CDC/IDSA COVID-19 Clinician Call:
Update on Variants & Immunity
July 17, 2021
Q&A

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1. **How well of single dose mRNA vaccine or Janssen vaccine in previously SARS-CoV2 infected patients work against Delta variant?**

   I haven't seen robust clinical data yet, but neutralizing Ab titers after J&J vaccine appears robust against the Delta variant. I would expect it to have preserved efficacy, similar to the mRNA vaccines. I have not seen data from previously infected individuals who are vaccinated vs Delta. (Dr. Li)

2. **CDC variant data dated 7/3 is actually from 2 weeks in June for the past 2-3 weeks. When will we get more meaningful data?**

   The turnaround time from specimen collection to submission to publicly accessible databases using high throughput NGS is typically at least 10-14 days and may be longer, depending on the frequency that specimens are submitted to CDC. There are inherent time requirements in the several steps between specimen collection, detection of SARS-CoV-2, sequencing by NGS, and reporting. First, there is a lag between specimen collection and diagnostic testing. Once SARS-CoV-2-positive specimens are identified, it takes time for the submission of those specimens to CDC, which can vary based on the frequency that public health laboratories ship specimens. Once received at CDC, there are many steps involved in next generation sequencing which is a multistep biochemical process, followed by quality control, viral genome assembly (putting all the sequence fragments in the ~30,000 nucleotide genome in order), genomic data analysis, and submission to public databases. (Dr. Wentworth)

3. **Really interested to know when/if the CDC may make a recommendation similar to Israel regarding 3rd mRNA dose in certain immunosuppressed populations given recent data with hemodialysis patients, organ transplant etc.**

   I can't answer this as it is not my field. (Dr. Wentworth)

4. **My observation is that people are not wearing masks and there could be some recombination. Any data on this?**

   Dual infections appear rare and fortunately Sars doesn't reassort like the Flu. (Dr. Wentworth)

5. **Why do data by region and not state? Arizona, Hawaii and American Samoa are distant geographically and distinct yet are in same region. Physicians would like to know what is going on at the state level too.**

   These are HHS regions, and not always geographically linked. I don't know how these were defined (Dr. Wentworth)

6. **Why was Texas gray and with no variation in Dr. Wentworth's presentation? Not submitting?**

   The data was not available for that, it is described on the website. (Dr. Wentworth)

7. **Apologies if you already covered this, but what percent of national NAAT specimens are being sequenced? Is percent being posted on the CDC COVID Data Tracker page by state, and how representative are currently reported variant proportions? Thank you!**

   8000 US patient samples that were collected in the last 30 days have been submitted to the sequence database. It is a small percent of those infected but is pretty good for assessing variant frequencies. (Dr. Wentworth)

8. **Dr. Li, please comment on upper vs lower respiratory tract VL re Delta variant. Higher hospitalization risk, if correct, would imply increased severity in addition to transmissibility.**

   Given how recently Delta emerged, there is still a paucity of data on mechanisms of increased transmission and pathogenesis. One thing to note is that increased fitness for transmission (which may be determined by upper tract shedding and viral stability) does not need to track with increased disease severity. (Dr. Li)

9. **T What other studies have been done, other than the Chinese study you cited, on severity of Delta infections?**

   The Chinese study only discusses the shorter incubation period and higher viral shedding at the time of PCR+. The Public Health Scotland data suggests a 2-fold increase in severe disease, but the hospitalization/mortality data is really hard to interpret right now because of how different the population is in the UK/US given wide-spread vaccinations. (Dr. Li)

10. **Dr. Li-regarding severity of disease and the Delta variant-can you comment on this regarding individuals who are unvaccinated, individuals who have had COVID-19, vs individuals who have been vaccinated? I am asking because we get this question from patients and the community, and suggestions on how to communicate this to the general public in plain language would be much appreciated. Thank you for your great presentation!**

    I'll let Dr. Phadke comment on this as well. I haven't seen any direct comparisons in clinical studies, but the nAb levels from natural infection is highly variable as Dr. Phadke showed in his presentation and I recommend vaccination for everyone regardless of prior infection status. (Dr. Li)

11. **Do reinfections have a lower hospitalization and/or mortality rate than initial infection?**

    There are still only limited data about reinfections. In some series, it appears that reinfections were overall milder. However, the caveat to these data is that we have no validated measure of protection after an initial SARS-CoV-2 infection, which likely varies by age, comorbidities, and disease severity. Thus, we cannot conclude that a prior infection will protect against severe disease. (Dr. Phadke)

12. **What are the presenter's thoughts on the protective benefit of the Janssen/Johnson and Johnson vaccine vs variants of concern?**

    I have not seen J&J clinical data vs Delta, but a NEJM paper published last week suggests long-term preservation of nAb titers vs the VOCs. Surprisingly those titers actually increased over time! Still trying to make sense of how that could be, but it's somewhat reassuring. (Dr. Li)

13. **I have heard some anecdotes suggesting that two doses of mRNA vaccine are less effective at preventing infection (in Southern CA) than natural infection PLUS two doses of vaccine. Could this be true?**

    There are data indicating that vaccination in previously infected individuals generates an immune response that is more robust than in individuals with no prior infection, including responses to variants of concern. It is unclear how this translates to vaccine effectiveness as their is no immunologic correlate of protection. (Dr. Phadke)

14. **Dr. Stenzel-when do you anticipate that we might have word about when the EUA for Moderna COVID-19 vaccine might lower age of eligibility for youth/teens? I know that the company had submitted their application last month and expected the ACIP to meet about it by now.**

    Vaccines are reviewed in CBER not my Office. (Dr. Stenzel)

15. **Would B.1.617 variant be declared a Variant of Concern by CDC?**

    Unfortunately, we are still awaiting data (Dr. Wentworth)

16. **'@Dear Dr Li, can we work with FDA/CDC to make sequencing a CLIA test instead of a research test? OR can we request CDC provide and FDA approve primers that are specific for delta variant as it is of clinical importance to know the difference.**

    Variant detection is best done by sequence assays. The assays has authorized sequencing assays for Sars. (Dr. Li)

17. **In previously infected individuals who proceed to get vaccinated: is there any data on a possible correlation between their ab levels at time of vaccination and extent of side effects?**

    No. Based on the limited data, previously infected individuals experience more reactogenicity phenomena, but this has not been correlated with baseline measures of immunity. (Dr. Phadke)

18. **so then Dr Stenzel would recommend a booster for a seronegative person after vaccine?!! this is way outside the recommendations of the CDC. wouldn't this be 'investigational' per FDA? please clarify!**

    It is not an FDA recommendation. I understand that clinicians have to make tough calls though. (Dr. Stenzel)