Once we get past the shock and awe of CoVid-19, How will we know if our drugs are working?

Re: Covid-19: cases grow in US as Trump pushes promise of a malaria drug **Janice Hopkins Tanne.** 368:doi **10.1136/bmj.m1155**

After the initial shock and awe of CoVid-19 - reminding us that nature has a very powerful way of teaching us that even something very small can be very harmful - we are left with the choices of either (1) reducing the transmission and spread of the virus as we have already talked about [https://www.bmj.com/content/368/bmj.m1087/rr], while also treating those who become seriously ill, requiring hospitalization and use of our limited resources including the numbers of intensive care beds available both in the U.S. and around the world, or (2) simply letting this disease run its course without human intervention; a step that will leave countless numbers of people dead or severely impaired.

If we chose the later approach, we need read no further.

If however, we chose the first approach, we must then acknowledge the need to address this logically-scientifically; i.e. by measuring the results of what is happening, instead of guessing [1].

Despite what people think, screening tests – like PCR swabs – are not always right, and they are not treatment. These tests screen, and because they screen, there are times when they are wrong! There are multiple examples of people who have already screened negative for CoVid-19, only to become seriously ill days later. Thus, having been told there is nothing to be concerned with, they continue to interact with others and potentially spread the virus.

Merely having large numbers of people screened does not mean we know the reality of the spread or mortality of CoVid-19 and screening does not tell us who will become critically ill and who will be asymptomatic. PCR sensitivity – the ability to find CoVid-19 when a person is infected - has been estimated to be between 30-73% and we have no idea what the specificity – correctly telling you, you don't have CoVid-19 - of PCR screening is.

For those who are critically ill and require hospitalization, it is clear that most of these people will require treatment if they are to live. That treatment must target the infection and the inflammation surrounding that infection [2]. To know if the anti-malaria drugs like chloroquine, or hydroxychloroquine work – or if other drugs or combinations of drugs are needed, including inter alia ARBs, retrovirals or vitamin D – we have three choices.

(1) We can guess and give these critically ill patients the drugs based upon trial and error and see if they get better or die. Arguably this is not the desired approach; either from a physicians perspective, or from the patient's, their family or friends standpoint. This also means we will be guessing at the combination of drugs and the doses. Time will be lost and people will die.

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(2) We can give these medications to patients and take biopsy specimens from the lungs to see if we achieve the desired treatment effect. This is clearly better than guessing, although patients tend not to tolerate repeated bronchoscopy and open thoractomies with biopsies well if they are ill, and the more often these procedures are required, the less well they are tolerated.

(3) The final option would be to use a method, which can actually measure changes in tissue – both before and after treatment – thus determining treatment effectiveness. Such an approach, if non-invasive, would be well tolerated by patients and allow changes in medication throughout the course of treatment based upon the actual patient response; saving valuable time, money and lives.

It would seem prudent to scientifically argue that the latter approach is the most desirable. A method, which is well tolerated by the patient, and a method, which can measure actual – not theoretical - treatment response making it possible to tailor treatment to each patient for optimum results.

Fortunately, such a diagnostic and treatment focusing method already exists and is available for licensed use [1]. This patented method has been used for both heart disease and cancer, but is equally applicable for measuring the changes in pulmonary tissue associated with infection and inflammation.

It is also being made available for use during this pandemic without cost for as long as the pandemic is in effect; allowing clinicians and researchers to tailor treatment of CoVid-19 patients to achieve the maximum benefit in the least amount of time; improving patient care and conservation of medical resources.

FMTVMD is issued to first author.

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Competing interests: FMTVMD is issued to first author.