COVID-19 WEBINAR: THE SINGAPORE EXPERIENCE (PART II)

COLLATED QUESTIONS FROM PARTICIPANTS

25 APRIL 2020, SATURDAY

The questions are grouped according to the following categories:

I: COVID-19 Cases

II: Case Definition and Transmission

III: Testing Strategy

IV: Test Kits

V: Clinical Care and Management

VI: Discharge Criteria

VII: Reinfection and Relapse

VIII: Conveyance of Cases

IX: Vaccines and Treatment

X: Mask Wearing and PPE

XI: Community Isolation Facilities

XII: Healthcare Manpower

XIII: Nursing Homes

XIV: National Electronic Health Record (NEHR)

XIII. Foreign Workers

XIV. Other Areas

REF QTN NO	QUESTIONS FROM CHAT PARTICIPANTS	ANSWERS
I. COVID-19 Cases		
2	Any cases of DIVC or extensive thrombosis as reported in other countries?	The local experience has not been the same. So far no significant thrombosis related issues
3	Do you often see patients who are seemingly well but are actually very sick. What is they their presentation like?	Some patients did not report breathlessness but had borderline oxygen saturation and CXR showed pneumonia. Not very common.
18	Morbidity and mortality – why severity of infection and death rate is so variable across countries?	Surveillance, contact tracing and border controls, scale up, availability of resources, testing capacity, availability of PPE, and infrastructure for ill hospitalized patients including the need for ventilators, etc influence mortality rates
22	Are there differences in the symptomology of the community cases vs the dorm cases?	Language barriers impede accurate history on symptoms among foreign workers. Other than many with milder diseases because of younger age, we don't see many differences
5	What did the post mortem of the 32 year old Indian Male who died at home show? His case was reported in the media on 8 April. It is very unusual for a 32 year old healthy male to die suddenly of pneumonia at home. Was there myocarditis? Or was there pneumonia on the CXR (in retrospect)?	AMI reported cause of death. But forensics can shed more light on detailed findings later
7	Recently there have been reports from France and California of Covid-19 patients presenting with venous thromboembolism. What is the experience in Singapore? What treatment do you recommend? Do you use Heparin for such patients?	This is an evolving field. It is being recommended that certain critically ill patients be given prophylaxis against VTE.
13	Mechanism of action – does this virus affect the haemoglobin chain anyway- some hypothesis is proposed ?	We don't see marked effect on haemoglobin nor reported from China
21	There is a report from Mt Sinai Hospital (reported in the Straits Times on 22/4/20) suggesting that Covid-19 patients develop hypercoagulability and that this accounts for pathology like strokes. In response doctors there developed a new treatment protocol where patients with no contraindications now receive high doses of heparin even before any evidence of clotting appears. Is this protocol being tried out here?	This is an evolving field. It is being recommended that certain critically ill patients be given prophylaxis against VTE.
14	Pantropism- does the virus directly affect cells of organs other than lungs – wherever ACE2 receptors are present – such as brain, kidney, heart or the gut?	Wait for more data as the pandemic evolves and more studies are done.
53	Is there any difference in viral load between asymptomatics and symtomatics?	There is no good data in this area
54	Good afternoon. I have a case in the nursing home of a covid19 positive case. Her first swab was negative,the 2nd positive and the third negative again. How much you interpret such a result. The team managing her has gone on to order a stool test. Thanks	3 negative swab PCR make COVID19 unlikely unless compatible clinical illness
56	does infection with one strain of Covid-19 confer immunity against the other strains?	There is only one strain of COVID19 to date. Clades are not strains as antigenically they are still the same.
69	why do we see different mortality rates in different countries. Is there truth that there are different species of SARS-CoV-3 subtypes A, B and C that are distributed in different parts of the world?	Clades are not strains. Antigenically they are similar. Data on virulence related to mutations and clades need to be scrutinised by peer review.
126	Hello any comment on the significance and incidence/prevalence of anosmia as a symptom?	Around 20-30%. Not correlated with sinus symptom or disease severity. Most recover over weeks.
129	some suggestion that nutrition, in particular, protein consumption is useful in reducing risk of progression to severe disease. What does local data suggest?	Obesity is a risk factor for severe COVID19
131	There are reports of thromoembolic disease and strokes in COVID-19 patients. Has this been seen in our population and if so, how does this affect clinical management?	This is an evolving field. It is being recommended that certain critically ill patients be given prophylaxis against VTE.

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II. Case Definition and Transmission		
6	Is there any chance of catching Covid virus from others in a chlorinated, or salt water pool?	Bleach and chlorine should kill COVID19
9	Transmission – how a pre or asymptomatic Covid 19-carrier can transmit the virus – is it by aerosol or surfaces of contact or both and any other mode such as feco-oral?	Most likely droplet transmission and fomites. Feco-oral not likely the main driver
III. Testing Strategy		
15	Testing – how reliable and when to do rapid serological test? How would rapid serological tests help during the outbreak - post outbreak?	So far the serology kits are not useful for acute diagnosis. It can be used to infer if someone has been exposed previously.
49	any considerations for mass testing of healthcare workers for IgG COIVD positive	Ongoing work. Watch out for media release.
50	Are we planning on antibody test to check on spread of silent carriers least in healthcare settings?	Ongoing work. Watch out for media release
22	What happened to the serology test developed by Duke-NUS which was used in contact tracing for the 2 church clusters? Since it works, are we not increasing capacity of this test	Serology will only become positive from day 14 for IgM and day 21 for IgG in most cases. It does not help in acute diagnosis
IV. Test Kits		
22.	What percentage positive by upper respiratory PCR arealso positive by serology and stool PCR ?	>96% will develop antibody by day 21 ~50% stool PCR positive
138	dr leo: might the transport media used in some pcr test kits lead to false negative results as it might affect viability/ culturability of the virus and thus high Ct number on pcr	No UTM is pretty standard.
V. Clinical Care and Management		
116	how sensitive is CXR in covid 19?	CXR is not for diagnosing COVID19. It has prognosis value. If no detectable pneumonia on CXR especially on repeat CXR, very low risk of desaturation
117	At which point was the CXR done to best predict the need for O2 support?	Between days 5-7
119	Does it matter when the CXR was done, in the 1st week or 2nd week fo disease	Between days 5-7
128	Is there any clinical basis for the 5 day MC? If patient recovers from ARI within 5 days does it mean that the patient definitely does not have covid19?	Viral load higher in first 5 days
VII. Reinfection and Relapse		
2	Among those patients who have recovered in Sg, did any become ill again later?	To date, there have been no reported cases of reinfection from COVID-19 recovered patients in Singapore.
4	There has been media reports of recurrence/relapse of covid19 in S Korea. Pls clarify. Were they symptomatic or were they tested as part of their routine protocol?	Unclear why they were re-tested but they were not infectious as ascertained by Korean CDC
10	Post infection spread- does a recovered COVID 19 person continue to spread the virus? If so, how long – reports say 3-6 weeks	Viral shedding data by PCR generally shows it can last 3-4 weeks. Recent data from Germany suggest these PCR positive cases did not grow in viral culture after day 8. Our local data showed that once PCR cycle threshold value >30, we could not grow the virus. At day 14, >95% of patients had PCR Ct value >30.
11	Re-infection - do recovered persons get reinfected – there are reports from South Korea and China – what are the chances ?- How long does the immunity last following one bout of infection ?	Hitherto, no local reports of re-infection or relapse. Unclear about long term immunity at this stage

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78	As we go into the 4th mth since this started, i am sure many GP's are seeing patients who had recovered from covid in Jan/Feb. Should they present with flu like symptoms again to the GPs now, what is the likelihood that this can be a reactivation or should we just presume that it is non covid ARI? Is there a need to refer the patient back to NCID for assessment?	At this stage we know patients produce good antibodies although we don't know how long they will last. Reports overseas of re-infection have never been confirmed. I do not think repeating swab is indicated.
52	Any new updates regarding reinfection from COVID - worse or better than 1st infection?	There is no evidence of reinfection to date.
133	Question to Prof Leo - Good afternoon Prof. I was wondering if we are also doing concomittant viral cultures for some of our COVID-19 patients to ascertain the actual period of infectivity of this disease because I understand that the PCR testing detects RNA fragments but it doesn't actually tell us if the virus is still viable? I ask this because, intuitively, I find it unusual for a patient to be infectious for more than 2 weeks with regard to coronoviral infections	Concomitant viral culture shows PCR cycle threshold value >30 (namely lower detectable RNA) à negative viral culture
134	There have been reports of patients who were assessed to have recovered from covid19 but subsequently tested positive again. What measures are we taking in regard to this?	Detectable viral RNA without viable virus
135	when it is culture negative, is it because the virus is dead, or is it because the culture method is not sensitive enough for the number of viable viral particles	Dead virus
IX. Vaccines and Treatment		
16	Treatment – any treatment is going to be of promise soon – the medicines (antiviral, antiretroviral or azithromycin-hydroxychloroquin combination), convalescent plasma therapy or placental eXpanded (PLX) cells claimed from Israel?	Kaletra and hydroxychloroquine +/- azithromycin are unlikely to save lives. We await trial results from Remdesivir in next month or so. PLX need to be tested in proper RCT's.
22	What are the treatment trials going on in Singapore ?	Remdesivir trials by Gilead and NIH
22	What is the update on the vaccine being developed in Singapore ? When will we be ready for phase 2 trials. The dorm workers are currently a perfect target population to do a vaccine trial on	Preclinical work between Duke NUS and Arcturus
26	Have there been any treatment regime, targeting the morphology of ACE2 Receptor, with a view to decrease viral cellular penetrance?	Recombinant ACE2 receptor and antibody trials are ongoing.
33	Any update or info on efficacy of jianhua qingwen that is being used in China ?	I won't take it myself until a RCT is published in peer reviewed journal
37	Is there a high possibility that BCG vaccination prevents severe manifestation of COVID-19 infection? Most Asian countries that have BCG vaccination programs seem to have lower cases of severe diseases despite having poorer medical facilities compared to Europe and North America.	It remains a theory to be proven. It is not childhood BCG but BCG vaccine triggering innate immunity to protect against respiratory viral infections
38	Recent announcement that a company was successful in using remestemcell to treat cytokine storm in doing so produced 80% recovery in incubated cases. What is your thoughts. Thank you	It needs a RCT. Everything else is experimental
43	To the dismay of many of my physician colleagues, most of the postulated small-molecule and biological treatments with little whole-person basis for antiviral action, the RCTs have consistently shown no clear benefit beyond the placebo effect. I am pleased that you, David, have emphasised the need for robust controlled studies of individual treatments. When hundreds of thousands or even millions of patients might be exposed, the rare adverse reactions will unavoidably cause harm to many patients.	Thank you. There are still some doctors including ID who mean well but do not appreciate the risk of experimental therapy outside of an ethics approved study

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17	Vaccination- how early vaccine is going to be available? WHO said it takes 1.5 year (to be ready by July 21)– but many countries preparing it and recruiting human volunteers by now. What kind of vaccines (live attenuated, similar non- pathogenic strains? etc) are likely to be more effective? Can it be combined with Flu vaccine?(like H1N1)	The development of vaccines for any novel disease requires a long process. Based on current estimates, this may range from about 6 to 18 months. This encompasses broadly 3 stages: i. Firstly, proper trials need to be conducted to determine the safety of the vaccine as it gives rise to issues such as antibody development enhancements if a person contracts COVID-19 or gets exposed to COVID-19 after receiving the vaccine. ii. Secondly, trials will also need to be conducted to determine the efficacy of the vaccine. iii. And lastly, the manufacturing capability will also need to be considered to ensure that sufficient vaccine is available for the world's population. However, based on current assessment, existing manufacturing capability using current technology is not sufficient to be scaled up rapidly to meet the world's demand. This is something that we are currently working with the various institutions, including NCID and NHG, as well as international partners to resolve.
XIV. National Electronic Health Record (NEHR)		
19	Post Pandemic - Will infection prevention practices within healthcare settings change - forever?	Of course, it will and it should.
20	Prevention of Infection - Is it important to take preventive and control measures according to geographical, economic and socio-cultural variations or is it going to be "same size fits all" since the virus is more or less behaving in the same manner across nations?	There are certain things which are not dependent on geography and culture. Mask, social distancing and hand hygiene.
29	I've recently read data from NYC showing >20% rate of COVID19 antibodies in a random sampling of pedestrians using a low sensitivity (<50%) but high specificity antibody test -- would you like to comment on how/when Singapore will commence use of antibody tests, at least in HCWs to enable more appropriate utilization of HCWs and perhaps more rapid return to a semi-open economy vs. waiting for a vaccine?	Watch out for media release from NCID, NUH, KK and polyclinics
60	Do Singaporeans have good levels of vitamin D and does having good vitamin D levels lower risk of contracting covid 19?	Why will good vitamin D level protect against COVID19?
51	The recent clinical data presented by Dr Leong Hoe Nam indicated that this SARS-CoV-2 replicates exponentially and rapidly on infection with asymptomatic transmission of at least 4 days. Prof Wang Linfa of Duke-NUS describe that this coronavirus is unlike others with uninterrupted RNA strand and that the first cases in late Nov and early Dec were not from Wuhan seafood market, and the search for the intermediate host is still ongoing. In view of this should not we consider that this coronavirus could be a "biological weapon" and in light of that should not we be vigilant to step up our PPE and economic defence from opportunistic takeovers by overseas countries ie Sinopec offer to Hin Leong?	It is unhelpful to engage in conspiracy theories without evidence