To my valued patients

<u>An important note about antibody testing</u>

I am putting this topic first because I get calls or email every 15 minutes regarding antibody testing. <u>Please be very wary of antibody tests that are available to date</u>. Our offices are not currently providing antibody testing because I will only perform a test when I have total trust in the manufacturer, I understand the science behind the manufacturer's test, and have read the validation statistics on the test.

Many individuals and organizations have approached me and asked me to offer their antibody test. To date, I have refused because of the questionable nature and unknown reliability of the proffered tests. This is not to say that all antibody tests are invalid. Furthermore, the sheer number offered in so short a period of time gives me pause because it seems as if test makers are trying to cash in on the population's fears.

Many of my patients have already received test results from various locations they selected. Taking the coronavirus antibody test is a personal decision at this time. If you wish to proceed with outside testing may I suggest, though, that you ask the following questions of the test administrators which are similar to the questions I ask of all the offers I have received.

- Where was the product manufactured?
- Is there FDA approval? If not, is FDA approval pending?
- Has the test been given Emergency Use Authorization (EUA)? An EUA approval is not the same as an FDA approval.
- Is there an IgG and an IgM component to the antibody test?
- What is the sensitivity and specificity of the test? Sensitivity is the ability of a test to correctly identify those with the disease (true positive). Specificity is the ability of the test to correctly identify those without the disease (true negative).

- Will the results of the test be accompanied by an interpretation? Or, will the test merely state whether the results are positive or negative?
- What is the cross-reactivity with other coronaviruses? Remember, there are many coronaviruses in the US that cause mild cold-like symptoms. You may have had one of these other coronaviruses but not the current COVID-19 infection. If the test is not specific for COVID-19 infection, what is the purpose of getting the test?

  For example, I just looked on the Vibrant America website. The following statement is at the bottom of https://www.vibrant-america.com/covid-19/:

  > The test has been validated but FDA's independent review of this validation is pending. Negative results do not rule out SARS-CoV-2 infection, particularly in those who have been in contact with the virus. Follow-up testing with a molecular diagnostic should be considered to rule out infection in these individuals. Results from antibody testing should not be used as the sole basis to diagnose or exclude SARS-CoV-2 infection or to inform infection status. Positive results may be due to past or present infection with non-SARS-CoV-2 coronavirus strains, such as coronavirus HKU1, NL63, OC43, or 229E. Not for the screening of donated blood.

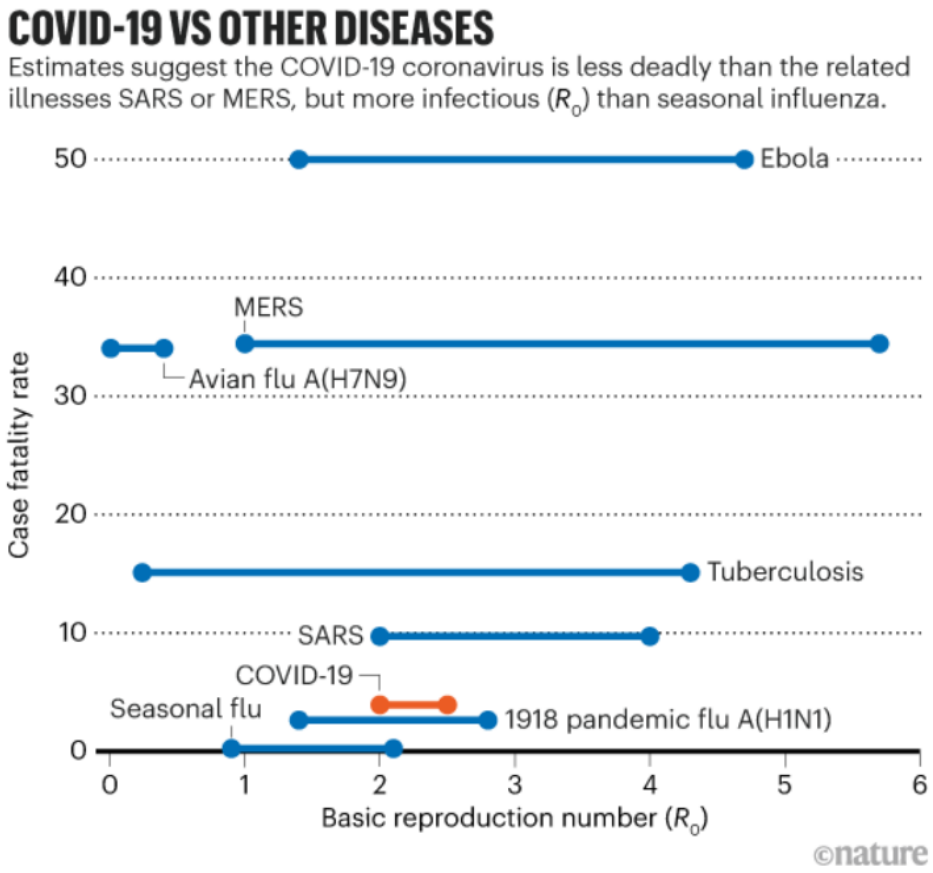
- Is the test qualitative or quantitative? Almost all tests to date are the less accurate qualitative test. Here is what a qualitative test looks like. A qualitative test indicates either positive or negative.

I take the responsibility of evaluating various tests and treatment modalities very seriously. I will tell you when I think something is experimental but has a good chance of validity and when I believe something is not quite ready to be used. Your trust in me is a something I truly value. It is in times like this, with news and opinions circulating at ever increasing rates, that I fully investigate the various treatment and testing options being promoted.

COVID-19 vs. other deadly infectious diseases

The various types of determining fatality ratios was discussed in a prior newsletter (http://reedwilson.com/wp-content/uploads/2020/04/April-8-newsletter-COVID-19.pdf). Below is a graph comparing the case fatality rate of various diseases. On the "bad disease"

scale, the case fatality rate for the coronavirus does not seem very high. I suspect the fatality rate will be even lower as we are able to test more people and rely less on projections and estimations. Over the coming days you will see a lot about various fatality rates, most of which will continue to drop. A preliminary German study shows an infection fatality rate of 0.4%. In this study, German virologists tested almost 80% of the population in the city of Gangelt for antibodies and determined that the fatality rate was 0.37% (rounded up to 0.4%). Just for comparison, the average flu fatality rate is 0.1%.

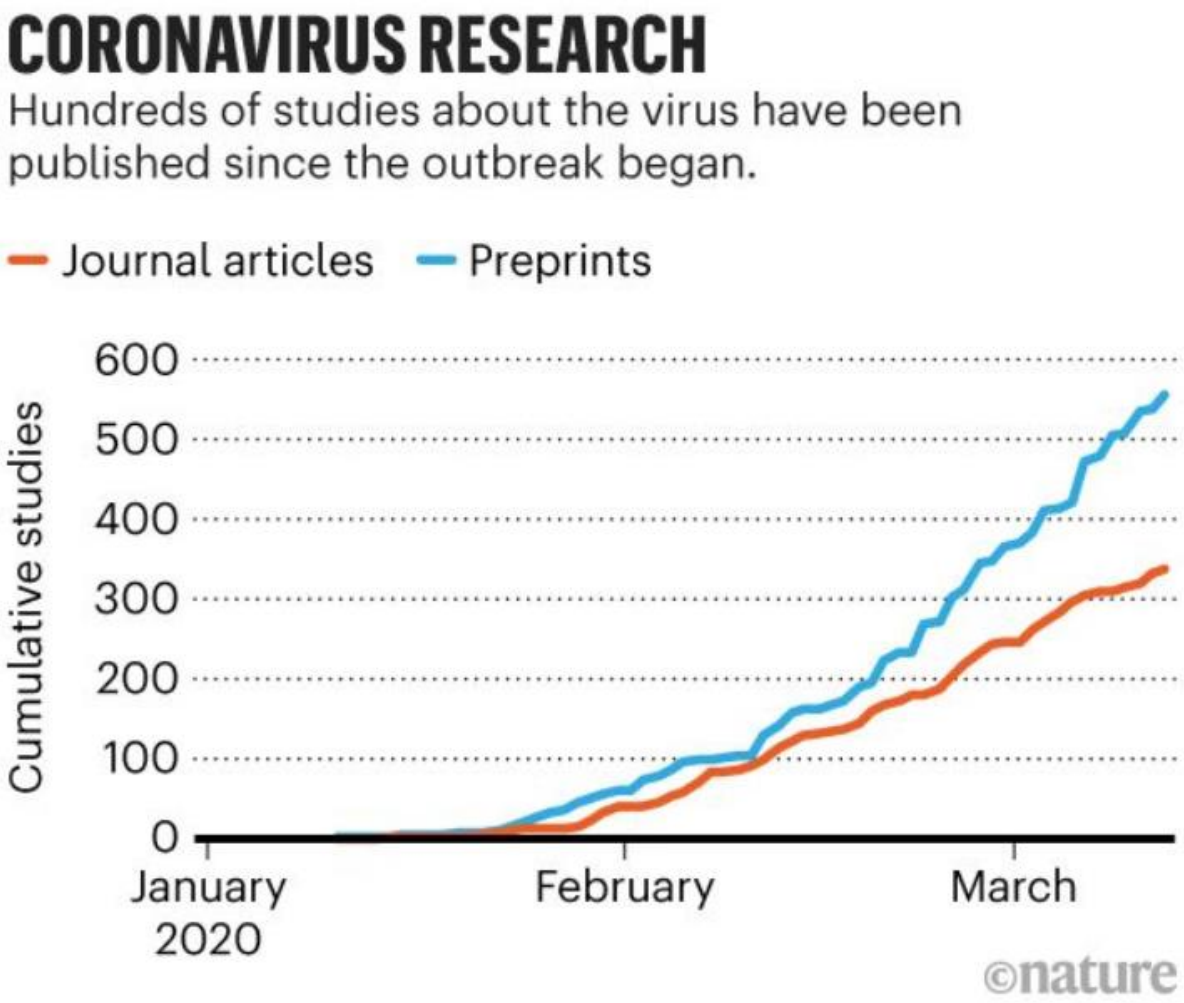


There is another paper I am trying to obtain that stated the true coronavirus mortality rate could be as low as 0.1%. I will not comment on the validity of that estimate until I can see the actual article and methodology.

Amazing number of publications

It is simply amazing how many scientific publications are coming out each day about the coronavirus. The level of resources being applied to this disease is amazing on all fronts from research, to drugs, to personal protective equipment, to finances and more.

Below is the volume of research currently being published. The sheer volume is impressive because it can take years to perform research studies followed by months before the results are published. With that in mind, look at this graph.



Although there is an upside to such a rapid publication of studies, you must realize that publications are usually carefully screened through a process known as peer review. Peer review occurs prior to the publication of an article. During that time, the study is reviewed by experts in the field who go over the data, the statistics, the methodology and the conclusions to make sure the study results are as accurate as possible. With the rapid rate of publications on the coronavirus, there is little chance for adequate peer-review. This is understandable given the current situation, but you should realize that the lack of adequate review can lead to the publication of misinformation.

This is not to put a kibosh on all the literature coming out; it is merely a caveat to carefully check the source of the literature when you see it quoted in the press. With so much data being released before publication and just after publication, some of the material lacks

scientific rigor and some has already been exposed as flawed, or even wrong and has subsequently been withdrawn.


Early report

Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children

A J Wakefield, S H Murch, A Anthony, J Linnell, D M Casson, M Malik, M Berelowitz, A P Dhillon, M A Thomson, P Harvey, A Valentine, S E Davies, J A Walker-Smith

Summary

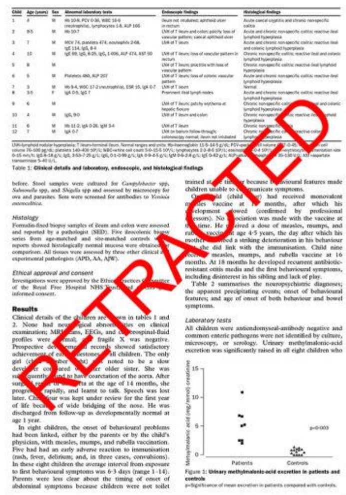
Background We investigated a consecutive series of children with chronic enterocolitis and regressive developmental disorder.

Methods 12 children (mean age 6 years [range 3–10], 11 boys) were referred to a paediatric gastroenterology unit with a history of normal development followed by loss of acquired skills, including language, together with diarrhoea and abdominal pain. Children underwent gastroenterological, neurological, and developmental assessment and review of developmental records. Ileocolonoscopy and biopsy sampling, magnetic-resonance imaging (MRI), electroencephalography (EEG), and lumbar puncture were done under sedation. Barium follow-through radiography was done where possible. Biochemical, haematological, and immunological profiles were examined.

Introduction

We saw several children who, after a period of apparent normality, lost acquired skills, including communication. They all had gastrointestinal symptoms, including abdominal pain, diarrhoea, and bloating and, in some cases, food intolerance. We describe the clinical findings, and gastrointestinal features of these children.

Patients and methods



I try to provide you evidence about the strengths of any study I quote. I try to tell you when the sample size of individuals tested is large or small. I also try to explain how the study was performed: were there controls (meaning one group got no drug and one did) and was the study blinded (i.e., the researchers do not know who has been treated and who has received placebo)? But sometimes the data on controls and blinding is not available. I will continue to provide the earliest data to you and explain any limitations that I see.

<u>More on mental health and COVID-19</u>

Many people have responded to my mental health comments during COVD-19 so I thought I would delve a little deeper. There are thousands of pop psychology sites to tell you how to cope. Everyone is different and will respond to some suggestions and not others. Use your common sense when evaluating suggested coping mechanisms.

Now to some more scientific observations. We are all experiencing great uncertainty, including uncertainty about the disease and uncertainty about the future. Uncertainty is an uncomfortable feeling for everyone; can you imagine how this uncertainty is magnified in people with underlying emotional problems? Baseline depression or anxiety exacerbate feelings of uncertainty. Individuals with obsessive-compulsive disorder that is fairly well controlled can become "uncontrolled". As if this uncertainty is not enough, layered on top of uncertainty is social distancing. As part of maintaining social distance, people don't work in a workplace with others, do not spend time with people they care about and cannot do activities they enjoy. Social distancing leads to unhealthy isolation.

Physicians on the front lines of treating patients with coronavirus have the added anxiety of dealing with a new disease, often without all the right equipment. In addition, colleagues are getting sick and even dying.

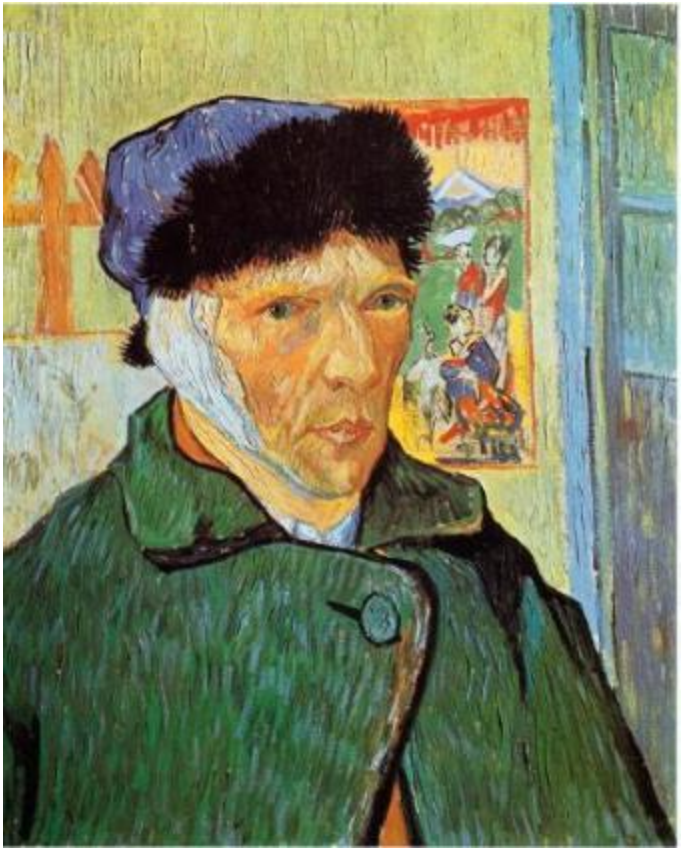
We have seen people burst into tears, become easily frustrated and angry. Throw in a few doses of nightmares, insomnia and decreased concentration and you have a recipe for true emotional overload.

The current environment is a set-up for PTSD (post-traumatic stress disorder). No, we are not soldiering on the battlefield with bullets flying around us watching our comrades die in our arms, thank G-d. PTSD is defined as a traumatic disorder with a real or perceived fracture with life and that life fracture is something we are experiencing. So be understanding, be hopeful and throw in a dose of compassion for others.

One of the things I am trying to do with these newsletters is to provide information in a conversational manner to arm you with knowledge about the coronavirus and progress in treating in the disease. I would like you to see that all is not gloom and doom and that we are making amazing progress at a pace which has never before been seen in history. I use this knowledge to relax and focus on the good things that are being done. I hope you can as well.

Medicine and art

The painter reviewed in the last newsletter was Picasso, but now let's return to Van Gogh.



This self-portrait was painted shortly after van Gogh returned home from the hospital after having mutilated his own ear. The prominent bandage shows that the context of this event is important. Van Gogh depicts himself in his studio, wearing his overcoat and a hat.

His facial expression is still and melancholy, as though he is contemplating his position as an artist.

On the left, a blank canvas suggests that there is more work to come from this artist, as indeed there was, and a Japanese print on the right relates to an area of great artistic interest for van Gogh. That print is a manipulated copy of a real print by Sato Torakiyo that was owned by van Gogh. Van Gogh had that print pinned on the wall in his studio. In order to fit his own face into the composition, van Gogh shifted the figures and Mount Fuji from Torakiyo's print to the right.