second wave when the above precautions are in place. This is what as clinical ecologists we do best, for example the role of vitamin C in viral infections and COVID are evident from the following link http://orthomolecular.org/resources/omns/v16n14.shtml. Our inability to get this message through to the authorities around the world has been the greatest source of frustration. We must see the

contagion in the context of a larger process. This includes the conditions of the terrain in which the germ tries to take hold. This seems to be lost on governments and our mainstream colleagues alike. The pinnacle of medical progress seems to be summed up in shutting away whole populations, healthy or not, side-stepping each other in public, scrubbing hands and wearing masks with highly dubious efficacy for prevention. It is as if the prevailing medical culture is afflicted by a severe case of tunnel vision. Any alternative approach is dubbed ‘fake news’ and ‘dangerous’ and discarded without due diligence and critical analysis. In the face of an apparent united front, it would seem that there is unanimous agreement on the approach to the pandemic.

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Beyond Lockdown

Mainstream voices such as Professor Alison Pollock beg to differ. They question the rationale behind medical martial law in contrast to a system of testing, contact tracing and isolating the affected. She and many other experts have strongly challenged the ‘received wisdom’ from the WHO and other epidemiologists, clinicians and scientists’ which promote the use of Apps for tracking individuals’ state of health as the best way to ‘fight’ the virus. She raises grave concerns over its efficacy, practicality as well as human rights, privacy and data protection implications. The measures instituted as the current norm to control the virus, are already causing immeasurable suffering and death than they promised to prevent. If we were to step into the authorities’ paradigm for protection against the virus, all we are offered in the future is the promise of a fast-tracked vaccine. There are serious concerns around the efficacy

and safety of respiratory virus vaccines based on the track record of immunisations in RSV, SARS-1 amongst others. Dr Fauci of the NIH himself has predicted that hundreds of thousands of people may suffer with serious cytokine storms as a result of vaccination, as has been the experience with previous vaccines. He has therefore called for full international indemnity for the vaccine industry against death or morbidity arising from any such vaccines. This hardly inspires confidence in any mass inoculation programme that will be rushed through 'at warp speed'. It is this that led the president, Dr Damien Downing, in collaboration with Dr Robert Verkerk of the Alliance for Health International, to write an open letter to Matt Hancock, the UK Secretary of State for Health and Social Care, calling for full transparency regarding the development, testing and roll-out of COVID 19 vaccines: https://www.anhinternational.org/news/the-10-point-vaccine-transparency-approach/

Whatever the evolution of the virus or the decisions around its containment, it is patently obvious we have not been given a balanced view of our options in this crisis. No clear strategy has emerged either therapeutically or for a roadmap for exiting the lockdown. This is true both from the perspective of safeguarding the health of the population as well as the fabric of our civilization. Our choices are manifold. Do we believe that the pre-COVID era was 'normal' and therefore a return to pre-COVID days is desirable? Certainly not! All was 'not well in the State of Denmark' and much needed and needs to change. Having been forced to halt our regular activities, will we use this unusual opportunity to take stock and work toward the restoration of life on a different footing? Or will we drop back to the old habits of modern ills and continue to generate the conditions which led to the present crisis? We have the chance to rebuild our lives from a place of simplicity and equity using all the paths that are available to us for establishing health in its broadest definition. This is only possible by discerning what is truly essential to human health on all those levels and what is not. To paraphrase Ervin Laszlo, together, we as the one humanity have a choice: to descend into chaos or ascend to a new ordered way of living based on the values of cooperation, sharing, equality and sustainability. Here is to serving together in united resolve to create beauty out of the current chaos.

2. Emerging Evidence for Gain of Function Research in Coronavirus

A number of such publications on coronavirus in vivo and in vitro experiments build a different picture to that of a random mutation and species leap. The Wuhan Institute of Virology (WIV) has been involved in bat coronavirus research since the time of the first SARS outbreak in 2003. Shi Zhuang Li, a top expert in the field and leader of the team at the WIV, has an impressive track record, reporting on their work of manipulating coronaviruses in prestigious medical publications since 2007. They have published four papers of significance in this context. Their focus from 2010 onward was redirected to identify corona virus capacity to jump species especially looking at the spike protein in collaboration with an international team of researchers. Much of their work has been regarded as gain of function research, i.e. pathogenicity or transmission of virus being enhanced.

Interest in the human ACE2 receptor entry point

SARS-CoV had previously been shown to use the human ACE2 receptor as its entry point and its means of cross-species transmissibility. The viral receptor binding domain (RBD) located in the amino-terminal region of the SARS-CoV spike (S) protein had been found to be directly involved in binding to human ACE2 receptors. Despite some phylogenetic evidence that SARS-CoV evolved from bat SARS-like CoVs, the latter have major sequence differences from SARS-CoV in the S protein RBD, including one or two deletions. Shi and her team demonstrated that replacing the RBD of one SARS-like CoV S protein with SARS-CoV S conferred the ability to use human ACE2 which replicate efficiently in mice models by the WIV team in a June 2010 paper entitled 'ACE2 proteins of different species confer variable susceptibility to SARS-CoV entry' in the Archives of Virology. (DOI 10.1007/s00705-010-0729-6).

However, it wasn't until later that wild-type SL-CoVs of bat origin were shown to use ACE2. In 2013 the same team published a paper in Nature claiming a breakthrough having sequenced the whole genome of two novel viruses from the Chinese horseshoe bat family (RsSHC014 and Rs3367) with a broad species tropism capable of direct human transmission. These viruses were able to use the SARS-CoV cellular receptor molecule (i.e. the human ACE2 receptor) to successfully gain entry via the ACE2 receptors to humans due to 'perfect sequence alignment with the SARS-CoV RBD region'. (Nature 2013 Nov 28; 503(7477):535-8. DOI: 10.1038/nature12711)

Novel spike protein

Then in November 2015 Shi et al published a further report in Nature

Medicine (Nat Med. 2015 Dec;21(12):1508-13. doi: 10.1038/nm.3985) having examined the emergence potential (potential to infect humans) of a number of circulating bat CoVs. They claimed they had generated and characterised a self-replicating chimeric virus from a SARS-CoV reverse genetics system, expressing a novel zoonotic CoV spike protein from the SHC014 sequence they had isolated from the Chinese horseshoe bats in their 2013 paper and grafted onto a SARS-CoV mouse-adapted backbone. The results indicated that viruses encoding this spike protein in a wild-type backbone could: a) efficiently use orthologs of the SARS receptor human ACE2 receptor, b) replicate in primary human airway cells, c) achieve high titres in vitro equivalent to epidemic strains of SARS-CoV, and d) demonstrate notable pathogenesis in a mouse lung model. In essence they had created a synthetic virus from grafting the spike protein from the bat CoV capable of using the human ACE2 receptor they had reported on previously, on to the backbone of the SARS virus.

Since then, further information suggests that in order for the virus to gain entry once it has docked on to the ACE2 receptor, the spike protein is proteolytically cleaved. A number of enzymes such as plasmin and furin have been postulated as the enzyme which is involved in this process. Some scientists suspect that the presence of clotting disorders in COVID 19 patients is further evidence for a laboratory-engineered virus. Chinese researchers believe that because COVID 19 is the only coronavirus with a furin cleavage site and because whole inserts are not part of the mutation pathway, it is highly unlikely to have evolved from other coronaviruses as a result of mutation.

US Funding of This Gain of Function Research in China

Another aspect is that the NIH itself has been involved in the above research. Research on gain of function was being conducted in the US through until a moratorium in October 2014. A fierce debate among scientists over the risk-benefit ratio was epitomised in the comments of Harvard epidemiologist Marc Lipsitch and the Cambridge Working Group of 17 other scientists in the journal Nature in 2015: “"The irony of GOF [gain of function] studies is that these results are likely to be useful for public health only if the pandemic arises from a lab accident, as many fear could happen if this work proliferates” (https://www.nature.com/articles/501033e.pdf). More than 200 scientists eventually espoused the position. Three years later though, in December 2017, the NIH ended the moratorium. And it does appear that this funding and research had in fact extended to the

Wuhan lab from long before that. The NIH appears to have begun funding Shi Zheng-Li in a project initiated in 2014, and completed in 2019. A second phase started in 2019, run by EcoHealth Alliance, Inc., a non-profit based in New York that collaborates with a leading Chinese researcher who studies bat coronaviruses in Wuhan, was discontinued just recently (24 April 2020) (https://www.newsweek.com/dr-fauci-backed-controversial-wuhan-lab-millions-us-dollars-risky-coronavirus-research-1500741).

Whether any of the above bears direct or indirect relevance to the current pandemic, it has become a subject of much controversy, mudslinging and has led to active suppression of information from anywhere other than the mainstream media worldwide on the subject. And whether or not any of the theories bandied around on mainstream media and alternative platforms are true, in the midst of the bubbling farrago of news or 'fake news', censorship, rumours and propaganda, the key question which needs an urgent answer is where do we go from here both from the clinical perspective and the broader issue of the choices around how we live in the post-COVID era and based on which values and what paradigms.

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